Upsetting clients to keep them satisfied – the paradox of service delivery in a specialised IT consultancy

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Abstract

Purpose: Mainstream accounts of knowledge-intensive business services (i.e. consultancy services) delivery are based on an conventional commoditised view of knowledge. This leads to an insufficiently problematised portrayal of the service delivery process. The paper seeks to remedy it by drawing on the critique of the conventional view of knowledge.
Methodology: The paper employs diffractive analysis. This entails the 'plugging in' of several concepts derived from the critique of the conventional view of knowledge in management and organisation studies, and the empirical material collected in course of a singular case study of MonTech, a specialised IT consultancy, into one another.
Findings: Service delivery at MonTech is characterised by a paradox of having to upset clients to keep them satisfied, which can be attributed to four interrelated characteristics of service delivery at the organisation: 1) difficulties in capturing in language software that does not yet exist; 2) incommensurability and disjointedness of client and service provider meanings; 3) client reluctance to interact with the software as an epistemic object; and 4) working for multiple clients at once.
Research limitations/implications: As with other in-depth singular case studies, the reported findings facilitate only naturalistic generalisations.
Originality: The paper offers an alternative, more problematised explanation of service delivery that challenges traditional managerialist accounts.

Keywords: Consultancies, knowledge intensive business services, KIBS, knowing, knowledge

Paper type: Empirical

1. Introduction

Professional consultancies have long been regarded as one of the hallmarks of the transition to the knowledge economy (Alvesson, 2004; Powell & Snellman, 2004). As primary sources of information and knowledge-based services (KIBS) (Miles, 2005), they are responsible for the combination of knowledge from various sources, including a multitude of client projects, and its subsequent distribution (Corrocher, Cusmano & Morrison, 2009; Hipp & Grupp, 2005; Miozzo & Soete, 2001; Tether & Hipp, 2002). In short, consultancies, also referred to as KIBS firms, are in the business of upgrading their customers (Doroshenko, 2012).

Organisations falling under the KIBS umbrella represent multiple areas of expertise. Among others, they include providers of R&D services, technical services, engineering services, legal services, IT services, marketing consultancies, strategic consultancies, and financial consultancies (Bettencourt, Ostrom, Brown & Roundtree, 2002; Corrocher et al., 2009; Miozzo & Soete, 2001; Miles, 2005; Lehrer et al., 2012; Scarso & Bolisani, 2012). Generally, KIBS firms tend to be small, with many of them having less than 20 employees (Hipp & Grupp, 2005) or no more than 49 (Tether & Hipp, 2002). However, technical KIBS firms (e.g. IT, R&D and engineering services consultancies) tend to be slightly smaller than professional KIBS firms (e.g. business, management, legal, accounting and market research services consultancies) (Corrocher et al., 2009).

Together with R&D firms, KIBS firms form the broader category of knowledge-intensive firms (Alvesson, 2004), all of which share several characteristics. Firstly, knowledge is a more important input in their work than capital or labour (Powell & Snellman, 2004; Starbuck, 1992). Secondly, the knowledge that forms the basis of their sophisticated products and services (Alvesson, 2004) is esoteric and unusual rather than widely available and shared (Starbuck, 1992). Thirdly, their membership is characterised by high levels of qualifications, autonomy, and the symbolic work their members engage in, which entails extensive communication and problem solving. Finally, their organising is meant to be adaptable and ad hoc (Alvesson, 2004) instead of relying on bureaucratic control (Blackler, 1995).

The cornerstone of the argument I present in the immediately following section of the paper is that mainstream accounts of KIBS service delivery (e.g. Bettencourt et al., 2002; Lehrer, Ordanini, DeFillippi, & Miozzo, 2012; Scarso & Bolisani, 2012) are at odds with the qualities highlighted in the preceding paragraph. Even when the challenges of co-production (i.e. client's active participation in the service delivery process) (Gallouj & Weinstein, 1997; Tether & Hipp, 2002) are recognised, the process is depicted as linear and susceptible to effective management efforts. This downplays and obscures the importance of individual members' autonomy, creativity, discretion, and use of dialogue in addressing, but rarely resolving, the tensions, conflicts and paradoxes inherent in the KIBS service delivery. I attribute this dissonance to their grounding in the orthodox view of organisational knowledge associated with strategic management and, more narrowly, knowledge management. Correspondingly, I then propose an alternative theoretical lens for exploring KIBS service delivery grounded in its critique, which is associated with what has been broadly referred to as the constructivist view of organisational knowledge (Charreire Petit & Huault, 2008). I conclude the section with a repository of its constituent concepts that have the potential to enable a more problematised account of KIBS service delivery.

In the next section of the paper, I explore the methodology of the current study, which combines a singular case study research strategy grounded in an interpretivist epistemology (Flyvbjerg, 2006; Stake, 1978, 1995, 2008; Thomas, 2010, 2011) with diffractive analysis (Jackson & Mazzei, 2012; 2013; Lenz Taguchi, 2012; Mazzei, 2014). The latter's commitment to abductive reasoning, which manifests in the practice of asking theory-derived analytical questions based on a selection of theoretical concepts of the empirical material (i.e. 'plugging' them into one another) (Jackson & Mazzei, 2012, pp. 10, 12, 2013, pp. 266-267), has been instrumental to the development of the account of service delivery at MonTech, the case study organisation, which is explored and discussed in the subsequent sections of the paper.

2. Literature review

2.1. Conventional accounts of knowledge intensive business services delivery

At the most fundamental level, conventional portrayals of KIBS service delivery (e.g. Bettencourt et al., 2002; Lehrer et al., 2012; Scarso & Bolisani, 2012) draw on the distinction betwen products and services. While products are tangible, services are intangible (Alvesson, 2004). In other words, services they do not have the physical form of products (Gallouj & Savona, 2009). With material artefacts (e.g. e.g. software, hardware, equipment, machines, tools) being part and parcel of many services provided by consultancies to their clients, service outputs are best described as not purely material (Gallouj & Weinstein, 1997).

The above quality is the reason why service outputs characterised by the co-terminality of their production and consumption (Gallouj & Savona, 2009; Hipp, Tether & Miles, 2000). Correspondingly, unlike products, they are not consumed long after they have become external to and separated from their creators, but as they are being delivered (Gallouj & Weinstein, 1997). Relatedly, they cannot be effectively displayed to clients in advance since their future qualities are difficult to ascertain (Hipp & Grupp, 2005). The problems this may cause are exemplified by IT services, which often fail not on technical grounds, but due to misunderstandings about the project being undertaken. Among others, these manifest in changing client demands, and the solution being provided not being accepted by the client (Alvesson, 2004).

Even though KIBS firms range from providers of standardised to bespoke solutions (Scarso & Bolisani, 2012; Tether, Hipp & Miles, 2001), co-terminality makes it necessary for clients to become actively involved in the provision of even the most standardised services (Corrocher et al., 2009; Gallouj & Weinstein, 1997; Gallouj & Savona, 2009; Hipp & Grupp, 2005; Tether & Hipp, 2002). As counterintuitive as it might sound at first, the potential for standardisation of some service outputs does not prevent each client from posing a unique problem in need of an equally unique solution. The reason for this is that determine that a standard solution is suitable is an idiosyncratic process in its own right (Tether & Hipp, 2002). Reflective of this, service delivery has been described as a co-production involving the service provider and their client (Bettencourt et al., 2002; Gallouj & Weinstein, 1997).

It is acknowledged that co-production can become a source of problems. The need for the client's approval can both deny the KIBS firm of some level of autonomy in altering the parameters of the project (Tether & Hipp, 2002). It may also stifle creativity, which is particularly not welcome in the case of more creatively inclined KIBS (Lehrer et al., 2012). Regardless, mainstream attempts to map service delivery processes are surprisingly limited in their exploration of conflicts, tensions and paradoxes one would expect to find. Instead, they favour a far simpler rhetoric of discussing extent or levels of co-production (Doroshenko, 2012, Lehrer et al., 2012; Scarso & Bolisani, 2012). Insufficient levels of client involvement are associated with clients not seeing any value in co-production at all. Even when this is not the case, they may misunderstand how much customisation the service requires and, consequently, downplay the importance of their active involvement. Lacklustre co-production can also stem from client not having adequate resources or their members lacking the necessary qualifications to add value (Doroshenko, 2012). Conversely, excessive levels of client involvement are associated with their excessive attempts to exercise control over the project. These may stem from incorrect or false assumptions about the service being provided and the client's misunderstanding of their competitive positioning (Lehrer et al., 2012). Where the possibility of openly hostile behaviours is acknowledged, this is attributed to lack of trust. However, this appears to affect KIBS delivery primarily in the initial stages before trust is established (Scarso & Bolisani, 2012). Overall, the logic of co-production is consistent with a predominantly inter-organisational outlook exemplified by the following passage from Doroshenko (2012, p. 81):

> *'During co-production, the customer also acquires new knowledge from the producer, and more importantly, the customer and the firm create new knowledge together.'*

Such focus on what happens between organisations rather than between their members results in an insufficiently problematised account of KIBS delivery. With this being the case, it is not surprising that challenges of co-production can either be prevented or ongoingly addressed through co-production behaviour management, which entails careful selection, training, education, socialisation and evaluation of clients (Bettencourt et al., 2002). This is a rather bold claim given that KIBS firms are financial dependent on their clients (Alvesson, 2004).

A further, and perhaps even more fundamental cause for concern is the linearity of the depicted service delivery processes. If services are as hard to ascertain as previously mentioned (Hipp & Grupp, 2005), with the possibility of projects failing as late as the acceptance stage (Alvesson, 2004), it is rather disturbing that back tracking (i.e. reverting to an earlier stage of service delivery) appears not to occur. While there are differences in granularity (i.e. number of identified stages), service delivery is invariably portrayed as linear progression from initial contact with the client to realisation of the service (Doroshenko, 2012; Lehrer et al., 2012; Scarso & Bolisani, 2012).

2.2. Towards a problematised account

While a comprehensive depiction of a KIBS service delivery process free from the ill-consequences of the co-production rhetoric does not exist, Alvesson's (2004) critique of the mainstream view of KIBS hints at where efforts to arrive at one could start by pointing out that

conventional accounts are rooted in the conceptualisation of knowledge associated with knowledge management. In essence, knowledge is viewed as a timeless body of objective truth that can be easily leveraged to solve problems (Alvesson, 2004; Styhre, 2003). The fact that orthodox accounts of KIBS are rooted in this perspective is arguably a reflection of KIBS themselves. They were among the first to invest in knowledge because they recognised it as the core asset of their geographically dispersed organisations. They then marketed the expertise they developed in its management to their clients. In other words, the term 'knowledge management' became the name of the service they were selling (Alvesson & Kärreman, 2001; Koenig & Neveroski, 2008).

Arguably, the conceptualisation referred to in the preceding paragraph is not unique to knowledge management. Its origins can be traced back to earlier developments in strategic management, particularly the knowledge-based views of the firm (e.g. Grandori & Kogut, 2002; Grant, 1996; Kogut & Zander, 1992, 2003). Recognising this directs the effort to develop an alternative account of KIBS service delivery to the critique the orthodox-managerialist view of knowledge in the field of organisational knowledge and learning. In exploring it, it is useful to distinguish between the moderate and the radical critiques.

Moderate critics are not outrightly dismissive of developments in the domains of strategic and knowledge management. On the contrary, they present their work as complementary to them, whereby they discuss issues that are beyond their scope. As part of this, they widely recognise that all knowledge originates within human minds (Nonaka, 1994; Nonaka & Takeuchi, 1995) and that it cannot exist independently of people and their actions (Essers & Schreinemakers, 1997; Nonaka, 1991). Consequently, it is recognised that individuals rather than organisations at large are the 'primary movers' of organisational knowledge and learning (Nonaka, 1994, p. 17). With this being the case, organisational knowledge is only partially responsive to managerial influences (Essers & Schreinemakers, 1997; Spender, 1996). Since knowledge is still regarded to be a substance that can be possessed, albeit with control resting with the individual and not the organisation at large, this perspective has been referred as the 'epistemology of possession' in organisational knowledge and learning literature (Cook & Brown, 1999). Its key contribution to my effort to remap KIBS service is the argument that aspects of human knowledge can be described along a tacit-explicit continuum, along which they move and interact (Polanyi, 1966; Nonaka, 1991, 1994; Nonaka & von Krogh, 2009) (see s. 2.2.1).

The radical critique targets both the view of knowledge expressed in strategic and knowledge management literature, and the one advocated by the epistemology of possession. This stems from a hostile attitude towards both the commoditised view of knowledge of the former and the mentalistic conceptualisation of the latter. Instead, they argue that knowledge is 'fabricated' (i.e. is made or happens) and manifests in practice (Gherardi, 2000a, 2001, 2006, 2009, 2016; Marabelli & Newell, 2019). For this reason, this line of thinking has been referred to in organisational knowledge and learning circles as the 'epistemology of practice' (Cook & Brown, 1999), which appropriately indicates its origins in the 'practice turn' (Schatzki, Knorr Cetina and von Savigny, 2001). As far as the conceptualisation of knowledge in strategic and knowledge management is concerned, practice theorists argue against any attempts to anthropomorphise organisational knowledge and learning, whereby by the capacity to know and learn is bestowed directly on

organisations. This is typically through the identification of a distinct organisational level of knowledge and/or learning that easily lends itself to managerial control more than individual or collective knowledge (Cook & Yanow, 1993; Gherardi, 2000b; Miettinen & Virkkunen, 2005). As far as exploring KIBS delivery in a more problematised manner is concerned, the potency of the practice lens stems from two qualities. Firstly, practical sensibility captures the uncertainties, conflicts, incoherencies, paradoxes, dissonances, and tensions inherent in human activities (Blackler, 1995; Blackler, Crump & McDonald, 2000; Gherardi, 2006; Nicolini, Gherardi & Yanow, 2015). This enables practice scholars to tell stories of workers operating at the frontlines rather than managers watching on from corner offices. Secondly, the absence of a unified theory of practice (Corradi, Gherardi & Verzelloni, 2010; Gherardi, 2006; Miettinen, Samra-Fredericks & Yanow, 2012; Nicolini, 2012), makes the epistemology of practice a particularly fertile ground for sourcing concepts that can help cast a new light on KIBS delivery (see 2.2.2-2.2.3).

2.2.1. Tacit-explicit continuum

In strategic and knowledge management research, the distinction between tacit and explicit is employed to explain a relatively unproblematic process of codification, which results in the separation of knowledge from the knower and, consequently, its transformation into an objective (i.e. dehumanised) asset that can be effectively managed (Alvesson & Kärreman, 2001). Such use is inconsistent with both the intellectual legacy of Michael Polanyi (1966), with whom the distinction originates, and the later works of Ikujiro Nonaka (1991, 1994), who was influential in its popularisation in business, management and organisation studies. Specifically, it undermines the idea that the terms ‘tacit’ and ‘explicit’ do not denote a dichotomy (i.e. distinct types), but a duality – a continuum along which human knowledge moves and interacts (Nonaka & von Krogh, 2009).

The seemingly subtle difference discussed in the preceding paragraph has two major implications for reexamining KIBS service delivery. Firstly, the fact ‘we can know more than we can tell’ (Polanyi, 1966, p.4) means both that some aspects of our knowledge are inherently tacit (Alvesson, 2011; Tsoukas, 1996; Tsoukas & Vladimirou, 2001) and, consequently, that what we know cannot be reduced to symbolic and linguistic representations in its entirety (Balconi, 2002; Cowan, David & Foray, 2007; Tsoukas & Vladimirou, 2001). Relatedly, while our articulation efforts help us become aware of our previously unarticulated and pre-reflexive tacit backgrounds (Tsoukas, 2009), it must be remembered that both articulation itself (Cohendet & Steinmueller, 2000) and interpretation of what is said rest on what is known tacitly (Nonaka & von Krogh, 2009; Spender, 1996). Taking this into account, the tacit-explicit dimension can help explore the failures of communication and why significant time may be required before shared understandings of the solution being provided and the KIBS delivery process at large emerge. Secondly and relatedly, it urges us not assume that technical and other artefacts, such as those that comprise many KIBS, simply embed knowledge of their creators or those they imitate (Gourlay, 2006; Ribeiro & Collins, 2007). In doing so, it invites us to consider them in a more robust manner.

2.2.2. Epistemic objects

In lieu of thinking of material and other artefacts as embedded knowledge (Hargadon & Fanelli, 2002; Hecker, 2012; Nonaka & Takeuchi, 1995), practice scholarship draws on Rheinberger's (1992, 2005) distinction between epistemic and technical objects to explore how material and other artefacts furnishing practical activity come to be and eventually anchor our activities. The former are characterised by an unfolding ontology, whereby their qualities are neither fixed, nor fully defined (Ewenstein & Whyte, 2009; Knorr Cetina, 1997, 2001). They are in the process of being continuously defined as people engage with them in their activities and practices (Knorr Cetina, 1997, 2001; Rheinberger, 1992, 2005). Over time, their incompleteness reduces over time and eventually they become technical objects – unproblematic, ready-to-hand, stable reference points around which practices and work are anchored (Ewenstein & Whyte, 2009; Miettinen & Virkunnen, 2005). At that stage, they only re-enter our focal awareness when they break (Engeström & Blackler, 2005; Yanow & Tsoukas, 2009). As far as re-examining KIBS delivery is concerned, the concept of an epistemic object enables exploring how the services being provided, in particular the solutions they comprise, come to be or fail to become depending on how participants in the service delivery process engage with them.

2.2.3. Landscapes of practices

As practice theorising evolved, interests gradually shifted away from examining individual practices towards their multiplicities and the provisional, shifting and contestable connections that weave them together (e.g. Gherardi, 2006; Nicolini, 2012; Schatzki, 2005, 2006). This shift constitutes an invitation not to think of practical activities as strongly localised phenomena, but as translocal ones (Nicolini, 2011; Nicolini, Mørk, Masovic, & Hanseth, 2018; Schatzki, 2001, 2005). When it comes to remapping services delivery, the concept of a landscape of practices offers an opportunity to address perhaps the greatest omission of more conventional accounts (e.g. Doroshenko, 2012, Lehrer et al., 2012, Scarso & Bolisani, 2012) – the fact that many KIBS provide their services to and members work with more than one client a time. On the contrary, work often proceeds on multiple projects at once, with each client expecting fast service and unwavering commitment.

3. Methodology

The empirical material the subsequent sections of the paper are based on was collected between November 2016 and July 2017. The overarching aim of the wider study was to explore and demonstrate opportunities for the aforementioned bridging of epistemologies of possession and practice (Cook & Brown, 1999) rather than to reexamine KIBS delivery. However, the former could not have been achieved without the latter, which the paper delves into.

The devised research strategy was strongly influenced by the peculiarities of the participating organisation. MonTech are a provider of specialised IT services. Since many of their longstanding clients are large financial institutions, including central banks, they are bound by extensive non-disclosure agreements, which limited my ability to conduct participant observation to approximately 16 hours. Relatedly, I was only allowed on site when it was unlikely that I would be exposed to confidential or proprietary customer information. Regardless, this allowed me to

grasp how MonTech's three service delivery areas (i.e. Development, Support and the Helpdesk) related and worked with one another. I developed a more detailed understanding of MonTech work practices via qualitative interviews. Their design drew on Nicolini's (2009) 'interview to the double' and, more broadly, phenomenological interviewing (Englander, 2012; Kvale, 1983, Thompson, Locander & Pollio, 1989). This design enabled me to cover the logic and rhythm of each interviewee's work, as well as its mundane, taken-for-granted and even seemingly irrelevant aspects. I was allowed to interview five members of MonTech, who represented the aforementioned three areas of activity and half of the organisation's overall membership. With each participant interviewed twice, this yielded just over 9 hours of interview material. Finally, I collected numerous documents pertaining to MonTech's service delivery process, including those relevant to their relationships with their clients (e.g. Service Level Agreements (SLAs), Requirement Specification Documents (RSDs)), internally used quality manuals, as well as printouts and screenshorts from the software used to coordinate service delivery. Taking the above into account, the devised research strategy is closely aligned with singular case studies based on an interpretivist epistemology (Flyvbjerg, 2006; Stake, 1978, 1995, 2008; Thomas, 2010, 2011) rather than the post-positivist case studies that are more common in business, management, and organisation studies (Cunliffe, 2011).

Diffractive analysis (Jackson & Mazzei, 2012; 2013; Lenz Taguchi, 2012; Mazzei, 2014) was employed to unravel the empirical material. It entailed 'plugging in' (Jackson & Mazzei, 2012, pp. 10, 12, 2013, pp. 266-267) the three previously introduced theoretical concepts (see 2.2.1-2.2.3), as well as several others that are beyond to the scope of this paper, and the empirical material into one another by asking analytical questions derived from the former. Although the resulting understandings, known as 'diffractions', pushed both theory and empirical understandings beyond their ordinary easy sense (Jackson & Mazzei, 2012; Lenz Taguchi, 2014), due to its focus on re-examining KIBS delivery, the subsequent sections of the paper cover only insights that were relevant to it.

4. Findings

4.1 MonTech's service delivery process

MonTech services are intended primarily for the financial services industry. Their core offering is comprises three highly customisable software packages that have been gradually developed since the organisation was established in 1989. However, MonTech have occasionally developed fully bespoke software. In all cases, MonTech's software performs monitoring functions that require it to 'live on' their clients' existing IT infrastructure rather than function independently. Consequently, MonTech's software must be customised in line with both its intended use at the client organisation and the infrastructure it must connect to. It is widely recognised within the organisation that MonTech do not sell products, but 'consultative services' that require 'a lot of work to tailor [them] to particular customer's requirements'.

MonTech's service delivery process is depicted in Figure 1. Although it largely follows the pattern depicted in conventional accounts of KIBS delivery (Doroshenko, 2012; Lehrer et al., 2012; Scarso & Bolisani, 2012), it is recursive rather than linear, which manifests in two ways. Firstly, as

requirements are gathered in collaboration with the client's technical staff, who are not the end users of the software, MonTech's Support team may find it necessary to consult the Development team to ascertain the feasibility of the project. Once an initial RSD has been put together, the Support team must then determine (i.e. 'size') the hardware required for MonTech's software to function, which may influence the subsequent iterations of the RSD. The RSD may have to be redefined also when the client cannot meet hardware requirements. Secondly and more intriguingly, when the client's technical staff reengage with the project during 'Acceptance testing' and the end users become involved once the software goes live and enters 'Maintenance', it is not only minor faults that may require resolution. Hardware may have to be resized and even the RSD may have to be revisited. The reason for this is that 'the software is never really finished […] [it] is just a workable version'.

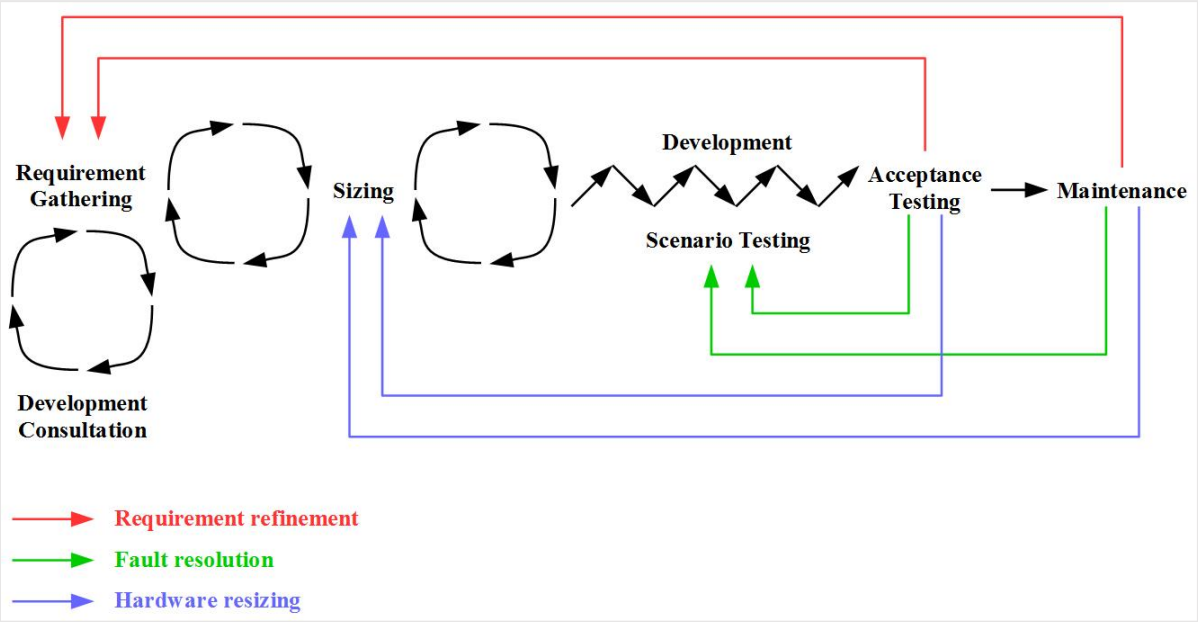

Figure 1 MonTech's service delivery process (Kwiatkowski, 2022, p. 16)

4.2 Capturing in language the solution that does not yet exist

Inarguably, service delivery at MonTech comprises of virtually countless articulations, or more precisely, movements of knowledge held by various involved parties towards the explicit end of the tacit-explicit continuum (Nonaka, 1991, 1994; Nonaka & von Krogh, 2009). During Requirement Gathering, technical staff from the client organisation, who represent the solution's end users, articulate the latter's needs to MonTech's Support team have been advised what they are before. Support then rearticulate them to the Development team, who may then articulate their concerns about the feasibility of the project to Support or, in some cases, directly to the client's technical staff. In either case, it can be argued that Requirements Gathering enters the next cycle. It can take multiple iterations before work on a project can commence. The articulations that comprise them are not only critical to the progress of an individual client project. They are also instrumental to the coordination of the work being done at MonTech for multiple clients at once (i.e. prioritising work, monitoring it, and ensuring deadlines and other client obligations are met). Attempts to define what the solution should do can become protracted to such an extent that clients

may refuse to participate in further discussions. However, even in such circumstances, MonTech may not take on a project because of 'too many unknowns' that turn it into 'a black hole from a development perspective'. Moreover, as discussed in the preceding section, even when a mutually agreed set of requirements emerges, there is no guarantee that service delivery will proceed smoothly. This can be interpreted as a failure of communication of explicit knowledge. However, it is clearly not attributable to lack of trying. The issue lies in the fact that the solution comprising the service (i.e. the exact build of the software the client will use) does not yet exist. To understand why this is the case, it is necessary to reflect on what MonTech's software does.

In short, MonTech's software assists its end users via easily accessible charts, diagrams, statistics and alerts. As such, its introduction alters the way they diagnose and resolve problems they encounter in their daily work. Consequently, whether it works or not can only be fully ascertained when they start using it. As the Development team lead explains, the 'nebulous idea' that feeds into the RSD only becomes clear 'when somebody's actually sat in front of a piece of software'. It must be emphasised that even Acceptance Testing may not offer clarity since it is typically carried out by technical staff without the direct involvement of end users. The reason why RSDs amount to no more than 'nebulous ideas' even though they are very detailed is that people are incapable of articulating knowledge of what they are yet to experience with clarity and certainty. This can be attributed to articulations of knowledge always being made against the tacit backdrop comprising distinctions derived from existing practice (Tsoukas, 1996; 2009; Nonaka & von Krogh, 2009). While being able to show similar functionality in an already existing build of the software can be helpful, such approximations are limitedly useful because of the level of customisation that goes into MonTech's software and the impossibility of fully replicating client infrastructures. In the words of Jack, who leads the Support team:

> *'[W]hen […] you put your software down it might be the first that you've ever truly seen the thing that you're gonna monitor'. […] [T]here can be any amount of local environment settings that could affect it in a way that we would never see here.'*

Even though the software being delivered cannot be entirely accurately defined until it exists and is in use, MonTech are unrelating in demanding their clients contribute considerable time, effort, and resources to Requirement Gathering and any future RSD revisions. Their willingness to aggravate their clients over this and, as aforementioned, even walk away from projects is surprising given that project requirements ultimately facilitate software development decisions that are inherently speculative. However, as flawed as RSDs may be, the technical language in which they are written makes them instrumental in ensuring that MonTech remain in control of the service delivery process, whilst also preventing their clients from arguing that they have ultimately received a solution that does not do what they had requested.

4.3. Incommensurability and disjointedness of meaning

The inability to capture in language what does not yet exist is not the only reason why arriving at an agreed RSD and, later on, a mutually accepted understanding of a software fault, are protracted processes. A further contributing factor is the incommensurability and disjointedness of the

meanings held by MonTech and their clients, particularly the end users of MonTech software. It often prevents knowledge being articulated to MonTech from being entirely fit for purpose as far as developing the software is concerned.

Due to lack of 'day-to-day involvement with the application and their processes', MonTech are always 'peering through a keyhole' of what their clients say. In the IT services industry this is known as 'dog fooding' and refers to developers lacking the user experience of the software they had written. With this being the case, knowledge conveyed by the client's members (i.e. end users and the technical staff that represent them) can be regarded as complementary (Hecker, 2012) with the bodies of knowledge relevant to MonTech's members, particularly the Development team. Without it, MonTech cannot develop the solution comprising their service. However, whether complementary knowledge is communicated and utilised successfully rests on whether the people conveying it are mindfully attentive of those who rely on them and their work (Spender, 1996; Weick & Roberts, 1993), and whether they share understanding with them as to how their knowledge domains are interrelated (Hecker, 2012).

In case of service delivery at MonTech, the above is not necessarily the case, particularly with newer clients. The explicit knowledge articulated through the client's employees' explanations of their business problems or fault reports often communicates what is meaningful to them rather than to MonTech. Moreover, business problems and software faults are described in their rather than MonTech's terms. To complicate the matter further, the meaning that underpins what is being articulated by the client's staff is not conveyed (Gourlay, 2006; Nonaka & von Krogh, 2009; Spender, 1996), nor does it have to be. Ultimately and invariably, the explicit knowledge being communicated must be made meaningful a new (Hargadon & Fanelli, 2002; Ribeiro & Collins, 2007) by MonTech's teams in course of their work. This may reveal that explicit knowledge conveyed by the client is not entirely adequate for the purposes of developing or improving the software. With regards to the latter, fault reports can sometimes be so vague that MonTech's Support team cannot initially tell if they are dealing with 'user errors', which are 'not really a fault', or 'software errors'. Intriguingly, this problem extends to knowledge that is readily available in an explicit form and could be forwarded to MonTech by the client's technical staff with limited effort, including descriptions of clients' existing IT infrastructures, software logs and screenshots. In all instances, requests for elaboration are simply the means of overcoming the inadequacies of the explicit knowledge articulated by the client by obtaining the insights that are necessary for the development or troubleshooting to progress. They are necessary even though the client's members may not understand their significance or may even feel burdened by them.

It must be emphasised that even though discussions with clients become more informed over time, the meanings associated with the solution being provided never fully converge. This inherent incommensurability is the reason why MonTech always consider it advantageous to have at the very least monitoring-level access to the client's IT systems and prefer to resolve client issues via remote access rather than having to rely on what is being communicated. However, due to their client's emphasis on security and confidentiality, such direct access is rarely permitted. In effect, as Francis, who is a member of MonTech Support team, diagnosing problems is seen as 'a bit of an art form'.

More fundamentally, the above incommensurability of meanings extends to the service delivery process. Understandings of the service being provided can range from a buying machine-like product developed with zero to little consumer participation or an inconvenience, to a responsibility requiring commitment and immediate attention. In the most extreme cases, the former attitudes are the reason why the number of unknowns may remain so large that MonTech elect to walk away from a project. In less extreme cases, they may result in projects falling behind schedule because development activities cannot proceed or poor quality of Acceptance Testing resulting in outstanding issues with the software being discovered only after it has been deployed on a system, which makes it necessary for MonTech to address them with greater urgency than they would prefer. As for the latter set of attitudes, they may make MonTech 'run hard' not only throughout the initial development of the solution, but also once it undergoes Acceptance Testing and goes live. The clearest manifestation of this are the recurring tensions over the prioritisation of reported issues and timeframes for their resolution.

As the discussion above illustrates, both insufficiently engaged and excessively engaged clients are not desirable from MonTech's perspective. Consequently, need to be pushed back against. While this can be attributed to the incommensurability of meanings between members of the two organisations, which are actively engaged with in their interactions, it can also be traced to a disjointedness of meanings, which always remains in the background. Specifically, solutions being provided and the way they are provided are meaningful to MonTech's customers from the perspective of their individual projects. However, their meaningfulness to MonTech reflects that they are developing and maintaining software for multiple clients at once. Their need for a written down set of technical requirements comprising an RSD, as flawed and uncertain as they are, and efforts to main control over how service delivery progresses are ultimately motivated by concerns over having to take people away from working for other customers.

4.4. The software as an epistemic object

When I first discussed the software that forms part of the services MonTech provides to its customers (see s. 4.2), I effectively highlighted the limited utility of RSDs to the development process. However, this has not stopped MonTech from successfully developing software for over three decades, with some clients using MonTech's solutions continuously throughout much of that time. The fact that MonTech's software is never really finished, but always remains a work-in-progress suggests that the concept of an epistemic object (Knorr Cetina, 1997, 2001; Rheinberger, 1992, 2005) might be helpful in exploring how it comes to be over the course of a project.

As with other epistemic objects, the software does need to have a form itself to be interacted with. Interactions with it are facilitated by initial ideas about what it should do expressed and captured during Requirement Gathering even before the first version of an RSD has been written, the tasks the Development team complete that are based on RSDs, as well as the early builds used in both Scenario and Acceptance Testing. As partial instantiations (Knorr Cetina, 2001). All of them enable interacting with the software long before it is officially declared ready for deployment on the client's live system. In effect, the software is present in the service delivery process long before it acquires presence in a more conventional sense (e.g. the first lines of code have been written, compiled and can be executed).

The pace at which the software is developed ultimately depends on the openness with which the aforementioned partial instantiations are engaged with (Knorr Cetina, 1997) and receptiveness to their 'backtalk' (Engeström & Blackler, 2005, p. 310; Yanow & Tsoukas, 2009, pp. 1342, 1348-1349). These attitudes invariably characterise how MonTech's members act throughout the entirety of the service delivery process, including when an existing version of the software needs to be improved. They always seek clarifications, ask questions, investigate and try the software itself. Unfortunately for MonTech, the same attitudes are not always driving their clients' participation.

Treating the software as if it was 'a thing like a washing machine' constitutes an example of engaging with the software as if it was an already clarified technical instrument, rather than an unfolding epistemic object (Ewenstein & Whyte, 2009; Miettinen & Virkunnen, 2005; Rheinberger, 2005). This attitude makes the protracted processes of Requirement Gathering and fault investigation appear unnecessary. Likewise, when the software is viewed as unproblematic and finished, conducting independent Acceptance Tests seems redundant. Unfortunately, what epistemic objects reveal about themselves depends on the meaning invested in it by the people acting towards it (Rheinberger, 2005). Taking this into account alongside the divergence in meaning discussed in the immediately preceding section, there is simply no substitute for the client's active involvement in the service delivery process. Moreover, such involvement must be continuous, as demonstrated by the limited utility of prototypes, the fact that some 'grey areas' only become clear later on in the service delivery process, and the possibility that some issues with the software can only be discovered when its end users get their hands on it. The reason for this is that each interaction with the software affords only a more compelling discussion to be had about what the solution ought to be and what it should do, instead of fully clarifying it. As with other epistemic objects, the complexity of the software is increased rather than reduced with each interaction (Knorr Cetina, 2001).

Summarising, rather than being the result of embedding knowledge in a material artefact (Hargadon & Fanelli, 2002; Hecker, 2012; Nonaka & Takeuchi, 1995), MonTech's software gradually reveals itself throughout the service delivery process as it is worked on internally and later tested and used at the client organisation. While continuous, active and object-committed involvement on part of the client's staff in this process is not guaranteed, service delivery cannot proceed effectively without it. This makes it necessary for MonTech to impose their own terms with regards to how a project must be worked on even when this may not be viewed favourably by their clients.

4.5. Working for multiple clients at once

The conclusion that can be drawn from the preceding three sections is that the only way for MonTech to deliver their services effectively and efficiently is to deliver them their way, even if the imposed approach is not appreciated by the client. However, what the preceding discussion has not clarified are the reasons why MonTech are willing to effectively upset their customers rather than to relinquish control over how service delivery proceeds. At a very basic level, this can be attributed to the aforementioned disjointedness of meaning (see s. 4.3). As previously explained, the meaningfulness of service delivery to MonTech's client organisations and their members

revolves around their project. However, MonTech's members' meaningfulness transcends the boundaries of individual projects and customer relationships. Understanding why this is the case can be achieved by charting a partial map of the wider connections between practices (Nicolini, 2011; Nicolini et al., 2018; Schatzki, 2001, 2005) that give each local (i.e. project-specific) instance of KIBS delivery at MonTech its familiar form.

The practice of any client's technical staff does not revolve around the project they work on with MonTech. Their fundamental concern stems from being responsible for providing and maintaining an IT infrastructure which business users in their organisations rely on to complete their work. In other words, the actions of business users affect the mental states of technical users, thus guiding their behaviours in their dealings with MonTech (Schatzki, 2005). The more important they regard MonTech's software to be to the work of their business colleagues, the more likely they are to fully commit to their work with MonTech. Among others, this manifests in the fact that even technical staff, who were relatively passive when the software was first being developed, can become very active when the software is about to or has been deployed on their organisation's live systems. On top of challenging fault severity classifications, they may even try to circumvent the Helpdesk and Support to reach the Development team directly in hope of a quicker resolution even though this constitutes an SLA violation.

The situation for Development, Support and the Helpdesk at MonTech is radically different. All of them engage in activities which significance cannot be explained by reference to a single project. The work of the Development team revolves around three-week cycles, with tasks to be completed during each one of them often spanning multiple projects and multiple clients. While the Support team operate on a day-to-day basis, they similarly meet every morning to plan their workday. Their priorities are determined by reference to project deadlines, severity of outstanding issues requiring investigation and resolution, and scheduled period of access to the client systems. In case of both teams, planned tasks may have to be postponed because of a genuinely critical fault requiring immediate attention being reported by a client. Finally, one of the main responsibilities of the Helpdesk is maintaining a record of all client obligations and monitoring whether work is being completed within agreed timeframes and in accordance with SLAs. The full significance of these activities to any singular project can only be appreciated when it recognised that, in comparison with the practices of MonTech's clients' technical staff, MonTech's practices connect both along and across project lines. If they were not able to proceed in their established manner due to poorly defined project requirements, clients not conducting independent Acceptance Tests or fault classifications not being strictly adhered to, it would arguably not be possible for MonTech to satisfy all of their customers at once. Consequently, MonTech find themselves in a paradoxical position, whereby to deliver their services concurrently to multiple clients, they must always act in a way which is not entirely in the best interest of any single one of them.

5. Discussion

Abandoning the commoditised view of knowledge, which dominated the mainstream discussion of KIBS (Alvesson, 2004), enabled me to paint a rather different picture of KIBS delivery compared to extant accounts (Doroshenko, 2012; Lehret et al., 2012; Scarso & Bolisani, 2012).

However, before I discuss those differences, as well as a few similarities, I would like to reflect on my account's relationship with the extant literature on KIBS in a wider sense.

At the most fundamental level, service delivery at MonTech offers further support for the central premise of co-production. Co-terminality makes it necessary for clients to become actively involved in the delivery of the services they procure (Corrocher et al., 2009; Gallouj & Weinstein, 1997; Gallouj & Savona, 2009; Hipp & Grupp, 2005; Tether & Hipp, 2002). In fact, as MonTech demonstrate, in case of particularly uninvolved customers, the most appropriate course of action is simply to walk away in order not only to avoid financial loss on a single project, but also the havoc leaping into the unknown could cause in work done for other clients.

On the other hand, my account of service delivery at MonTech casts a dark shadow over the notion that KIBS firms combine and subsequently distribute, or transfer, knowledge from various sources to their clients (Corrocher, 2009; Hipp & Grupp, 2005; Miozzo & Soete, 2001; Tether & Hipp, 2002). As aforementioned, this rhetoric is based on the commoditised view of knowledge, whereby knowledge can be though of as an objective truth that can be mobilised to solve problems with relatively ease (Alvesson, 2004; Shyre, 2003). As my discussion of disjointedness and incommensurability of meaning shows, there is nothing objective about the flows of knowledge within MonTech's service delivery process. Even seemingly context-independent knowledge (e.g. technical specifications of client's infrastructure), does not flow with ease because of differences in meanings attached to it. Furthermore, the logic of knowledge transfer is also challenged by how MonTech's software is developed, adapted to individual client circumstances, tested and maintained. Service delivery is not a simple matter of combining and embedding knowledge in the software (Hargadon & Fanelli, 2002; Hecker, 2012; Nonaka & Takeuchi, 1995). It is a far more complex, contested and creative effort, in course of which the software gradually reveals itself to MonTech's members, the client's technical staff and eventually the end users. Then again, as has previously been demonstrated, the notion that technology is nothing more than embedded knowledge is erroneous even in the case of more inconspicuous technologies that replace workers rather than assist them (Gourlay, 2006; Ribeiro & Collins, 2007). Ultimately, the alternative explanation of the work of KIBS, whereby they create problems as much as they solve them (Alvesson, 2004), seems more persuasive in light of how service delivery proceeds in MonTech.

As for the challenges of co-production in KIBS delivery, service delivery at MonTech does support the idea that both too involved and insufficiently involved clients can disrupt service delivery. It is also consistent with the previous findings that lack of availability resources (i.e. people to commit to the KIBS project), not appreciating the value of the service being provided and underestimating the level of collaboration required on part of the client organisation and its members can hamper service delivery (Doroshenko, 2012). However, service delivery at MonTech is at odds with the arguments that excessive involvement on part of the client's staff and the attempts to exercise control it entails are based on false assumptions about what the service being provided has to offer (Lehrer et al., 2012). On the contrary, the most involved of MonTech's clients made them 'run hard' because their technical staff had a very clear idea of the important role MonTech's software played in the work of the end users they represented. Rather than being rooted in misguided understandings and motivations, the reason why such involvement is deemed

excessive stems from the possible ill consequences subjecting to client demands could have on services delivered concurrently to other customers. As for the role of trust in KIBS delivery (Scarso & Bolisani, 2012), recognising that the relationships MonTech enjoy with some of their long-lasting clients are 'more a friendship than a customer-supplier relationship', the only argument I can confidently make is that abundance of trust on its own does to ensure smooth KIBS delivery.

With regards to linear depictions of KIBS delivery (Doroshenko, 2012; Lehrer et al., 2012; Scarso & Bolisani, 2012), the process that can be observed at MonTech is defined by a much more recursive pattern. This is the most evident in the fact that throughout the entirety of service delivery, including after the software is deployed on a live system, there is always the possibility of having to go back and revisit the set of requirements that defines it, rethink hardware requirements, and change or enhance functionality. As I previously pointed out, this can be attributed to difficulties in capturing in language solutions that do not yet exist, incommensurability and disjointedness of meaning that prevail even in the case of long-established client relationships, and reluctance of members of the client organisations to commit to the solution being provided as an epistemic object. It is reasonable to expect that at least the first two of these issues are likely to be encountered even in case of client problems that lend themselves to standardised solutions. In light of this, I have strong reasons to believe that KIBS delivery is likely to be a recursive process regardless of the service provided being standardised, customisable, tailored or entirely bespoke.

Service delivery at MonTech also raises some questions with regards to the effectiveness of attempts to manage client's co-productive behaviours (Bettencourt et al., 2002). Rather than being selective about clients, MonTech are selective about their projects. This is evidenced in the fact that they have previously walked away from projects that were too uncertain even when they originated with their existing customers. With regards to client training, education and socialisation, rather than being achieved through formal and planned activities, these happen seamlessly at MonTech as members of the two organisations work together over time. Ultimately, they are valuable in the sense that they result in client requests becoming more informed as the client's technical staff learn MonTech's software and how MonTech work. However, incommensurability and disjointedness of meanings that drive the behaviours of MonTech and their client organisations' members prevents members of both organisations from becoming fully in synch. Unlike their clients' staff, MonTech always act with all their concurrently delivered client projects in mind. While dialogue is instrumental in allowing service delivery to proceed, this fundamental contradiction is never resolved. Ultimately, members of MonTech and their client organisations act first and foremost in the interests of their own understandings, meanings and the knowledge that underpins them (Essers & Schreinemakers, 1997; Gourlay, 2006). Consequently, while meaning-based tensions do not thwart service delivery at all times, they may always resurface.

The final issue I would like to discuss is the extant tendency to examine KIBS delivery in terms of individual projects (Doroshenko, 2012; Lehrer et al., 2012; Scarso & Bolisani, 2012). Admittedly, this is something I am myself guilty of in Figure 1. The overarching challenge and, simultaneously, consideration that underpins how services are delivered at MonTech is that they are never delivered to a single client at a time, but always to multiple clients at once. MonTech's

insistence on arriving at a detailed set of technical requirements before committing to any project, demands that clients conducting independent Acceptance Tests, reluctance to give in to their demands to resolve issues with the software sooner than stipulated in SLAs and, more generally, determination in ensuring that projects are delivered the way MonTech deem appropriate is difficult to comprehend for two reasons when a 'single project' analytical frame is employed. Firstly, the fact that software being provided cannot be known in advice, makes it hard to justify the need for a clearly structured approach. Secondly, the determination with which MonTech enforce their way of working can seem detrimental rather than beneficial to their clients. For example, their technical staff may be required to commit more to their collaboration with MonTech than they deem appropriate. Likewise, issues with the software may not be resolved in the client's preferred timeframes. MonTech's insistence fully makes sense only once it is appreciated that the activities that Development, Support and the Helpdesk engage in cut across project lines. Upsetting the clients by not allowing them to have their way as far as service delivery is concerned is necessary. Paradoxically, it is the only way to keep all of them satisfied.

6. Conclusion

In this paper, I moved away from the commoditised view of knowledge, which dominated much of the rhetoric surrounding KIBS (Alvesson, 2004, in favour of a more nuanced view grounded it is critique (e.g. Gherardi, 2000a; Nonaka, 1991, 1994; Spender, 1996). This allowed me to offer a novel account of KIBS delivery defined by four intertwined characteristics that contribute to its recursive pattern. Firstly, the inability to capture in language what is being provided results solution design involving extensive speculation. Secondly, irreconcilable disjointedness and incommensurability of meanings hampers the flow of knowledge within KIBS service delivery and the commitment of the client organisation's members. Thirdly, object-committed involvement on part of the latter is instrumental to KIBS delivery progressing with fewer obstacles and challenges. Fourthly and finally, working for multiple clients at once results in the paradox of having to upset individual clients to keep all clients satisfied.

While the account I have presented problematises services delivery to a greater extent than extant attempts (Doroshenko, 2012; Lehret et al., 2012; Scarso & Bolisani, 2012), it only alludes to the tensions inherent in KIBS delivery and struggle for control it entails. In other words, it does not adequately explore the politicisation of service delivery. In line with the knowledge-based approach employed in this paper, a lens based on the more critically inclined variety of communities of practice literature (Bechky, 2003; Fox, 2000; Giroux & Taylor, 2002; Hawkins, Pye & Correia, 2017; Huvila, 2011; Mørk, Hoholm, Maaninen-Olsson. & Aanestad, 2012) could be employed for the purpose of revealing how agendas originating with some practices pertinent to KIBS delivery come to dominate those rooted in others.

With regards to the limitations of the findings reported in this paper, at least two deserve consideration. Firstly, consistently with the adopted interpretivist case study research strategy (Flyvbjerg, 2006; Stake, 1978, 1995, 2008; Thomas, 2010, 2011), my intention was never to generalise in a conventional sense. I sought to paint a sufficiently rich picture of service delivery at MonTech that would facilitate the readers interpretating it in their own way and in accordance with their own circumstances. While I believe my efforts have been successful, the richness of my

account admittedly suffered because of the access restrictions I had to comply with. Given the strong association between practice-based theorising, into which I tapped in course of my abductive analysis, and observational methodologies (Nicolini, 2012, Yanow, 2006), conducting more extensive observations would have been highly desirable. Secondly, the fact MonTech's software requires tailoring not only to the individual client's work needs, but also their existing IT infrastructures, makes it likely that its service delivery process is inherently more problematic than is the case for most KIBS firms. In other words, MonTech's service delivery process may constitute an 'extreme case' (Flyvbjerg, 2006, pp. 229-230) of KIBS delivery – one in which the problems of service delivery manifest in a particularly dramatic manner. If this is true, then it is possible that delivery of other KIBS may not be as recursive.

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