

KM Challenges in Small KIBS Companies: Multi-Case Analysis in two Countries

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Abstract: Knowledge Intensive Business Services (KIBS) – i.e. companies like e.g. computer services, consulting, engineering, business communication, and R&D support - are key players in the modern economies. They stimulate the innovativeness of businesses and societies. Their competitiveness is based on knowledge, which is their key production factor and also the kind of “goods” they sell. The large majority of KIBS companies have a small or medium size, which leads to major challenges because they manage their cognitive assets in a substantially informal and undeliberate way. They face several obstacles to managing knowledge, partly due to their limited resources, but also to the knowledge-intensive and intangible nature of their business processes and outputs. Such challenges, when not successfully identified and faced, may negatively impact competitiveness. The paper illustrates the findings of a qualitative investigation aimed at exploring the main KM challenges that KIBS SMEs face. These challenges were analysed with specific reference to the key KM processes, i.e.: knowledge acquisition, knowledge documentation and storage, knowledge sharing, knowledge application, and knowledge protection. The research is a multiple-case study based on interviews to key informants of 23 Italian and Polish KIBS SMEs of different sectors. The analysis made it possible to find recurring issues and highlight differences. The study provides food for thought for researchers and practitioners willing to clarify what KM processes need proper solutions for the effective management of knowledge in small KIBS.

Keywords: KIBS, Knowledge management challenges, Multiple case-study

1. Introduction

Knowledge Intensive Business Services (KIBS) are key players in modern economies (Kamp & de Apodaca, 2017; Pina & Tether, 2016; Tuominen & Toivonen, 2011) because they can stimulate the innovativeness of the economy (Liu et al., 2019; Shearmur & Doloreux, 2019). These companies ground their competitiveness on the capability to manage knowledge (Miles et al., 2018; Palacios-Marques et al., 2011), which is the key factor of service production and the kind of “goods” they sell (Strambach, 2008). The KIBS sector includes different companies ranging from technological KIBS (for example, computer services) to professional KIBS (such as e.g. legal services) and creative KIBS (for instance, advertising and media management). The large majority of KIBS companies have a small and medium size (Zieba, 2021) and, while empirical evidence (Bolisani et al., 2022) proves that they are aware that knowledge is their most crucial resource, they manage it in a substantially informal and undeliberate way (Bolisani et al., 2016; Alexandru et al., 2020). In general small companies face several issues in knowledge management (Massaro et al., 2016; Durst et al., 2022; Shekhar & Valeri, 2023), largely due to their limited size which results in scarcity of human and financial resources, lack of time, and short-term orientation. In the specific case of KIBS, they can encounter specific challenges, mainly due to the intangible and knowledge-intensive nature of their business processes and outcomes. These challenges can negatively impact competitiveness and organisational performance.

Research about how small and medium sized KIBS companies manage their knowledge is still limited (Bolisani et al., 2022). To contribute to fill this lack of knowledge, this paper investigates the challenges faced by KIBS SMEs by means of a multiple case-study analysis conducted on 20 KIBS companies of various sectors in two countries. The analysis aims at finding regularities and differences across companies.

2. KM Challenges and Processes

It is useful to introduce what we mean by "knowledge management challenges". As mentioned earlier, the large majority of KIBS companies have a small or medium size and they face obstacles to managing knowledge, in part due to their limited resources, in part to the knowledge-intensive and intangible nature of their business processes and outputs. Research on KM in SMEs in general and KIBS in particular (Siahtiri et al., 2020; Durst et al., 2022; Zbucnea et al., 2023; Massaro et al., 2016; Shekhar & Valeri, 2023) suggests that these firms face different issues and often lack both dedicated approaches to KM and the necessary skills as well as competencies necessary to implement proper knowledge management (KM) processes. At the same time, these firms are exposed, more than others, to skill shortage and to risk related to environmental change, progressive digitalization, and increasing geopolitical risks. The term "challenge" is a broad term that encompasses several types of difficulties faced by companies. Thus, to have a common understanding of the term and define the scope, in this study, we define and consider "knowledge management challenge" as the *current or future organisational difficulties for KIBS SMEs that may require the proper application of KM processes to address these difficulties successfully*. Addressing these challenges can also lead to the discovery of knowledge gaps or risks that need to be tackled. Upon that basis, an effective KM implementation will ensure proper management and understanding of knowledge resources which will ultimately lead to organisational development and higher performances.

The study analysed these challenges with specific reference to the key KM processes. In the literature, different directories of KM processes have been published (Heisig, 2009; Edwards, 2015; Costa & Monteiro, 2016). This study considers five main KM processes, i.e.: knowledge identification and acquisition, knowledge documentation and storage, knowledge sharing, knowledge protection, and knowledge application. Knowledge identification refers to the activities that help a company to detect the knowledge necessary for its business (Durst & Edvardsson, 2012). Organisations engage in knowledge acquisition when they lack the internal resources to successfully innovate (Maes and Sels, 2014). The question of where and what knowledge to look for is often a challenge for small KIBS.

The process of documenting and storing knowledge is another critical activity, particularly in the case of KIBS SMEs due to lack of people and time. Properly documenting a company's key knowledge and managing the digital or physical documents can lead to higher organizational performance but can also require increased security, ease of retrieval or reuse, access control (Zaim, et al., 2019; Andreeva and Kianto, 2011; Ramadan et al, 2017). Knowledge sharing can be defined as "the act of placing knowledge possessed by an individual at the disposition of others within the organisation" (Camelo-Ordaz et al., 2011). It is a key activity to facilitate managing innovation and avoiding "reinventing the wheel", aligning employees to the company's business, and avoiding obsolescence of services.

Knowledge protection refers to the measures taken to limit risk of leakage in companies, like KIBS, that depend on knowledge for their competitive advantage (Liebeskind, 1996). Protection mechanisms can be applied to the technical infrastructure, but other forms of protection should also be considered that govern the behaviour and conduct of employees (Liebeskind, 1996; Yu, 1999). Finally, knowledge application refers to the proper use of knowledge to provide the right services to the market. As stated by Bhatt (2001), applying knowledge means making it "more active and relevant for the organisation in creating values".

In substance, this study is based on two main assumptions. First, small KIBS companies face peculiar challenges with their KM approaches, and identifying and analysing these recurring challenges is important so as to make companies aware and provide possible remedies that can be implemented while performing different KM activities. Second, the identification and analysis of these KM challenges can be appropriately conducted by considering that KM can be divided into a number of critical processes implying special issues and methods.

3. Methodology

The study addresses these research questions:

RQ1: What are the main difficulties that KIBS SMEs meet in their KM processes?

RQ2: What recurring challenges emerge from the analysis?

Given its exploratory nature, the research used a multiple case study approach (Yin, 2018) and consisted of a series of interviews with key informants from 13 KIBS SMEs in Italy and 7 in Poland, belonging to different sectors (ICT services, professional services, consulting services, legal and administrative services). The choice of these two countries were made only for reasons of convenient access to companies and data. The extension of the

analysis to more than one country was considered useful to check if there are recurring challenges regardless the country of operation.

The interviews were carried out between May and September 2022 and were based on a list of questions sent in advance to the interviewed people. The interviews were recorded and then transcribed. To support the analysis, an Excel file was created in which all the answers were reported. This helped researchers compare the data, find similarities or differences, and draw conclusions, substantially by means of an application of discourse analysis (Miles and Huberman, 1994).

Table 1: Sample

Company	Sector	Size	Country
A	ICT (software)	20	IT
B	Business consulting	8	IT
C	ICT (software)	60	IT
D	Business consulting	60	IT
E	Legal/administrative consulting	60	IT
F	ICT (data management)	6	IT
G	Strategic consulting	15	IT
H	ICT (ERP systems)	150	IT
I	Legal/fiscal consulting	60	IT
L	ICT (business software and consulting)	35	IT
M	ICT (software)	40	IT
N	ICT (software)	30	IT
O	ICT (system integrator)	86	IT
P	PR & marketing, PR-marketing agency	20	PL
Q	Training company	30	PL
R	Education and training	40	PL
S	Research and development	5	PL
T	Consulting	5	PL
U	Research and development	14	PL
V	Consulting	27	PL

4. Findings

4.1 Knowledge Search and Acquisition

Italian companies affirmed that there are several challenges concerning the identification of knowledge gaps to be filled, localisation and access to the external sources from which the needed knowledge can be acquired. Challenges can be subdivided into two categories, i.e., human-related and source/knowledge-related challenges.

As for human-related challenges, lack of time is the most relevant. Although it affects all KM processes, it results particularly crucial here, since it can imply that the needed knowledge is collected too late for a client's problem. In fact, employees are usually busy with daily activities and they have little time to devote to new knowledge search and acquisition. Other human-related challenges were indicated by Italian companies, such as lack of

motivation of employees to search for new knowledge; also, many are not particularly open minded and they are confident that the "old knowledge" is enough. Instead, young people have little experience and generally tend to simply rely on technologies for knowledge search.

As for source/knowledge related challenges, there is an increasing speed of knowledge obsolescence which calls for a continuous effort of search. Another possible issue is information/knowledge overload. Companies have to deal with an enormous amount of knowledge available in the environment and it is difficult to make a selection. Sourcing costs are increasing, both in monetary terms (if content has to be paid for) and in terms of time to absorb the acquired knowledge.

The main challenges of knowledge acquisition for Polish companies relate to the issue of adapting external knowledge to organisation's internal needs. This is because the activity of KIBS is generally based on projects, which require a wide variety of knowledge that is tailored to the needs of a particular client. Therefore, the challenge is to have diverse sources that can fill in the gaps. This is confirmed in one of the interviews: *"Challenges are project-specific. Implementing different projects requires different capabilities"*.

With regard to the expertise, there were voices regarding the discrepancy between the company's requirements and the experts' competencies, which, although formally confirmed, do not always turn out to be adequate to the needs arising from the implementation of specific projects. Another challenge that was strongly emphasised by respondents was the issue of financing externally sourced knowledge. This is especially the case of expertise in special areas which, being scarce (and thus difficult to identify and acquire), can be acquired at a significant cost.

Another difficulty faced by Polish KIBS is the lack of time. Time shortage is challenging in work management, but also in professional development, as was indicated by one of the interviewees: *"I think that such a problem may be the employee's lack of time to attend the training - because such training takes a lot of time, due to many duties it is sometimes difficult to save a few hours."*

Additionally, the interviewees pointed to the importance of motivation and the resistance to thinking beyond the area of responsibility especially for young generations. Among other challenges reported by Polish informants there were: employees rotation and the age-old dilemma of when to invest (in terms of new employees) and how much to invest; financial challenges - hiring experts to fill important knowledge gaps is very expensive; finding good, highly qualified and willing to cooperate experts; unwillingness to share knowledge from people who have valuable knowledge; and project-specific challenges (i.e.: implementing different projects requires different capabilities).

4.2 Knowledge Documentation and Storage

Documentation is an essential activity that raises several challenges for Italian KIBS, as well represented by what was affirmed by an Italian company: *"Documented knowledge can be regarded as a library, and hence its management requires you to answer several questions, as follows: How should documentary material be organised? How to inform people about new material? How to induce people to contribute with new material? How to improve the readability of the material?"*.

A well organised and documented knowledge archive is needed to make it easily retrievable, which can be achieved by means of an efficient classification; but Italian companies agree that classifying documents is challenging, because it requires time especially to classify old materials, and different classification methods and logics may be applied even to the same document. In addition, employees need to be kept updated about the new knowledge contents that are added to the document management system and can be of their interest. Many companies affirm that it would be good to have a "librarian", but this is very difficult given their limited size and it is hard to assign this exclusive task to an employee.

A recurring problem of Italian companies is how employees can be stimulated to document their knowledge promptly to avoid forgetting important aspects. An important factor is the time of reuse (i.e., how long it will take for a stored knowledge content to become useful for another employee). If this time is long, it is difficult to convince people to document knowledge when they feel they may not need it again in the future, because they may change companies in the meanwhile. In short, if there is no immediate return of knowledge storing, they may not be inclined to do it. In addition, most of the technical staff is generally reluctant to produce written documents about their activity, as they prefer to focus on more practical and operative activities.

A final point is about the understandability of contents. Some interviews said that young generations are less familiar with writing a formal report, and that they often use a "Whatsapp style". In any case, it is not easy to

establish a writing standard style inside a company because every person, regardless of his/her education level, has own specific writing format. Different people also use different languages and even jargon, and this issue worsens the more areas of specialisation (and people) there are in the company. People of different educational backgrounds (e.g., business managers with computer engineers) or different application/technology areas (e.g. systems engineers and software developers) may find it difficult to communicate.

4.3 Knowledge Sharing

All Italian companies underlined that direct sharing by interactions is as essential as documentation, and they complement each other. Sharing allows people to align on common terms and perceptions of problems, which also makes the understanding of written documents easier.

Lack of time is, again, one of the most important challenges to knowledge sharing and is strictly connected with the small size of companies. A recently found challenge is the increasing recourse to remote work, which has become common with COVID. It is general opinion that the progressive replacement of face-to-face meetings with virtual meetings has a negative effect on knowledge sharing. In particular, a lower presence in the office considerably reduces the opportunities for informal knowledge exchange.

The biggest issue, however, is how to promote knowledge sharing, that is, how to build a knowledge sharing attitude of people. The common opinion of companies is that this is a cultural and personal issue concerning aspects such as individuals' characteristics (e.g., age, gender, educational background) and personal attitudes (e.g. loyalty, generosity, kindness, sincerity, mental openness); but organisational structure and managerial style also count, as well as the languages and jargon used, and the working habits and routines.

As for the Polish companies, the challenges of knowledge sharing are considered in the internal context and externally (e.g., with partners). As regards the first aspect, the challenge is to properly establish access levels to knowledge for individual employees of the organisation. As for the second aspect, sharing knowledge outside the organisation poses the danger of its appropriation by entities not authorised to do so (e.g., competitors). Many Polish interviewees indicate, again, that lack of time to share knowledge with others is a major challenge: *"The main challenge is the lack of time to share knowledge. I think it would be nice if we had regular workshops where we could verify the acquired knowledge and cascade into the team. [...] This shortage of time simply means that we do not have the financial capacity to say "okay, now 15% of everyone's working time is exchanging knowledge" - this cannot be done yet."* Another important difficulty is how to stimulate knowledge sharing. There may be cases when an employee takes part in a training activity and later does not share the knowledge gained there with the colleagues.

Some of the challenges mentioned by the study participants refer to the proper adjustment of knowledge so that it is accessible for everyone, and knowledge adequacy. Another issue is when there is too late or incomplete knowledge sharing, which consequently can lead to the phenomenon of "opening an already open door". Other important issues are: the danger of sharing knowledge with competitors, the lack of formalisation of the whole knowledge sharing process, the high complexity of some projects and the difficulty in transferring knowledge to other team members.

4.4 Knowledge Protection

This is not perceived as a particularly critical issue by Italian companies. Challenges concern the protection of stored knowledge, i.e. the company document management systems, and of the knowledge possessed by employees, i.e. that is in their minds. The former is generally protected by means of technical solutions and by cybersecurity. The latter by means of confidentiality agreements. Anyway, Italian companies affirmed that the continuous innovation and extreme customisation of today's business is, itself, an effective protection from imitation by competitors. To sum up, even if knowledge protection can in principle be a problem, in reality none of the Italian companies affirmed they have suffered relevant "knowledge theft".

As regards Polish companies, relatively few challenges were identified. Perhaps this is due to the fact that they are already aware of the legal protection of intellectual property. In addition, being aware of the need to protect knowledge on the Internet, they are taking many cybersecurity measures. Nevertheless, they show constant vigilance in both areas, on the assumption that it is still necessary to look for improvement, due to the fact that knowledge as a resource is difficult to protect and easy to "grab" by the others.

Among the difficulties signalled by Polish KIBS SMEs, there is an uncontrolled leakage of knowledge combined with unethical knowledge sharing outside the organisation (for instance, the use of internal materials). An interviewee reported that a person came to work in the company for 3 months (the trial period) and when he

was offered to stay, he resigned. There was no justification for leaving the job, so he was suspected to be a “knowledge theft” by the manager. To overcome this kind of problem there is the necessity to choose the right employees and motivate them well.

4.5 Knowledge Application

For Italian companies, it refers to delivering services that can satisfy the clients’ needs and solve their problems. Furthermore, since clients are directly involved in the service delivery process, very often they give a substantial contribution to its success, also because their feedback provides knowledge itself. Hence, a common problem of Italian companies is to collect from and transfer to the client all the knowledge needed for a valuable service. This raises several challenges including e.g.: fully understanding the real problem of the clients; analysing their problems at an appropriate level; establishing effective communication with the clients; synthesising the results to give the customers the “proper answers”; avoiding clients using knowledge incorrectly. Another special challenge refers to the most complex services where various pieces of knowledge, coming from different areas, must be integrated.

For Polish firms, the challenge in applying knowledge is the need to constantly update and develop it. An additional challenge is the ability to adapt existing knowledge in ongoing projects, in various aspects. A further difficulty is that in each project there is an element of new knowledge that needs to be assimilated and applied in conjunction with the existing pool of knowledge. Polish KIBS representatives identified several problems in terms of knowledge application. For instance, the insufficient acquisition of knowledge by employees (which makes the application difficult) and frustration caused by the “trial and error” process while applying new knowledge. Additionally, some other challenges were highlighted by the informants such as: no time to transform the knowledge into action, products/projects created for a specific order (they are many and must be tailored to the specifics of the client, so there is always an element of new knowledge that has not considered before and that must be now applied).

4.6 General Issues

The research shows that a major challenge for KIBS is to constantly update its knowledge base, given the speed of change in various industries. This entails constantly monitoring the market and acquiring up-to-date knowledge. As the respondents emphasized, the difficulty in this area is not at all about technology, but about human resources - experts with knowledge and skills that are relevant at a given time. Linked to the above is a second challenge pointed out by respondents, namely the need for knowledge-sharing partnerships, which could be key to constantly updating the knowledge package. Cluster cooperation, which was cited by respondents, could be a good practice.

Another issue that came up in the survey is the need to take a holistic view of the knowledge resources held in terms of identifying gaps and sources of knowledge (both internal and external). A major challenge is to ensure knowledge continuity in the face of high employee turnover. This raises serious problems especially in those companies that do not have developed practices for knowledge codification.

The informants were asked to indicate the biggest knowledge-related challenges that their companies meet on a daily basis or have coped with in the past. As the findings suggest, for Polish KIBS, the biggest challenges are: “transition from the old to the new”, leaving the company by the employee and loss of their knowledge, and time. Some informants also stated that keeping the knowledge in the employees’ heads (with accompanying lack of knowledge exchange) and insufficient internal communication were the issues their companies struggled with in the past. Among other important difficulties, the participants also mention: cooperation with external experts (their knowledge, skill level, commitment, etc.), managing current knowledge (continuity of knowledge, updating knowledge, etc.), technology development, cloud solutions.

5. Discussion

The findings of this study point out some differences but also several recurring situations between the Italian and Polish KIBS companies. We will explicitly focus on these similarities, which show that there are some common traits of small KIBS, regardless of their country of operation. A shared point is the lack of time, which was signalled to be one of the key factors affecting the effectiveness of KM processes. Both Italian and Polish KIBS specifically indicated that this problem is crucial for the process of knowledge search and acquisition. Another common issue in this KM process is the lack of motivation or experience to acquire new knowledge – some employees might be prone to stick to the old solutions, which used to work in the past. Also, there is an issue of employees leaving the company and “taking away” their knowledge. Another issue is related to

technological solutions – they might be too excessively used and also, cause some overload with information and knowledge one might need to obtain.

As for the process of knowledge documentation or storage, Italian companies, which perform such activities on a large scale, signal the problems to define the right classification system and to make it used by all the employees who need it. The same was indicated by Polish firms. Another common issue is the quality of language used in documenting knowledge and the different jargons/specific languages that may be used by different professionals.

Knowledge sharing is another important KM process. There are some recurring issues there, too. For example, how to encourage people to share knowledge or how to keep this process alive in the era of remote work, after it was extensively introduced with the COVID-19 pandemic and is now commonly used in companies. At the same time, there is a problem with potential knowledge theft or loss when knowledge is improperly shared with external partners, as indicated by some Polish firms. Knowledge protection does not seem to be a challenge, nor for Italian and neither for Polish firms. Perhaps this is because KIBS companies are often aware of the risks related to the use of the Internet and they try to protect themselves. Also, services are so customised that their application to specific clients requires the use of localised knowledge that can't be easily imitated by competitors.

Finally, knowledge application is supposed to help in delivering knowledge to the customer according to their needs. This can be problematic when there is no common agreement and understanding of the problems and the prospective solutions between the customer and the KIBS firm. This was indicated by both Italian and Polish companies. Also, there is a problem with lack of time for absorbing new knowledge and then applying it in the context of new projects and challenges.

6. Conclusion

This study aimed to illustrate the key KM challenges of small KIBS companies. These challenges were identified by means of extensive case study research focusing on the main KM processes.

An interesting finding is that companies signal some recurring challenges, regardless their sector and even their country of operation. This means that small KIBS have common traits and characteristics. A primary problem in KM is the lack of time, which affects the effectiveness of KM processes. This clearly depends on the small size and the limited resource of companies, but can also signal that, although companies are aware that knowledge is their critical resource, KM is still not considered a really core strategic activity for the management of the business. This provides interesting insights into a topic that has not been studied in detail so far.

The investigation has the typical limitations of a case study methodology, and especially the difficult generalisation of the results. In addition, the study examined KIBS companies of two countries only, namely Poland and Italy. As a case study research, its results cannot be statistically generalised for the whole groups of KIBS firms in those two countries, even though the large number of companies in the sample makes it possible to get useful lessons as regards the potential recurrence of KM challenges in KIBS companies. In any case, there is an opportunity for future research to confirm the preliminary findings of this analysis, for example, by means of quantitative surveys at national or international levels. Another important line of research can consist of an analysis of differences or similarities across companies of different specialisation (i.e., Professional, Technical, or Creative KIBS).

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