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Working Paper

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GUT FME Working Paper Series A, No. 7/2014 (25)

Provided in Cooperation with:

Gdańsk University of Technology, Faculty of Management and Economics

Suggested Citation: Bolisani, Ettore; Scarso, Enrico; Zieba, Malgorzata (2014) : How small KIBS companies manage their intellectual capital? Towards an emergent km approach, GUT FME Working Paper Series A, No. 7/2014 (25), Gdańsk University of Technology, Faculty of Management and Economics, Gdańsk

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GDAŃSK UNIVERSITY OF TECHNOLOGY

FACULTY OF MANAGEMENT AND ECONOMICS

HOW SMALL KIBS COMPANIES MANAGE THEIR INTELLECTUAL CAPITAL? TOWARDS AN EMERGENT KM APPROACH

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GUT Faculty of Management and Economics

Working Paper Series A (Economics, Management, Statistics)

No 6/2014 (25)

November 2014

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How Small KIBS Companies Manage their Intellectual Capital? Towards an Emergent KM Approach

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This version – 26 November 2014 (revised)

[full version of the paper forthcoming in the Proceedings of the ECIC 2015]

Abstract

The growing interest in Intellectual Capital management and Knowledge Management is now reaching small companies, especially those in the Knowledge-Intensive Business Services (KIBS) sector. This paper aims to explore this issue, starting from the assumption that a planned and systematic approach to KM, as is used in large companies, is rarely applicable in small organizations. It is more likely that small companies adopt an approach to KM that could be defined as “emergent”, i.e. KM is not planned rationally and in advance, but emerges and is developed along with time. In the paper, the concept of emergent KM approach will be defined and discussed, and three research questions will be examined: a. Is it possible to detect an emergent KM approach in the practice of small KIBS? b. If so, why small KIBS companies follow an emergent KM approach? c. What particular features this approach can have in those companies? The study is based on the results of a qualitative survey involving several owners and managers of small companies operating in the KIBS sector. The survey uses the case study method, and gives grounds for a preliminary analysis of emergent KM approach in small companies offering KIBS. The findings confirm that it is easy to find small companies adopting an emergent approach to KM: in the analysed cases there were no formal KM plans, despite the fact that they have all introduced various KM practices. This shows that there can be the need to define KM approaches that better fit smaller companies.

Keywords: *Knowledge Management, KIBS, Emergent KM Approach, Case-study analysis*

JEL codes: *L84, M1*

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1. Introduction

The body of research about Intellectual Capital (IC) and Knowledge Management (KM) in SMEs is rather limited (Durst and Edvardsson 2012) compared to the large number of studies concerning big companies. This happens even in the case of those small companies for which cognitive resources are a key determinant of their success (Coyte et al. 2012). However, despite the scarce literature, there is clear evidence that SMEs do not manage knowledge the same way as large firms (Chan and Chao 2008; Wee and Chua 2013). In particular, prior research underlines that their KM initiatives cannot simply be seen as a scaled-down reproduction of large companies' practices (Desouza and Awazu 2006). SMEs, even when they are aware of the importance of their knowledge assets, generally follow an unplanned, unsystematic and informal approach to KM (Edvardsson 2006, 2009; Hutchinson and Quintas 2008). In light of this, the paper aims to deepen our understanding of the way SMEs plan, implement and use KM practices and systems; specifically, it examines the nature (deliberate or emergent) of the KM implementation approach adopted by such companies.

The paper is based on the findings of an empirical investigation involving several owners and managers of small KIBS companies. The research uses the case study method and gives grounds for preliminary analysis of emergent KM approach in small firms delivering KIBS. Given the limited number of investigated cases, the idea is not to draw conclusions of general validity, but rather to derive some implications concerning the implementation of KM by SMEs, as well as suggestions for both scholars and practitioners.

The paper articulates as follows. The next section proposes a brief review of the literature on IC and KM in SMEs, while section three clarifies the notion of emergent KM. The fourth section describes the research methodology and the research questions. Section five summarises the main findings of the empirical investigation, and the next one discusses them. The concluding section recapitulates the major results, and illustrates possible implications for research and management.

2. Intellectual Capital and Knowledge Management in small KIBS.

IC management and KM initiatives are gaining more and more attention not only of large companies but also their smaller counterparts (Bozbura 2007; Wei et al. 2011), especially the knowledge-intensive ones (Coyte 2013; Huggings and Weir 2012; Mangiarotti 2012; Nunes et al. 2006).

In fact, KM can provide several benefits to SMEs, such as better communication, improved customer service, faster response times, enhanced innovativeness, greater efficiency in processes and procedures, and reduced risk of loss of critical capabilities (Edvardsson and Durst 2013a). In this regard, Dotsika and Patrick (2013) underline that the implementation of KM initiatives in SMEs may be even more crucial, as knowledge can be their single key resource.

In spite of this, the literature that examines IC and KM in the context of SMEs is still scarce (Durst and Edvardsson 2012; Dwivedi et al. 2011; Ribi re and Christian 2013), and provides fragmented insights (Edvardsson and Durst 2012). Nevertheless, all the authors seem to agree that it would be wrong to assume that SMEs can practice KM in similar ways to large organisations (Desouza and Awazu 2006): KM in small businesses cannot simply be reduced to scale-down versions of the large companies' experience (Wong and Aspinwall 2004). Actually, SMEs have some unique features (e.g. limited financial and human resources, flat structure, informal managerial styles, centralised decision-making, focus on the day-to-day business operations) that deeply influence the way they can approach KM. Consequently, a key question arises: to understand KM practices in small businesses, do we need a new concept of KM and new interpretive frameworks that are different from those normally adopted in the case of large firms?

A possible answer to this question can be found in the literature. Nunes et al. (2006) affirm that managers of SMEs are not prepared to invest the relatively high effort on long term KM goals for which they have difficulty in establishing the added value. Thus, KM activities in SMEs tend to be performed in an informal way, and are not necessarily supported by purposely designed ICT systems (Nunes et al., 2006). Similarly, Hutchinson and Quintas (2008) state that, to understand the management of knowledge in SMEs, it is necessary to look beyond the introduction and practice of

formal or nominal KM initiatives. SMEs, in fact, without “being fluent” in the language of KM, or even recognizing their behaviours as KM, are often proactively engaged in what are called “informal KM practices”. Coyte et al. (2012) underline that strategy and knowledge resource governance processes in SMEs are not formalized. In a previous paper, Edvardsson (2006) had already noted that explicit KM strategies in SMEs were lacking, and many small companies treated KM on an operational level, i.e. at the level of systems and tools. Lastly, Edvardsson and Durst (2013b) deem that, compared to larger firms, SMEs tend to be more oriented towards the management of tacit knowledge. They are also less successful in sharing knowledge by means of formal systematic approaches.

To sum up, scholars commonly agree that small businesses manifest an “informal short-term approach” towards KM. In SMEs, many processes occur naturally regardless a formal charter has been set in place (Wee and Chua 2013): in such organizations, KM is often practised even if it may be not recognized as such (Salojärvi et al. 2005). This approach might be called “emergent”, and its definition will be further explored in the following section.

3. Emergent KM approach

To clearly define what an “emergent KM approach” is, a reference to the strategic management literature is helpful, particularly the distinction between deliberate vs. emergent approach to strategic planning (Mintzberg and Waters 1985). A purely deliberate or planned approach to strategy can be defined as an explicit and rational formulation of goals, plans and means that originates from precise intentions of the company. In this case, all is generally decided by central leadership, progressively articulated in more detailed tasks that involve different parts of the organization, and backed up by formal controls in a top-down logic. Essential pre-conditions are that the internal and external environment can be considered benign, controllable or predictable, and that there is full understanding, adhesion and acceptance of the different parts of the organization to the various tasks and processes that the goals and plans require.

Conversely, a perfectly emergent approach to strategic planning is one where actions result to be consistent over time, but in absence of intentions, clear leadership, and predefinition of goals or plans.

In other words, in an emergent approach, goals and plans of a company result from an ex-post formalization and co-ordination of actions, decisions and tasks that have proven to be effective and beneficial to the organization. Although, as Mintzberg and Waters (1985) highlight, a purely emergent approach is impossible in real life, there are situations that are (more or less) close to that abstract definition. Most notably, recent surveys (Bozkurt and Kalkan 2013) support the idea that emergent strategies are more likely to arise in SMEs. Reasons can include: non-hierarchical structure, flexible environment, difficulties to invest time and resources in formal planning and control.

A similar contrast between planned vs. emergent approach has been proposed in the field of IC management and KM. For example, as particularly regards the actions and mechanisms that support knowledge transfer and sharing in an organization, Van den Hoof and Huysman (2009) distinguish between engineering and emergent approach. The engineering approach focuses on “managing and controlling organizational knowledge for the purpose of securing a competitive advantage”; it is assumed that knowledge, seen as a strategic resource of a company, can be planned and managed by providing goals, context and means to do so in a “top-down fashion”. In an emergent approach, KM is seen under a practice-based perspective. Here the situated and collective nature of learning is stressed: organizational members learn from and with each other during their day-by-day activities, and therefore KM practices and tools “emerge” from the bottom.

In accordance with the mentioned literature, we define emergent KM approach as follows:

Emergent KM approach is an approach where practices, tools and methods of managing knowledge originate from the daily practices and learning processes of company’s employees. In substance, employees develop their own methods of learning, storing, retrieving and sharing knowledge in relation to their actual needs and practical problems to solve. Those methods and tools that prove to be effective, useful and/or compatible with the daily business practice are later developed to become established practices, and in the end can be recognized as “the KM approach” of the company.

This contrasts to a deliberate or planned KM approach, where KM goals, methods, and tools are defined by the top management based on an analysis of company's needs, objectives and resources.

4. Methodology and research questions

The main aim of this research was to investigate how small companies in the KIBS sector manage their knowledge. Basing on the literature review presented above, the following research questions were formulated:

1. Is it possible to detect an emergent KM approach in the practice of small KIBS?
2. If so, why small KIBS companies follow an emergent KM approach?
3. What particular features this approach can have in those companies?

Examining KM strategies in the context of KIBS firms seems to be highly justifiable as those companies hinge on knowledge and the way they apply it.

To answer the above questions, the case study methodology was applied. The rationale for the selection of this methodology originated from the fact that there is not much adequate KM research on small and medium sized companies in the KIBS sector. Also the concept of emergent KM is a rising one, and there is not much research on it (Bolisani et al. 2014). Due to the above, an inductive methodology involving a multiple-case study method seemed to be the best choice (Yin 1989).

For the purpose of the study, it was decided to interview managers or owners of small companies offering KIBS. It was reasonable to interview the representatives of these groups, as they are considered to be key informants in companies and were also subjects of other research in KM (e.g. Desouza and Awazu, 2006; Palacios-Marqués et al. 2013; Wong and Aspinwall 2005).

All the companies were located in the Pomeranian region of Poland. The number of cases was limited by accessibility, resources and time constraints; however, similar number of cases or interviews had been analysed in other qualitative KM research on SMEs (e.g. Bishop et al. 2008; McAdam and Keogh 2004; Nunes et al. 2006).

The interviews were conducted during the period from September to December 2013. Selected companies varied with regard to their field of operation and number of employees. Companies operate in sectors like financial services, advisory services, training and human resources management, communication services, etc. All the companies have less than 30 employees on board. Before each interview, the purpose of the study was presented and the anonymity was guaranteed. All the interviewees a priori had to sign an agreement to participate in the study and to be recorded. Afterwards, interviews were transcribed with scrutiny and collated with field notes and information available on companies' websites. All this supported the validation of the obtained data (Suter 2012).

5. Results

This section summarises the main results of the case-study analysis. For reasons of space, the key characteristics of the KM approach in the examined companies are briefly outlined in Table 1. The quotations reported in the table are drawn from interview transcripts, and are those that best describe the type of approach to knowledge management followed by the investigated companies.

As it can be noted, although all the analysed companies have introduced various KM practices, none of them uses a deliberate, formal or planned approach to KM. Hence, knowledge activities implemented by these companies can be labelled as “emergent KM approach”, as they match with the definition and criteria described in section 3.

Table 1. An outline of the cases examined (disguised names for reason of confidentiality). Table includes relevant quotations from interviews.

Field of operations	Number of employees	Characteristics of KM approach
Company A – offers software for property management & stocktaking	28	The company collects various knowledge types, across many departments, but in no systematic way. The criterion for knowledge to be managed is its usability, i.e. what appeared to be useful over the years for the company's operations. <i>“The criterion for collecting and managing knowledge is the past experience of what appeared to be useful since the setup of the company. So it is the usefulness, benefit. The usefulness of collecting this information, because each piece of information serves a purpose and is somehow applied,</i>

		<i>if not by its author, then by other people in the company”</i> The company has introduced CRM, website for tasks management, Wiki for collecting information on projects.
Company B - offers accounting services for companies	4 (plus 6 co-workers)	They have introduced some basic IT solutions available for them and their customers (many based on their website). This allows managing various types of knowledge, but in an unplanned way. <i>“There is no particular (KM) system introduced in the company. There is an unwritten scheme of information flow in the company.”</i>
Company C – deals with design and application of IT systems	Around 20 (it fluctuates)	They have implemented various KM practices; the most important one is the development of employees’ skills and knowledge. There is no formal plan of top management: everything is being done “from the bottom”; they do it intuitively, they try to introduce what is needed in their employees’ opinions. <i>“Unfortunately we do not have KM strategy. Everything is being done, so to say, bottom-up. So, nobody sets the goals and checks their achievement afterwards. And everything that we do, we do either from our experience or from somebody else’s experience. We draw conclusions and try to do something with it.”</i>
Company D – deals with design of websites and promotion materials	Less than 10 (it fluctuates)	In the company, various types of knowledge are codified and placed in a system. <i>“We keep everything in the system. These are financial data, data on customers, on projects, on everything I would say. Nothing is stored in a paper form, apart from agreements that need to be signed.”</i> Employees are located all over Poland, and this raises the need to place knowledge in a system available to all. Systems and methods have been designed to fit the daily challenges/requirements.
Company E – deals with advisory and consultancy	15	They have introduced many KM practices, but with neither formal plan nor explicit reference to KM globally established practices. They often test new solutions for managing knowledge; there is a constant search for new tools that can improve their KM processes. <i>“We are a company that tests a lot (of KM solutions). If something interesting appears, we try to test it in the company, and if it does not function well, we test something else or wait for a while. So we test something all the time.”</i>
Company F – deals with design of electronic devices	3 (plus 2-3 additional ones, if necessary)	They lack time for formalized KM, simple solutions are applied (e.g. database of past projects/clients & suppliers) – it helps in being more competitive, time saving. They choose appropriate KM solutions fulfilling their needs, without labelling them as KM. <i>“In a small company there is not time for deep analysis of KM practices. You need to work here to be able to issue invoices, so KM is very minimalistic. It sometimes drives us into a bomb, because somebody does not know something important. But we have some basic knowledge practices worked out.”</i>
Company G –	10-15 (it	There are no formal or structured KM plans: they manage

deals with training and HRM	fluctuates)	<p>many various types of knowledge with different tools, they have procedures for collecting knowledge on: customers, competitors, products, competitors' services, subcontractors, sales.</p> <p><i>"We have procedures, many procedures, for example for collecting knowledge on customers, subcontractors, etc. We have particular procedures for this purpose."</i></p> <p>Although they have introduced various KM practices (e.g. identified best internal and external practices or implemented CRM system), these practices are not integrated with each other under a KM strategy.</p>
Company F - produces various types of software (intelligent systems, website design, kinetic and business applications, etc.)	7	<p>They have introduced some KM practices (e.g. Intranet usage is the most crucial one) and they even integrated them into daily routines (e.g. CRM system has become a standard practice), but despite that, they do not plan KM on strategic level. They perform some KM activities, but not in a systemized way (e.g. they gather knowledge on competitors). Additionally, small number of employees allows them to exchange knowledge easily, on a non-formal basis.</p> <p><i>"If we had more employees, we would have to introduce certain procedures for knowledge management, but when there are less people, we can for example easily organize the meeting of all the employees (to exchange knowledge)."</i></p>

6. Discussion

The evidence collected by means of the case-study analysis provides arguments to address the research questions formulated in section 4.

1. *Is it possible to detect an emergent KM approach in the practice of small KIBS?*

The answer to this question is positive. All the companies in our sample tend to manage their knowledge without much planning. It goes in line with two studies carried out by Edvardsson (2006, 2009), which showed that SMEs in Iceland rarely had KM strategy, and, surprisingly, even less firms had it during the latter study than during the former. This characteristic was also noted by Durst and Edvardsson (2012), who stated that "most SMEs have no explicit policy targeted at strategic KM, and they tend to treat KM on an operational level – at the level of systems and instruments". Practices and tools adopted in the analysed companies are selected in relation to their effectiveness to solve day-by-day problems of employees. Also, although these practices would be described as "KM" (at least, under a researcher's perspective), there is no clear recognition of that by company's executives and employees.

There seem to be no direct use of KM concepts as they are traditionally defined and employed in the literature and in the practice of the “big KM players”. In short, their approach can indeed be considered to be “emergent” as defined in section 3. It is coherent with other research – for example Nunes et al. (2006) stated that SMEs often “lack a formal approach to the sharing, recording, transferring, auditing and exploiting of organizational knowledge”.

2. *If so, why small KIBS companies follow an emergent KM approach?*

There are some possible explanations why small KIBS companies, like those analysed here, follow an emergent KM approach. First of all, in small KIBS firms these are employees that know best what kind of knowledge is missing and should be gathered in order to perform their tasks better and more efficiently. Actually, the value of such companies mostly resides in employees and in the systems they locally use to collect their knowledge. Generally, it is stated that SMEs have “a heavier reliance on knowledge that is personally held by business owners and key employees” (Joe et al. 2013) and it is even more valid for SMEs from the KIBS sector. Therefore, employees might start implementing KM on a small scale first for their own convenience (individually/within one team/within one department, etc.) and later on, if it works, they might continue on a larger scale. If the approach happens to fail, some revisions and modifications might be required and implemented or the initiative might be withdrawn. In such a case, there is not much place for KM planning at the top level or strategic level of the company. This can be well illustrated with Company C example.

Secondly, the employment situation in small KIBS firms is subjected to fluctuations. The number of people hired increases if there are many customers (high workload) and decreases if the number of customers is reduced. Market situation influences significantly the size and employment of these companies, just like it does for other types of small companies (Rocha 2012). Such companies find it difficult to hire many professionals on a regular basis. That is why, they often have a certain base of employees hired fulltime and they cooperate with additional few ones. Such a solution helps them to be flexible and use additional labour force in case of higher number of orders. It also forces the application of different approaches to exchange knowledge between employees when, for example,

there are 20 of them or more and when there are just a few. The same rationale stands behind an extensive use of KM in large organizations – the number of employees heavily determines the solutions that are required and applied. As Hutchinson and Quintas (2008) stated “the larger the organization, the greater the potential challenges to some of the key knowledge processes such as knowledge sharing”. If we assume that KIBS rely heavily on their employees’ knowledge, this knowledge needs to be extracted, codified and exchanged somehow. If the number of employees changes, ways to do that change as well. For example, this situation denotes Company B and D.

Thirdly, KIBS (as any other knowledge-intensive company) often require specific, highly adaptive tools for managing their knowledge: they test new solutions, modify the existing ones to their own needs, etc. Knowledge that they base on quickly becomes obsolete, so they constantly need to search for the new one and for the new tools suitable for its management. As Consoli and Elche-Hortelano (2010) stated, “The core competence common to all KIBS is the integration of different forms of knowledge into tradable output; however some KIBS do not suppose changes on the content of information but merely the maintenance of infrastructures for its transmission while other KIBS operate transformations with the goal of trading newly created information packages”. This can be well illustrated by the cases of Company E and F.

Fourthly, as mentioned, small KIBS companies are often not aware of KM as a defined field (i.e. concepts, classifications, etc.). KM is not included in the typical competencies of small companies. They generally start with a problem to be solved (e.g. we must manage our projects more effectively, or we must collaborate with one another, or we have a problem with employees’ turnover) and they may later recognize that some of these problems can be perceived in terms of a generic notion of KM. Going further, they may adapt some KM ideas or tools. A case study presented by Dotsika and Patrick (2013) confirms this approach – Mapa company analysed in their study initially manifested ad hoc and informal approach to KM, based on verbal communication. Later on, due to changing demands, they introduced MapaWiki.

Fifthly, small companies do not have the resources to invest in full-time employees explicitly assigned to KM activities. It is broadly acknowledged that SMEs generally suffer from the lack of resources (Wong 2005), including human resources. Therefore, initiatives regarding KM practices are taken by people working in other areas, and with no explicit KM plans.

All the above constitute a potential explanation why small companies are more unlikely to have a planned KM approach, differently from other management fields (e.g. accounting, marketing).

3. What particular features this approach can have in those companies?

By analysing the key elements of the KM approaches adopted by the companies, it is also possible to detect the main features of these approaches, i.e.:

- KM activities or practices undertaken by those firms often result from the need identified at the regular employee's level, rather than from detailed analysis and planning carried out at the top level; in other words, a bottom-up development predominates (Bolisani et al. 2014);
- there is no unified approach followed by companies; each of them chooses appropriate tools and solutions that can be useful at a certain stage. It originates also from the fact that SMEs are a very heterogeneous group and they apply diversified methods of managing their knowledge (Durst and Edvardsson 2012). Under a "trial-and-error" perspective towards KM, the solutions that prove to be useful or that, for some reason, fit the particular situation of a company, are selected, adopted and possibly developed or spread to the rest of the company;
- this also means that there may be changes in the way a company perceives their KM initiatives.

In some companies it was clearly stated that some solutions that were applied in the past are no longer in use and a new approach is necessary (for example the Mapa company examined by Dotsika and Patrick 2013, mentioned above).

7. Conclusion

As the research results confirm, emergent KM approaches exist and can be found in small companies. Even companies like KIBS, which rely largely on their capabilities to manage knowledge, appear to adopt an emergent approach to KM: this occurs in the analysed firms, where there is no formal KM

approach, despite the fact that they have all introduced various KM practices. There are several reasons why small KIBS companies choose emergent KM approaches, e.g. the orientation towards day-by-day problems and knowledge needs, the bottom-up approach to problem solving, the need for flexibility, and the difficulty to invest in resources exclusively devoted to KM.

This has important implications for both research and practice. In terms of research, the findings show that there may be the need to better define KM approaches that fit smaller companies (not only in the KIBS sector). The notion of “emergent approach to KM” can be useful to help researchers identify and analyse the rich variations of KM-based approaches that can be found in such companies.

In addition, there are two main implications for the practice. The first one is that although an emergent approach may be seen as unplanned, companies should learn how to be aware of their KM practices and, once they are, how to develop them properly. The second one is that there may be the need to introduce KM in the typical background of executives, and especially of those that work in small companies (e.g. how KM fits into an organization, what are KM processes, existing tools and practices). This is essential for allowing them to recognize the KM needs and practices that emerge “from the bottom” and later to systematize them and make them an established part of the business.

The study presented in the paper has some obvious limitations. The first one concerns the small sample size. Eight case studies do not constitute a large research material, although similar number of cases or interviews had been analysed in other qualitative KM research on SMEs (e.g. Bishop et al. 2008; McAdam and Keogh 2004; Nunes et al. 2006). Another limitation originates from the fact that the study examined companies of the KIBS sector, which might restrict the applicability of its results to companies of less knowledge-intensive or manufacturing sectors. Thirdly, the study is of preliminary character and further research is required to examine extensively emergent KM approaches and their role in SMEs functioning.

The potential areas of further research could be as follows. Firstly, quantitative study on emergent KM approaches could help answer the question how popular this approach is among small companies. Secondly, it would be valuable to examine why small and medium sized companies may implement this

approach. Thirdly, it would be reasonable to check what factors determine the selection of emergent KM approach, together with the ones supporting or hindering this process. Finally, a classification of various emergent KM approaches should be examined and developed. It would help in adjusting KM approach to the plethora of SMEs' needs.

8. Acknowledgements

This study was performed within the research project “Knowledge management in small and medium-sized enterprises (SMEs) offering knowledge intensive business services”, funded by the Polish National Science Centre on the basis of Decision No. DEC/2011/01/D/HS4/04111 and “Ateneo 2012” Project “Developing organizational ambidexterity to foster the competitiveness of the Italian machinery industry” (University of Padova).

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Original citation:

Bolisani, E., Scarso, E., Zieba, M. (2014). How small KIBS companies manage their intellectual capital? Towards an emergent KM approach. GUT FME Working Paper Series A, No. 6/2014(25). Gdansk (Poland): Gdansk University of Technology, Faculty of Management and Economics.

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