Knowledge outsourcing: an alternative strategy for knowledge management

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Abstract

Purpose – *In knowledge outsourcing, external knowledge providers, rather than in-house experts, are contracted to provide services which result in the production of knowledge-intensive assets for the organisation. The purpose of this paper is to present the notion of knowledge outsourcing as an alternative strategy for knowledge management.*

Design/methodology/approach – *A case study research method is adopted to examine the knowledge outsourcing processes and activities at a for-profit higher education enterprise that has been successful in using a knowledge outsourcing approach in the development of its online courseware.*

Findings – *A general process model of knowledge outsourcing is developed from the case data. The paper also draws attention to three conditions under which knowledge outsourcing may be a suitable strategy for knowledge management. Additionally, two main areas of knowledge outsourcing risk, which are related to the quality of knowledge services and the effort required to manage the outsourcing relationship, have been identified.*

Research limitations/implications – *Given that the study involves only a single case, the findings may likely be influenced by the peculiarities of the case, including the nature of the industry, availability of external experts and top management support. Going forward, a more refined theory for knowledge outsourcing can be developed through further empirical validation with more cases.*

Practical implications – *The notion of knowledge outsourcing is introduced to managers who wish to exploit external sources rather than relying on internal capability for knowledge creation.*

Originality/value – *This paper represents one of the earliest efforts to introduce the notion of knowledge outsourcing to the knowledge management community.*

Keywords *Knowledge management, Outsourcing*
Paper type *Case study*

Introduction

Much of the existing literature on knowledge management (KM) is concerned with how organisations can capture knowledge from experts within the organisation, and formalise and package knowledge assets for dissemination and reuse by other employees (Markus, 2001). Various mechanisms and structures, often technology-supported, have been proposed to facilitate this endeavour including Intranets (McKinlay, 2002), discussion forums (Hansen, 2001), lessons learned databases (Brown and Duguid, 2000), expert yellow pages (Storey and Barnett, 2000), mentor groups (Zack, 1999) and communities of practice (Wenger *et al.*, 2002). KM is thus viewed largely as an internal strategy where the focus is on leveraging knowledge from within the confines of the organisation.

This paper proposes an alternative and less widely discussed view of KM, referred to here as ''knowledge outsourcing'' (KO). In KO, external experts are explicitly contracted to generate knowledge-intensive assets which are subsequently internalised by the organisation. Hence, KO exploits external sources for knowledge creation rather than relies on internal capability. While the general concept of outsourcing is not new, as evidenced by the wealth of published literature in the area of information systems (McKeen *et al.*, 2002; Lacity and Willcocks, 1998),

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> **"In knowledge outsourcing, external experts are explicitly contracted to generate knowledge-intensive assets which are subsequently internalized by the organization."**

the treatment of outsourcing as an alternative model for KM remains relatively unexplored. As such, this paper presents a case study to demonstrate the utility of KO as an alternative approach to KM. In addition, a general process model of KO is proposed.

The paper is organised as follows. First, it begins by presenting the conceptual foundations for this work through a review of the relevant KM and outsourcing literature. This is followed by an outline of the case study research method adopted. A description of the case itself is then given. The main section of the paper is devoted to the case analysis, which examines KO from three main aspects, namely motivation, scope and performance, and risks. The concluding discussion covers the benefits and suitability of KO, as well as a number of suggested areas for future research.

Conceptual foundations

Process of KM implementation

Literature on the processes of KM implementation is aplenty. Table I summarises the major work proposed by various scholars.

A recurring theme among all the process models suggests three salient process elements, namely:

1. creating and capturing knowledge;
2. packaging knowledge in a way that allows it to be reused by others; and
3. distributing knowledge.

These process elements are usually presented in sequential order, but in reality, they take place iteratively as knowledge is dynamically created, maintained, refined among multiple stakeholders.

Problems in KM implementation

Although the literature is replete with KM success stories, problems in KM implementation are beginning to receive wider attention. Notably, Lucier and Torsiliera (1997) estimate that 84 percent of KM projects exerted no significant impact on the adopting organisation. This could be attributed to the failure at some stages of the KM implementation process. Even with the limited number of published cases of KM failure (Lam and Chua, 2005), a picture of the nature of the problems faced by organisation during KM implementation has begun to emerge:

- lack of clear KM vision and strategy (Von Krogh, 1998; Maier and Remus, 2003);
- misalignment of KM strategy to business goals (Malone, 2002);
- absence of a learning culture within the organisation (Van Zolingen *et al.*, 2001; Goh, 2002; McDermott and O'Dell, 2001; Lam, 2005);
- no incentives for knowledge creation and reuse (Markus, 2001);
- negative attitudes towards knowledge sharing (Bock and Kim, 2002; Newell, 2001);
- absence of continuous top management support (Storey and Barnett, 2000);
- technology infrastructure and scalability issues in KM systems (Davenport and Prusak, 1999); and
- inadequate resourcing (Newell, 2001).

Table I Review of process models in KM implementation

Reference	*KM implementation process*
Thomas *et al.* (2001)	1. Data acquisition 2. Interpretation 3. Packaging
Alavi and Leidner (2001)	1. Creation 2. Storage/retrieval 3. Transfer 4. Application
Kalling (2003)	1. Knowledge development 2. Knowledge utilization 3. Knowledge capitalisation
Leonard (1995)	1. Knowledge acquisition 2. Collaboration 3. Integration 4. Experimentation
Markus (2001)	1. Capturing knowledge 2. Packaging knowledge 3. Distributing knowledge 4. Reusing knowledge
Chua *et al.* (2006)	1. Data collection 2. Knowledge distillation 3. Knowledge dissemination
Gupta and Govindarajan (2000)	*Knowledge accumulation* 1. Knowledge creation 2. Knowledge acquisition 3. Knowledge retention *Knowledge mobilization* 1. Knowledge identification 2. Knowledge outflow 3. Knowledge transmission
Birkinshaw and Sheehan (2002)	1. Knowledge creation 2. Mobilisation 3. Diffusion 4. Commodization
Gold *et al.* (2001)	1. Acquiring knowledge 2. Converting it to a useful form 3. Applying it 4. Protecting it from illegal or inappropriate use or theft

Significantly, many of these problems can be traced to the internal workings of the organisation. For example, the absence of a learning culture and negative attitudes towards knowledge creation and reuse by employees reflect organisationally-engrained problems that are difficult to be uprooted. These problems could be mitigated if the dysfunctional internal workings of the organisation can somehow be dissociated from the KM process. One possible solution is to outsource a part of the KM process to a third-party external to the organisation.

Outsourcing concepts

The concept of KO is relatively new to the KM field and has so far attracted little attention from KM researchers. The authors therefore draw upon the literature in long established disciplines such as information systems (IS) where there has already been significant study in outsourcing as a starting point to conceptualise KO.

IT outsourcing is a business transaction which involves contracting or selling an organisation's IT assets, people and activities to a third party supplier (Kern, 1997). Several different forms of outsourcing have been identified including systems development outsourcing (McKeen *et al.* 2002; Lacity and Willcocks, 1998), business process outsourcing (Sommer, 2003), offshoring (Carmel and Agarwal, 2002), service provision (McKeen *et al.*, 2002) and more recently, utility computing (Ross and Westerman, 2004). However, the motivations for outsourcing remain largely the same and have traditionally

centred on cost reduction although the advantages of outsourcing in terms of access to scare expertise, faster time to market, and higher quality products and services, are now also being recognised as key drivers (Finaly and King, 1999).

As IT outsourcing practices gradually evolved over the last three decade, a myriad of research themes have also been developed (Lee *et al.*, 2003). Summarised in Table II are the major themes in IT outsourcing.

Much of the early research in outsourcing concentrated on the motivations for companies to outsource. McFarlan and Nolan (1995) argue that an organisation's decision to outsource must take into account several factors including the strategic value of IT to the organisation, its current portfolio of IT projects, and the way in which IT is currently structured within the organisation. Zucchini's four-S outsourcing model distinguishes between functional and dysfunctional decision-making (Bhattacharya *et al.*, 2003). A decision to outsource based on achieving better ''scale'' or being able to ''specialise'' in certain business areas is considered functional. However, a decision to ''sell'' or ''surrender'' the IT function to an external vendor either for short-term gain or to extricate the organisation from IT responsibility is considered dysfunctional.

With a rapidly expanding outsourcing industry in the 1990s, the scope and nature of outsourcing began to attract more research attention. Lacity *et al.* (1996) use the term ''selective outsourcing'' to denote the need for companies to properly select and outsource specific IT activities rather than outsource wholesale. Lacity *et al.* (1996) also distinguish business functions which are differentiators from those which are more like commodities, making the case that IT functions that support critical differentiators should be kept in-house. Lacity *et al.* (1995, p. 84) further argue that ''a company's overarching objective should be to maximise flexibility and control so that it can pursue different options as it learns more or as its circumstances change''. To that end, companies should avoid locking themselves into an exclusive and long-term outsourcing agreement but create an environment where vendors, both internal and external, continually compete to provide IT services (Cross, 1995).

Researchers also focused on the performance of outsourcing arrangements. In particular, the relationship between client and vendor is seen as a critical determinant of outsourcing success. Sabherwal (2003) observes that clients and vendors often have different perspectives on the same outsourcing relationship, with clients viewing the relationships as hierarchical while vendors viewing them as a market structure. Kern and Willcocks (2000) consider client-vendor relationships not only as having a contractual focus, but also a social focus that bonds the individuals involved. Trust has also been identified as a key element of outsourcing relationships (Lander *et al.*, 2004; Sabherwal, 1999). Alborz *et al.* (2003) argue

Table II Major themes in IT outsourcing

Focus	*Research interest*	*References*
Motivation	Choice between technology solutions developed internally or by external acquisition; impact of outsourcing and potential benefits	McFarlan and Nolan (1995); Bhattacharya *et al.* (2003)
Scope	Degree and extent of outsourcing, the number of outsourcing vendors and the nature of the outsourcing relationship	Lacity *et al.* (1995); Lacity *et al.* (1996); Cross (1995)
Performance	User and business satisfaction with outsourcing, service quality and the evaluation of outsourcing relationships	Sabherwal (2003); Kern and Willcocks (2000); Lander *et al.* (2004); Alborz *et al.* (2003)
Risk	Managing the dangers and pitfalls of outsourcing	Earl (1996); Barthelemy (2001)
Contract	Structure and design of outsourcing contracts	McKeen *et al.*(2002); Fitzgerald and Willcocks (1994); Kern and Willcocks (2000); Saunders *et al.* (1997)
Partnership	Selection of outsourcing vendors and the development of more strategic, long-term outsourcing partnerships	Linder *et al.* (2002); Feeny *et al.* (2005)

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that there are several factors which influence the efficacy of an outsourcing relationship, particularly at the post-contract stage, including governance, performance management, contract management, working relationship management and knowledge management.

As outsourcing failure becomes more frequent, the risks of outsourcing came under greater scrutiny. Earl (1996) identifies 11 types of outsourcing risk:

1. possibility of weak management;
2. inexperienced staff
3. business uncertainty;
4. outdated technology skills;
5. endemic uncertainty;
6. hidden costs;
7. lack of organisational learning;
8. loss of innovative capability;
9. dangers of an eternal triangle;
10. technological invisibility; and
11. fuzzy focus.

The hidden costs of outsourcing have been further examined by Barthelemy (2001), who attributes hidden costs to four main stages of outsourcing, namely:

1. vendor search and contracting;
2. transitioning to the vendor;
3. managing the effort; and
4. and transitioning after outsourcing.

The nature of outsourcing contracts has also caught the attention of several researchers. The definition of explicit service level agreements (SLAs) is seen as an important component of outsourcing contracts (McKeen *et al.*, 2002). However, Fitzgerald and Willcocks (1994) stress that SLAs are often articulated in technical rather than business terms, which can often result in service dissatisfaction from users and customers. Given the long-term nature of outsourcing relationships, contracts need to be sufficiently flexible so that they are able to evolve over time in tandem with changes in business strategy, technology strategy and the marketplace (Kern and Willcocks, 2000; Saunders *et al.*, 1997).

More recently, outsourcing has been conceived as a form of strategic partnership, and a way of achieving business transformation (Linder *et al.*, 2002). The selection of the right outsourcing partners is therefore a critical process. Feeny *et al.* (2005) identify twelve core capabilities for screening outsourcing vendors. These core capabilities fall into three groups namely delivery competency, relationship competency and transformation competency. Delivery competency relates to the vendor's ability to respond to the client's operational needs. Relational competency relates to the vendor's willingness to align with the client's goals over time. Transformational competency is the ability of the vendor to meet the client's

needs for service improvements. By benchmarking vendor capabilities against an organisation's strategic intent, a company can establish outsourcing partnerships that are most likely to succeed in meeting business objectives.

Research method

Case study

The overall research intent was not only to develop a conceptual understanding of knowledge outsourcing (KO) as a model for KM, but also to have this understanding underpinned by empirical data in what might be described as a form of ''grounded theory'' (Martin and Turner, 1986). For this reason, a case study approach was used as it lends itself well to exploratory, theory-building research of this nature (Yin, 1994). The case concerns Fenton University (FU), a privately-funded for-profit higher education enterprise that delivers online academic programs.

FU currently outsources several different aspects of its operation. The teaching function, for example, is outsourced to a qualified pool of adjunct faculty who are employed on a contractual basis. The focus in this paper is on how FU uses KO as a means to create the online courseware used in teaching. Since its inception, FU has been using external experts to develop its online courseware. To date, some twenty-five courses have been completed. Although the business model of FU is unique, its effort in creating knowledge-intensive assets using external experts and subsequently internalising the knowledge assets for reuse holds universal appeal to organisations which are grappling with the issue of tapping external expertise as part of a KM initiative.

Research questions and procedure

Since there is little prior theory on KO, specific lines of research inquiry in the case study were drawn from the existing theories of outsourcing in the IS literature presented earlier in Table II. In particular, three issues were considered, namely, when organisations would be interested to use KO (motivation), how they could carry out KO (scope and performance) and how to ensure that KO was carried out successfully (risk). These lines of research inquiry helped frame appropriate research questions which subsequently served to steer the case analysis procedure used, as described in Table III.

Data collection was conducted over a period of several months. Individuals who were either involved or familiar with the creation of online courseware were identified and interviewed using a semi-structured questionnaire. The rationale for conducting the interviews was to draw rich, contextual details which could not have been elicited via closed-ended survey instruments. The interviewees included several faculty members and members of the courseware development team at FU. The involvement of such a variety of stakeholders

Table III Lines of research inquiry

Research inquiry	*Research question*	*Case analysis procedure*
Motivation	Under what conditions is knowledge outsourcing a suitable KM strategy?	Identify motivations for knowledge outsourcing in the case, and assess whether the anticipated benefits were actually accrued
Scope and performance	What processes are involved in knowledge outsourcing?	Identify the outsourcing relationships between participants in the case Examine the relationships between participants to understand the knowledge outsourcing activities performed Use the empirical case data as a basis for deriving a conceptual process model for knowledge outsourcing
Risks	What are the risks associated with knowledge outsourcing and how can such risks be managed?	Identify problems and issues in knowledge outsourcing in the case

allowed data to be obtained from multiple levels and perspectives. In addition, archival data in the form of email correspondences, memos, concept papers and websites was collected to triangulate the responses given by the interviewees. In synthesizing the date, contradicting data which could not be reliably verified from officially released sources were omitted, and data which yielded a consistent pattern was analysed and used.

Case details

Fenton University (FU)

FU is a higher-education enterprise privately owned by a consortium of international, research-intensive universities. FU's mission is to create a new kind of learning experience, delivered entirely online and in a flexible manner, which would provide students with a global classroom where they could interact with other students from all over the world. So long as students have access to the internet, they would be able to access the learning resources. FU offers graduate programs designed for part-time students who are in full-time employment. FU began offering its first full program, the MBA, in July 2003, and a Masters in Information Systems Management in 2005. To date, FU has attracted over one thousand students residing in more than 50 different countries.

Online courseware development

Students are granted access to FU's online course via the internet. The online courseware comprises course notes and graphics in web-page format, teaching cases in PDF format drawn from sources such as Harvard and Ivey Business Schools, and interactive exercises and animations in Flash format embedded within web-pages. The process of online courseware development involves several stakeholders, as described in Table IV.

The project manager and Instructional Design (ID) team are directly employed by FU. However, the content author, content reviewer and QAS serve as external experts who provide specific services to FU on a contractual basis. The process of online courseware development is a lengthy one, typically lasting between eight to 12 months, and involves several steps and iterations as described below:

1. The project manager searches for candidate content authors and content reviewers for the course being developed. This is typically done through solicitation of interest through academic networks.
2. The project manager evaluates the capability, interest, availability and affordability of candidate content authors and content reviewers, and selects a content author and

Table IV Stakeholders in the online courseware development process

Stakeholder	*Description*
Content author	An academic authority, typically a professor, who writes the academic content
Content reviewer	An academic authority, typically a professor, who reviews the academic content written by the content author and provides feedback
Project manager	The individual who co-ordinates the overall online courseware development process, ensuring the timely completion of the project, and who serves as a liaison between the content author and content reviewer to protect anonymity
QAS	The Quality Assurance Service (QAS) unit established by the consortium of universities who own FU. QAS independently reviews the online courseware developed by FU using academic experts drawn from their own universities
Instructional Design (ID) team	The team of instructional designers and developers that digitize the academic content written by the content author and convert it into a form suitable for online delivery

content reviewer. The identities of the content author and content reviewer are concealed from each other during the entire process.

3. The project manager tasks the content author to prepare a scope document that outlines the curriculum for the subject, the topics that will be covered and the nature of assignments.
4. The project manager tasks the content reviewer to review the scope document and provide feedback on its overall quality. The content author may then be asked to revise the scope document accordingly to the satisfaction of the project manager.
5. The project manager submits the scope document to QAS who, using its own review panel of academic experts, make a recommendation (approved, approved with modifications, resubmit with modifications, or reject) and provide feedback on the scope document.
6. Based on the recommendation and feedback from QAS, the content author may be required by the project manager to revise the scope document again and resubmit it to QAS. This process repeats until the scope document is approved by QAS.
7. Once the scope document is approved, the content author can proceed to write the course content. This is typically delivered to the project manger in the form of a Word document, and on a modular basis.
8. Each module submitted to the project manager is passed to the content reviewer for review. Feedback from the content reviewer is then given to the content author who may be asked by the project manager to revise the course content accordingly. This process repeats until the project manager is satisfied with the course content.
9. When the manager is satisfied with the course content for all the modules in the course, the course content is submitted in its entirety to QAS for review.
10. QAS reviews all the course content, makes a further recommendation (approved, approved with modifications, resubmit with modifications, or reject) and provides feedback on the content. Once again, the project manager may ask the content author to revise the content in light of the feedback from QAS.
11. It is only at this final stage that the project manager passes the course content to the ID team who convert the course content into an online form. This involves the creation of web-pages, diagrams, multimedia elements and interactive exercises. During this period, the project manager may call upon the content author to provide any additional content required by the ID team as part of the conversion process.

The end result of this lengthy process is a set of courseware ready to be used for online teaching. Any further changes to the online courseware are addressed as part of the courseware maintenance cycle. Through this process, FU has hitherto developed over 25 online courses for its MBA program.

Case analysis and findings

Conditions under which knowledge outsourcing is a suitable KM strategy

There are several inter-related reasons why FU uses KO as a strategy for online courseware development. First is the issue of resourcing. FU does not possess a complete suite of expertise internally to develop all the online courseware needed for an entire MBA program (nor additional programs). FU has a small full-time faculty of seven academics, a number which is significantly less than what one might find at a business school of a comparable student population. Furthermore, since the core activity performed by the full-time faculty is largely academic administrative duties, the full-time faculty have limited time to engage directly in writing course content themselves. Second, hiring full-time faculty on a permanent basis to develop all the online courseware represents an enormous long-term financial burden on FU. Third, academic expertise in online courseware creation is needed only temporarily at the beginning when the courseware has to be developed. For the last two reasons, it does not

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make economic sense to hire a large full-time faculty solely for the purpose of online courseware development. External sources of expertise are therefore sought.

Processes involved in knowledge outsourcing

Knowledge outsourcing relationships. The process of online courseware development at FU involves several stakeholders. In outsourcing terms, FU has relationships with three different kinds of knowledge provider who are contracted to deliver a specific set of knowledge services. These three KO relationships are identified as:

1. FU-Content Author;
2. FU-Content Reviewer; and
3. FU-QAS.

To examine each KO relationships in further detail, the outsourcing relationship process suggested by McKeen *et al.* (2002) was used as a framework for analysis. McKeen *et al.* (2002) indicate that the creation of outsourcing relationships with service providers follows several steps, namely:

- identifying candidate capabilities to be market sourced;
- the evaluation/selection of service providers;
- crafting service level agreements (SLAs) and other contractual terms;
- contract monitoring and management; and
- environment scanning (to observe changes in the market of external provisioning).

The results of analyzing the three KO relationships using this framework is presented in Table V.

Noticeably, the nature of the KO relationships in FU-Content Author and FU-Content Reviewer is different from FU-QAS. In FU-Content and FU-Reviewer, FU is free to select any content author and content reviewer based on its own criteria and judgment. In FU-QAS, however, FU is mandated to use QAS which was specifically established by the member universities to provide QA services to FU. FU-Content and FU-Reviewer might therefore be considered as examples of selective KO, and FU-QAS as non-selective KO. All relationships, however, are underpinned by contractual arrangements which dictate the service level agreements for the knowledge services offered. For example, content authors are committed to a schedule when course content is expected to be delivered. Similarly, QAS are required to provide feedback on the scope document and course content within a specified time period.

Knowledge outsourcing process. Based on a synthesis and abstraction of the activities carried out by stakeholders in each of the KO relationships in FU, an abstract model of the KO process, as shown in Figure 1, is proposed.

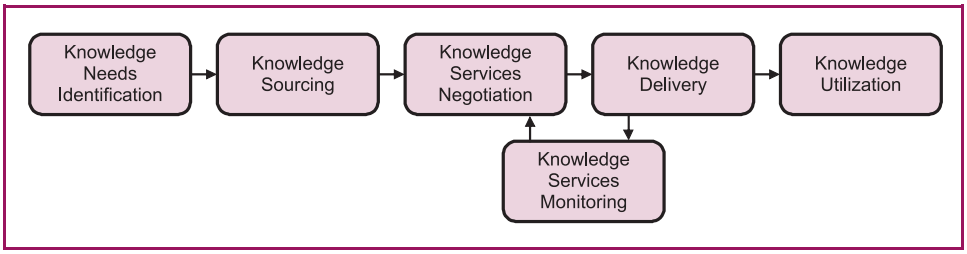
The model of the KO process follows several steps between the client (the consumer of knowledge services) and knowledge provider (the provider of knowledge services).

Table V Analysis of outsourcing relationships

Step in outsourcing relationship process	*FU-content author*	*FU-content reviewer*	*FU-QAS*
Identifying candidate capabilities to be market sourced	The course for which the online courseware needs to be written is identified. Experts who are knowledgeable in the field, typically academics, are then sourced to serve either as candidate content authors or content reviewers. This is typically done through academic networks and contacts		The course for which the online courseware needs to be written is identified and QAS sources content reviewers from its member universities
The evaluation and selection of service providers	Based on a fuller assessment of academic and/or industrial standing, candidate content authors and content reviewers are shortlisted. Discussions are held with candidates to ascertain their interest in providing content author or content review services to FU, their availability, and financial terms. Based on these discussions, a content author and content reviewer are chosen		QAS selects and negotiates with appropriate reviewers from its review panel
Crafting service level agreements (SLAs) and other contractual terms	The content author is first issued with a contract to prepare the scope document. Upon successful completion of the scope document, a second contract is issued to prepare the full course content within an agreed deliver schedule	Similarly, the reviewer is first issued a contract to review the scope document. Upon successful completion, a second contract is issued to review the full course content	FU and QAS work on the basis of an agreed set of standard operational processes and SLAs. QAS are required to review the scope document and course content with a set period of time
Contract monitoring and management	The project manager ensures that the scope document and course content is delivered by the content author in a timely manner according to the schedule, and that it is written to an acceptable standard based on feedback from the content reviewer and QAS	The project manager ensures that the reviews of the scope document and course content are provided by the content reviewer in a timely manner according to the agreed schedule	The project manager ensures that the reviews of the scope document and course content are provided by QAS in a timely manner according to the service level agreements
Environment scanning (to observe changes in the market of external provisioning)	If the content author is under-performing (quality of scope document or course content is poor, late delivery of deliverables) then the project manager is able to terminate the contract with the current content author and seek another	If the content reviewer is under-performing, then the project manager is able to terminate the contract with the current content reviewer and seek another	N/A

The process begins with the client identifying their knowledge needs, i.e. the requirements for the nature and type of knowledge assets needed. These knowledge needs should be specific in nature and directed at solving a particular problem. In the case of FU, the knowledge needs are to identify the MBA courses for which online course content has to be written. Knowledge sourcing refers to the stage where the client considers the different means by which knowledge needs can be satisfied. This step includes the identification and evaluation of possible knowledge providers, who may be individuals or companies. Following this is the

Figure 1 Model of KO process



negotiation of knowledge services between the client and the knowledge provider. If negotiations are successful, the outcome is a contract between the client and the knowledge provider. Such negotiations will include agreement on a schedule of when knowledge assets are to be delivered, costs and fees, and licensing and intellectual property arrangements.

Knowledge delivery involves the transfer of knowledge from the knowledge provider to the client. Knowledge delivery can come in several different forms, such the production of documents that capture knowledge assets (as in the case of FU) or through face-to-face sessions (as non-tangible knowledge assets). The quality of knowledge services is monitored by a parallel process which checks, amongst other things, the timeliness of knowledge delivery and the quality of the knowledge assets, in accordance with what was originally negotiated and contractually defined. In the final step in the KO process, knowledge assets delivered by the knowledge provider are utilised by the client.

Risks associated with knowledge outsourcing

The use of KO at FU has not been without risks. Risks exist at different stages of the KO process. Using the model of the KO process presented earlier in Figure 1, specific KO risks have been identified, as given in Table VI.

Many of these individual risks are interdependent. For example, knowledge assets may be poorly utilised (during ''knowledge utilisation'') because they are below an acceptable standard (during ''knowledge delivery''). More generally however, two major risks are observed. The first risk relates to the quality of knowledge services delivered by knowledge

Table VI Risks in knowledge outsourcing

KO process	*Risks*
Knowledge needs identification	Knowledge needs not sufficiently well-scoped and well-defined
Knowledge sourcing	No suitable knowledge providers are found
	Suitable knowledge providers are found, but are not available to take up the work when required
	Selection and evaluation of suitable knowledge providers takes an excessive amount of time and effort
Knowledge services negotiation	Negotiation of contractual arrangements takes an excessive amount of time and effort
	Negotiations suffer a breakdown, resulting in wasted time and effort
Knowledge delivery	Knowledge provider delivers knowledge assets later than planned
	Knowledge provider delivers knowledge assets which are below an acceptable standard
Knowledge services monitoring	Knowledge provider becomes ''difficult'' to work with
	Managing relationship with the knowledge provider takes an inordinate amount of time and effort
Knowledge utilisation	Knowledge assets are poorly utilised
	Knowledge assets not accepted by users in the client organisation

providers. On occasions, for example, FU has encountered problems where the quality of the content written by a content author, or the quality of review written by a content reviewer, was found to be unsatisfactory. This is despite a selective process on the part of the project manager in evaluating the academic credentials of potential content authors and content reviewers. The second risk is the time and effort required to manage KO relationships, including the search for suitable knowledge providers. At FU, the project managers are required to spend a significant amount of effort managing the multitude of KO relationships it establishes with various content authors, content reviewers and QAS.

Concluding discussion

Benefits and suitability of KO

FU could not have achieved the rapid pace of online courseware development in the three year period without adopting a KO strategy. Through KO, FU is able to:

- gain access to a pool of academic expertise on a flexible basis;
- develop a large amount of online courseware without the financial burden of hiring a large full-time faculty; and
- reduce the time-to-market of FU's programs since multiple online courseware can be developed in parallel.

The secondary benefits of KO include better financial management for the institution, a scalable workforce and the ability to develop materials with an international flavour through the use of content author and content reviewers from around the world. This does not necessarily mean, however, that KO is suitable in all organisational settings. The conditions under which KO might be considered a favourable KM strategy are as follows:

- lack of in-house expertise, or unavailability of in-house experts;
- availability of external knowledge providers who are able to satisfy an organisation's knowledge needs; and
- a favourable business case in which the cost-benefit of KO is positive in light other available alternative options.

Consequently, there are several implications for organisations that are planning KM initiatives which may lead them towards adopting KO. First, organisations need to assess the resource implications of any KM initiatives, and the likely impact of such initiatives on employees who may already be inundated with work. Second is the availability of external knowledge providers. The more specialised and proprietary an organisation's knowledge needs are, the more difficult it may be to locate appropriate external knowledge providers. The ''market'' for knowledge is not new – consultancy firms, for example, are essentially in the business of providing knowledge services although they are rarely considered as an integral part of an organisation's KM initiative. Academic institutions could also serve as potential external knowledge providers. Third is the assessment of the cost-benefit of KO. The costs associated with KO not only include the obvious costs of paying the knowledge provider, but also the ongoing costs of managing the KO relationship with the knowledge provider. KO costs must be compared with the costs of using internal resources to create knowledge assets.

Knowledge insourcing v. outsourcing

Mentioned earlier, the processes in KM implementation follow a general pattern of:

- creating and capturing knowledge;
- packaging knowledge in a way that allows it to be reused by others; and
- distributing knowledge.

KO does not fundamentally alter this process, but it does have particular significance to part a), particularly in the way an organisation creates and captures knowledge. Organisations are essentially faced with a choice between knowledge insourcing and knowledge outsourcing, as distinguished in Table VII.

Table VII Knowledge insourcing v. knowledge outsourcing

	Knowledge insourcing	*Knowledge outsourcing*
Knowledge provider	Knowledge services are delivered by employees within the organisation	Knowledge services are delivered by an external provider outside the organisation
Nature of knowledge	Knowledge is contextual and personalised to the organisation	Knowledge is generalised and not personalised to a specific organisation
Knowledge specificity	Knowledge tends to be broad, wide-ranging and not necessarily targeted on a single problem	Knowledge tends to be more narrowly focused on addressing a specific problem

In knowledge insourcing, employees might contribute tips to a lessons learnt database or share work experiences by participating in a discussion forum on the Intranet. Such knowledge is often highly contextual to the products and services offered by the organisation, its organisational structure, or business processes. In addition, such knowledge is typically broad-based, where employees have wide latitude to contribute knowledge related to a whole range of problems within the organisation.

Knowledge outsourcing on the other hand takes place when knowledge is generated by providers external to the organisation, typically under some specific contractual arrangement. Such knowledge tends to be less contextual and proprietary in nature and can be produced without significant prior knowledge about the organisation's setting or its internal workings. However, such knowledge also tends to be more narrowly focused and specific to a problem area.

Limitation

Future work

The use of a single case study inherently limits the extent to which the findings can be generalised (Scott, 1997), as case-specific factors such as the competitive nature of the industry, availability of external experts and top-leadership support are likely to have a significant bearing on the findings. Nonetheless, such a research method is appropriate in this research since the objective was to develop a preliminary theory of KO from a grounded-theory approach, rather than to generalise KO into a deterministic model for measurement and prediction (Platt, 1988). Going forward, a more refined theory for KO can be developed through further empirical validation with more cases.

The IS literature on outsourcing has indicated that the level of trust between the client and provider is a stronger predictor for outsourcing success (Lee and Kim, 1999). FU has experienced instances where the level of trust shown by content authors and content reviewers was high at the start of the KO relationship, but subsequently deteriorated, leading to knowledge assets which were less than acceptable to FU. Trust therefore appears equally important in KO. Thus, a possible area for further work is on the role of trust in the management and evolution of KO relationships. A second and related area of research is the management of risk in KO. This research has uncovered various risks relating to different stages of the KO process, but offered little in terms of models and frameworks for managing KO risk. Again, drawing from the IS literature for which risk management has received considerable research attention would be a good starting point.

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