

The Learning Preferences of Enterprise System Consultants – towards the preferred learning pattern

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This is a post print version of the paper:

Lech P., Zamojska A., The learning preferences of Enterprise System consultants: towards the preferred learning pattern, Knowledge Management Research and Practice, 2017, Vol. 15, Issue 2, pp. 316 – 324, ISSN 1477-8238; DOI: 10.1057/s41275-017-0055-9

The paper is available at: <https://link.springer.com/article/10.1057/s41275-017-0055-9>

Abstract

This paper presents the results of a combined quantitative-qualitative study that explored the learning patterns of IT consultants involved in the implementation of Enterprise Systems (ES). The study was carried out in a multinational IT consulting company that specialises in Enterprise System consulting and has offices in Germany, the UK, the US, Poland, and China. The study revealed the preferred learning pattern of IT consultants, which starts with introductory learning, preferably executed in the form of instruction-based training, followed by the preparation of a prototype to process and sustain the knowledge, and continues with hands-on learning during real-life projects. Learning during projects was identified as the most important knowledge source, as it is the only way actually to gain experience. The experience itself was considered to be the final outcome of the learning process, and it is the main asset of a consulting enterprise.

Keywords

Knowledge Management, Consulting, ERP, Enterprise Systems, Structured Mentoring, Experience

Introduction

As Grant (1996) claims, "... firms exist as institutions for producing goods and services because they can create conditions under which multiple individuals can integrate their specialist knowledge". Therefore, the "... essence of the firm is its ability to create, transfer, assemble, integrate and exploit knowledge assets" (Teece, 1998). This is particularly true for consulting enterprises because knowledge assets are the main and usually the only product that these companies sell (Ambos & Schlegelmilch, 2009; Werr, 1998). Knowledge management (KM) literature has recognised this fact, but most of the extant research has been concentrated on management consulting firms (Ambos & Schlegelmilch, 2009; Dunford, 2000; Hansen et al., 1999; Janicot & Mignon, 2012; Kumar et al.,

2000; Lahti & Beyerlein, 2000; Sung-Kwan & Trimi, 2007). Information Technology (IT) consultancies are underrepresented in the existing knowledge management literature. Furthermore, most of the papers examine the various aspects of KM from the perspective of a company or its top management. In contrast, this study takes the knowledge management preferences of individual IT consultants as the main unit of analysis. The study is intended to draw general recommendations for the KM practices of IT consulting firms, based on how individual consultants manage and/or want to manage their knowledge.

Knowledge management in consulting firms

In their canonical paper, Hansen, Nohria and Tierney (1999) presented the two core knowledge management strategies that are applied by the management consulting firms: codification and personalisation. They argued that strategy-oriented consultancies tend to prefer a personalisation approach, establishing person-to-person contacts between the senior and junior consultants and carrying out training by mentoring. Operations-oriented consulting enterprises choose a codification strategy, based on the re-use of knowledge that is codified in, and available from the knowledge management systems, and relies on the concept of 'people-to-documents.' Although these two management concepts - codification and personalisation - describe the two extremes of KM strategies very well, further studies have suggested that most enterprises position their KM approach somewhere between these two extremes and benefit from both concepts, regardless of whether they are strategy or operations consultancies (Ambos & Schlegelmilch, 2009; Scheepers et al, 2004).

In all organisations, including consulting firms, knowledge is present on two levels: personal and organisational (Werr, 1998; Yang et al., 2010). Personal knowledge is the knowledge that an individual has internalised as a result of his learning and experience (Kamhawi, 2010), while organisational knowledge is the sum of the personal knowledge of all of the company's employees, together with the mechanisms of managing that knowledge, and is the knowledge that is embedded in the company's procedures, norms, rules, and forms. It also includes codified knowledge that is available outside of the personal knowledge of its employees, e.g., lessons learned (Grant, 1996; Werr, 1998).

Consulting enterprises may concentrate either on organisational knowledge or the personal knowledge of their employees when formulating their 'knowledge selling' strategies. They may sell 'collective knowledge' packaged as knowledge products (Dunford, 2000) or they may choose to sell the personal knowledge of each of their consultants (Teece, 1998). The 'knowledge selling' strategy clearly influences the knowledge management and learning routines inside these companies. Other factors influencing the ability of the organization to develop knowledge are leadership and proper learning culture (Sofa et al. 2013). While developing the knowledge management methodology in a learning consulting organization one should also take into consideration the preferences of the consultants themselves, which is the purpose of this study.

Most of the available research on knowledge management in consulting is related to management consulting enterprises, while the information technology (IT) consulting companies are studied less frequently. Sherif and Xing (2006) examined the knowledge creation process in a large IT consulting company, concentrating on the capturing, tagging and reusing of knowledge. Simon et al. (2010) presented a maturity model for Enterprise Resource Planning (ERP) consulting, in which they emphasised consulting skills as one of the key success factors of an IT consulting enterprise. Kong et al. (2013) examined the role of human resource practices in

developing knowledge and learning capabilities for innovation in eleven Indian IT enterprises. Khuong et al. (2014) studied the alignment of the knowledge management IT system with the organisational routines of a big IT consulting enterprise. Significant research work has also been carried out on the topic of the consulting skills that an IT/Enterprise System (ES) consultant should possess (Bradshaw et al., 2012; Cragg et al., 2011; Scupola, 2008). Another research direction, represented in the literature is knowledge sharing in project-based organisations and projects (Boh, 2007; Lindner & Wald, 2011). No research was identified that explored the learning habits of the consultants, and this study fills this gap.

To successfully obtain, maintain, and improve their knowledge base, consultants need effective knowledge transfer mechanisms (Leonardi & Treem, 2012). From the knowledge delivery perspective, knowledge transfer can be classified into the following categories:

- codification – when the knowledge transfer is based on documents, repositories and knowledge databases;
- personalisation – when the transfer involves interaction between people (Child & Shumate, 2007; Bordia et al., 2006; Boh, 2007; Scheepers et al., 2004).

Another classification can be based on the criterion of a knowledge-absorption approach (Bostrom et al., 1990):

- exploration-oriented - inductive, trial and error, high learner control, incomplete learning materials, focus on relevant tasks;
- instruction-oriented - deductive, programmed, low learner control, complete materials, focus on features.

The mixture of knowledge transfer approaches for the delivery and absorption of knowledge determines the learning method, as depicted in Table 1.

Table 1. Learning methods typology (with examples)

	Exploration	Instruction
Codification	Self-study with the use of handbooks, knowledge databases, Internet forums, and other codified materials	E-learning sessions
Personalisation	Work under supervision of an experienced individual (mentoring) and informal contacts with other experts	Formal training sessions/workshops

The remainder of this paper presents the results of a study that explored the learning patterns of Enterprise System IT consultants and analysed them using the theoretical foundations presented above.

Research results

To explore the learning patterns of ES consultants, a mixed quantitative–qualitative approach was used. This type of approach is advocated by Creswell (2009): “... the study may begin with a quantitative method in which

a theory or concept is tested, followed by a qualitative method involving a detailed exploration with a few cases”, as well as by Miles and Hubberman (1994, p. 42): “An initial survey helps point the field-worker to phenomena of importance; the field-worker (then) moves to develop a close-up, strong conceptual understanding of how things work”. The mixed quantitative–qualitative design in this study enabled the identification and testing of the learning preferences of ES consultants with the use of a survey, and then formulated a deeper understanding of the phenomena with the use of a qualitative approach. The study was carried out in a multinational IT consulting company specialising in Enterprise System, mostly SAP consulting, with offices in Germany, UK, US, Poland, and China. The company employs 250 consultants and worldwide and specializes in the realization of end-to-end projects for its customers, including business processes modelling, requirements analysis, the design of the IT solution, implementation of the IT solution basing on the Enterprise System components, and support of the system during its daily operation. The consultants must, therefore, combine strong domain knowledge in their respective areas of expertise (e.g. warehouse management, transportation management, production planning and execution) with the system-specific knowledge to be able to understand the customer’s needs and pain-points, transform this knowledge into the IT solution design, and then successfully implement this IT solution. On the role of consultants in the Enterprise system implementation project and the tasks performed by them in each of the project phases, you can read in Lech (2013). The consulting company that was subject to this study did not have a centrally imposed knowledge management strategy. This assured that the consultants described their own learning preferences, rather than experiences with the company learning system.

Survey results – preferred learning methods

A survey study among ES consultants was conducted to determine their preferences regarding the use of various learning methods in their daily work. The list of learning methods is depicted in Table 2:

Table 2. List of learning methods

Category	Description
SCHOOL	School/university education
INSTR	Workshops/tutorials with an instructor
BOOKS	Self-study based on codified sources: handbooks, open access knowledge databases, Internet forums
ELEARN	E-learning
KBASE	Self-study based on the internal knowledge database
EXPERT	Project work under supervision of a more experienced expert
DISCUSS	Discussions with other consultants (personal, phone, e-mail)
FORUM	Active participation in Internet forums (asking questions)
PROTOT	Prototyping – individual trial and error work

The list of learning methods is a result of the preliminary study, which took the form of direct observation, followed by interviews with the consultants in one of the offices. Sitting in one room with the consultants, the author observed, how they obtain new knowledge. The results of the observation were triangulated with the use of the interviews. Five consultants were asked the open-ended question on what methods they use to acquire knowledge. The answers were consistent with the findings from the observation and included all the learning methods, except school education. School education was however added to the list for completeness.

The above list of learning methods was used to design a survey questionnaire, which included the following questions.

Q1: What is the importance of the following learning methods while gathering knowledge on a topic within your area of expertise?

Q2: What is the importance of the following learning methods while gathering knowledge on a topic outside your area of expertise?

A Likert scale from 1 to 5 was used to rank the learning methods, where 1 indicated ‘unimportant’, and 5, ‘extremely important’. The survey was e-mailed to 250 Enterprise System consultants from all of the firm’s offices: Germany, Poland, the UK, the US, and China. The consultants being surveyed are people who are responsible for the delivery of the end-to-end IT solution to the customer. Their role during the project is first to analyse the business processes and information requirements of the customer. Then they design the solution that covers those processes and requirements with the functionality of the Enterprise System. After the solution is approved by the customer, they configure the system according to this design. If the requirements cannot be met with the use of the standard functionality of the system, and programming is needed, the consultants prepare the specifications for the programmers and supervise their work.

Thirty-one valid responses out of the 34 returned questionnaires were obtained (a 12 % response rate), which is typical for e-mail surveys (Ifinedo & Nahar, 2009; Lindner & Wald, 2011; Noll & Wilkins, 2002). The demographics of respondents are presented in the following tables.

Table 3. Respondents by country

Country	Number of respondents
Germany	12
Poland	10
US	5
China	2
Other (UK and Belgium)	2
Total	31

Table 4. Respondents by seniority

Country	Number of respondents
Junior (1-5 years of experience)	7
Consultant (6-10 years of experience)	12
Senior (11 – years of experience)	12
Total	31

The consultants who answered the survey participated in total in 392 projects. An average number of projects equalled 13, the median was 10. The least experienced consultant took part in 2 implementation project, while the most experienced in 50.

Descriptive statistics and diagnostic tests regarding survey responses are presented in Table 5. Kendall’s tau coefficient was used to determine the correlation between the two measures of the learning methods. The correlation between Q1 and Q2 is high, with Kendall’s tau coefficient of 0.833. This confirms that the ranking of

the learning methods for the current and new knowledge domain is the same. The computed statistics of χ^2 show that none of the categories is distributed normally. Because the conditions of a small sample and non-normal distribution of categories are met, the non-parametric tests are appropriate for the situation (Bridge & Sawilowsky, 1999). In particular, the Wilcoxon matched-pairs signed-ranks test is considered to be appropriate for analysing the difference between the two repeated measures (Barber & Lyon, 1996; Sheldon et al., 1996). The results of the Wilcoxon test for two measures (Q1 and Q2) of each learning method are presented in Table 5. Statistically significant differences were only observed for the prototyping and e-learning categories. Prototyping is of greater importance in obtaining knowledge within the consultants' domain of expertise than for the new domain. E-learning is of greater importance in obtaining knowledge outside the consultants' domain of expertise than in his/her current domain. There are no significant differences among other learning methods.

Table 5. Descriptive statistics, χ^2 and the Wilcoxon test results

Category	Q1				Q2				Wilcoxon test
	Rank	Mean	SD	χ^2	Rank	Mean	SD	χ^2	
PROTOT	1	4.52	0.89	15.697*	3	4.10	1.11	31.612*	2.192*
DISCUSS	2	4.45	0.68	37.106*	2	4.26	0.89	18.380*	1.256
EXPERT	3	4.39	1.09	57.822*	1	4.42	0.76	41.633*	0.094
BOOKS	4	3.94	0.85	24.371*	4	3.74	1.03	22.526*	1.130
INSTR	5	3.39	1.20	0.255	5	3.42	1.09	22.086*	0.094
ELEARN	6	2.97	1.22	4.679*	6	3.32	1.08	9.219*	1.931**
KBASE	7	2.94	1.08	10.425*	7	2.94	1.12	7.595*	0.213
FORUM	8	2.87	1.31	6.729*	8	2.84	1.32	4.144*	0.000
SCHOOL	9	2.13	1.23	15.697*	9	2.29	1.32	11.737*	0.866

* - significant at $p < 0.05$

** - significant at $p < 0.1$

As can be seen in Table 5, three learning methods prevail in both of the situations examined in the survey:

- Prototyping – individual trial and error work (rank 1 and 3);
- Project work under supervision of a more experienced expert (rank 3 and 1);
- Discussions with other consultants (personal, phone, e-mail) (rank 2 in both situations).

'Self-study based on codified sources: handbooks, open access knowledge databases, Internet forums' and 'Workshops/tutorials with an instructor' rank 4 and 5 in both learning situations, and e-learning is an important learning method for the new knowledge domain.

Additionally, testing was carried out to determine whether differences occur in the learning patterns depending on the seniority of the consultants. To check if the ranking of the learning methods differs depending on the seniority of the consultants, the τ -Kendall correlation coefficient was used with the following results.

1. For Q1:
 - a. for the pair of Seniors - Consultants the correlation between learning methods is high (τ -Kendall = 0.986)
 - b. for the pairs of Juniors - Consultants (τ -Kendall = 0.571) and Juniors - Seniors (τ -Kendall = 0.535) the correlation is moderate.
2. For Q2: the correlation between learning methods is high for all pairs with τ -Kendall, respectively 0.886 for Seniors – Consultant, and 0.800 for both Juniors - Consultants and Juniors – Seniors.

This means that the perception of the importance of learning methods within the new domain of expertise is homogenous, regardless the seniority of the respondents (Q2). Important differences can be observed between junior consultants and other consultants regarding learning methods in the current domain of expertise (Q1) where the preferred learning methods differ depending on the level of seniority. The importance of project work under the supervision of a more experienced expert diminishes with the increase of the seniority level, as senior consultants are experts themselves. More senior consultants prefer prototyping over workshops with an instructor. This may indicate that workshops with an instructor are treated as an introductory step, which may help in gaining general knowledge on a subject, but are of less importance when gaining in-depth, detailed knowledge.

The results of the quantitative part of the study can be summarised as follows.

- 1) The most preferred learning methods are:
 - a. project work under the supervision of a more experienced expert;
 - b. prototyping – individual trial and error work;
 - c. discussions with other consultants (personal, phone, e-mail).
- 2) The supplementary learning methods in both learning situations are:
 - a. self-study based on codified sources: handbooks, open access knowledge databases, Internet forums;
 - b. workshops/tutorials with an instructor.
- 3) The remaining learning methods were considered of little importance (mean rank less than 3), with the exception of e-learning, which consultants include in their learning pattern when obtaining knowledge outside their area of expertise.
- 4) Although prototyping is considered to be important in both learning situations, it is less eagerly used to obtain knowledge outside the current area of expertise.
- 5) The importance of workshops with an instructor in a current domain of expertise decreases with an increase of the level of expertise of a consultant.

The survey (quantitative) study was then followed by a qualitative investigation, to gain a deeper insight on *why*, *how* and *for what* the learning methods are used. The results of this qualitative study are presented in the following section.

Qualitative study – the learning pattern

Research methodology

The qualitative part of the research was based on semi-structured interviews with five of the consultants, who had responded to the initial survey: one senior consultant, two consultants, and two junior consultants. As the interviews were conducted half a year after the initial survey, the consultants were presented with their answers to the survey questions, and based on that input, they were asked the following follow-up questions.

- 1) Why do you find a given learning method important/unimportant in your learning experience?
- 2) How, and for what reason, do you use/would like to use a given learning method in your learning experience?

The interviews were recorded, transcribed, and coded with the aim of answering the following research question.

Q3: What is the optimal learning pattern for IT consultants who are involved in Enterprise System implementations?

Initial coding was performed around the predefined list of categories, constituting the learning methods (Table 2), which provided the structure for the analysis (Miles & Hubberman, 1994, p. 58). Further coding was performed according to grounded theory coding techniques (Strauss & Corbin, 1998). Open coding was applied to identify the key aspects of the phenomenon. This was followed by axial coding to determine the relationships between the formerly discovered categories. Axial coding aims to explain the phenomenon by answering questions, such as when, where, why, who, how and with what consequences. As a result of this process (Strauss & Corbin, 1998, p. 124), “categories are related to their subcategories to form more precise and complete explanations of the phenomena.” The subcategories determine the conditions, actions/interactions and consequences of the phenomena (Strauss & Corbin, 1998, p. 129). Selective coding (Strauss & Corbin, 1998, p. 143-161) was then performed to determine the central categories. As a result, four central categories were identified:

- 1) pre-project learning;
- 2) learning during projects;
- 3) structured mentoring;
- 4) experience.

The first two categories constitute the two main blocks of a learning pattern that a consultant should follow on his/her route from novice to expert. Structured mentoring is a preferred means of executing this learning pattern, and experience is the final outcome. The results of the qualitative part of the study are presented in detail in the following sections. The categories and subcategories, identified during the coding procedure are highlighted **in bold**.

Pre-project learning

The first central category is **pre-project learning**. All respondents pointed out that a consultant entering a new domain of expertise needs an initial body of knowledge before entering the first project in the new domain. Pre-project learning consists of two blocks:

- **introductory learning**, during which the consultant should get a general outlook of the business area and the functionality of the system that covers this area;
- **hands-on learning**, during which the general knowledge gained in the previous block is transformed into the initial capability to incorporate the business case into the system.

Introductory learning aims at gaining general knowledge about which business processes are covered by the system in the respective functional area, as well as how the system works and how it can be configured or customised to meet the requirements of an organisation. This general knowledge is not sufficient to allow consultants to become effective, but it helps them to understand the new domain and constitutes a foundation on which further, more detailed knowledge can be built. The learning methods that were associated by the interviewees with this learning phase are:

- workshops/tutorials with an instructor;
- self-study based on codified sources, with the emphasis on handbooks and documentation;
- e-learning.

All respondents indicated that workshops/tutorials with an instructor are preferred learning methods at this stage.

The advantage of workshops over e-learning and self-study is the **possibility to interact** with the more experienced instructor and **ask questions** about problems that arise during the learning process, not covered by the training agenda. An additional finding that became apparent during the coding procedure is the role of **internal training** led by more experienced experts in the organisation. The consultants did not explicitly show a preference for such training over open, public classes, but two of them pointed towards such a training path without being asked explicitly about it. Internal training by an expert within the organisation is a first step in the process of **structured mentoring**, which was identified as an optimal training scheme.

After initial learning in a new domain, the knowledge has to be processed and sustained. According to the respondents, this, takes place during **hands-on learning**, with prototyping being the main learning method. Preparing a prototype as a follow-up for initial learning was mentioned by four of the five respondents. Although this was not revealed during the interviews, personal experience of the author indicates that preparing a prototype can be facilitated by the supply of a business scenario by a more experienced mentor as a part of the structured mentoring. This has particular importance for novice consultants, who may not have enough business experience to create a valid scenario by themselves.

Learning during projects

Four respondents stated that **learning during projects** is the most important way of gaining knowledge. Learning during projects has several advantages over non-project learning. It poses **real-life problems**, which are difficult to emulate outside the project. Solving these problems adds additional **experience** to the consultant's body of knowledge, and **experience** was highlighted by the respondents as the final and most desirable outcome of the learning process. Experience is the attribute that distinguishes senior consultants from juniors and is the main asset of a consulting company. It allows a consultant to find solutions for the business cases posed by the customer in the conceptual phase of a project faster, based on his/her knowledge gained from previous projects in which the same or a similar case was already solved. It also helps the consultant to avoid errors that were made in the past.

According to the interviewees, **participation in the projects** is the only possible way to gain experience. It is also important to notice that the interviews revealed a phenomenon that was not identified during the initial survey - that participation in the project is the most crucial learning method, either with a more experienced mentor, or without. That being said, **work under the supervision of a more experienced expert** was still considered to be the optimal way of gaining knowledge during project-based learning by all respondents. The advantage of this learning method is the possibility of benefiting from the **experience** of an expert. It saves time, as an expert will indicate the best solution for a problem and therefore, no trial-and-error exploration is needed. An expert may also have ready solutions that the less experienced consultant would not be able to find. Cooperating with an expert also leads to the transfer of soft skills: communication with the customer, leading workshops, documenting findings, and writing conceptual documents. A barrier was also identified: coaching a less experienced consultant **increases the effort and time** that an expert has to commit to the project. Another aspect, not revealed in this study, but present in the literature, is that he/she may also show aversion to sharing his/her experience with another person due to personal attitude or fear of creating internal competition in the organisation (Volkoff et al., 2004; Xu & Ma, 2008). One of the interviewees stated, however, that if an expert consultant is made responsible for the final outcome, both of him/herself, and of the junior, then he/she would be more willing to assure that the junior is well prepared and does the job properly.

The respondents were also asked how, in their opinion, the work under supervision should be conducted in an optimal way. According to their responses, the work should be **task driven**: an expert should assign a task to a junior, instruct him/her on how the task should be accomplished, and then check the result. As the work may be split between several consultants, a **master task list** would be of assistance in understanding the whole process and the interdependency between the tasks. This adds another block to the **structured mentoring** concept.

Apart from structured mentoring by an expert, all consultants that took part in the study pointed towards other learning methods that they use during projects. These methods are used when entering a new domain of expertise as well as in the current domain. **Prototyping** is used intensively during a project. However, its role is different during the project, than it was during pre-project learning. Before a project, prototyping is used to process the knowledge gained from other sources, while during the project, it is used as a **proof-of-concept**. To check if a solution to a real-life problem is feasible, the consultants model it in the system and test it to be sure that it will work as expected.

Other learning methods used during a project include **discussions with other consultants** and using **professional forums**. In both cases, consultants are seeking **other people's experience** in solving a real-life problem. If a consultant does not have a solution at hand, based on his/her own experience from other projects, he/she refers to peers, either through personal contact or the virtual network on the Internet. Having a network of peers from previous projects who can be asked for a solution was considered as an important asset of a given consultant as it adds to his/her personal experience. Another additional source is written materials, i.e., **handbooks and documentation**, both publicly available material and internal material, made by the company or consultant him/herself. The knowledge database of the company was not a valued source due to lack of experience with this knowledge source, poor metadata, and irrelevance of the material available there to the domain of expertise of consultants. This, however, is not a result that can be generalised – it is specific to the knowledge base of the company that is the subject of the study.

Knowledge Management framework

The findings of the study reveal the most preferred, but not the only possible Knowledge Management framework for an ES consultant on his/her way from novice to expert.

1. **Introductory learning** - The first step is introductory learning with classroom training as a most preferred way of gaining an initial body of knowledge. In this step, the consultant enters the new domain and obtains an overall picture of a business case as well as possible solutions in the system. The step can also be made using e-learning and/or self-study, by using handbooks and documentation, but these learning methods were found less effective.
2. **Initial hands-on learning** - To process and sustain the knowledge, a consultant should then prepare a prototype in the system by him/herself. Codified knowledge sources, such as handbooks, documentation, and tutorials are used in this process.
3. **Learning during the project** - This is the core building block of the learning process. Preferably, it is done under the supervision of an expert who leads the conceptual phase of the project by preparing the full list of tasks necessary to accomplish the project, assigning some of these tasks to the consultant, instructing on how these tasks should be performed and checking the result. Prototyping to gain proof-of-concept, discussions with other consultants, reading and asking questions on professional forums, codified sources of knowledge are supplementary learning methods during the project. Consultants

only gain experience during projects, which is the final outcome of the learning process.

The study revealed that **structured mentoring** is the preferred learning pattern of a consultant on the way from being a junior to a senior. The role of a mentor is important at every stage of the learning process. The mentor can be the one who leads the introductory classroom training, supervises the preparation of the prototype in the system, and then leads the trainee through his/her first project.

Experience, defined as the ability to find ready solutions for the real-life problems and avoid hidden pitfalls during the project, is the final outcome of the learning process.

Limitations of the study

As the sample size in this study was small and non-random, the results cannot be generalised to the whole population of IT consultants. The personal experience of the consultants had an influence on the responses given during the study. Also the fact, that the consultants originated from one company restricts the possibility to generalize the results. However, the fact that the company, in which the study was performed did not have a central knowledge management strategy assures that the interviewees presented their own learning preferences, and were not biased by any imposed learning strategy.

Conclusions

The mixed quantitative–qualitative design of this study resulted in a strong conceptual understanding of how the IT consultants apply different learning methods in practice. It revealed their preferred learning pattern, which starts with introductory learning, preferably executed in the form of instruction-based training, and followed by the preparation of a prototype to process and sustain the knowledge. The preferred learning pattern then continues with the hands-on learning during real-life projects. Learning during projects was identified as the most important knowledge source, as it results in, and is the only way to gain experience. Experience itself was found to be the final outcome of the learning process and the main asset of a consulting enterprise, as it facilitates the solution of the unique problems of the customers and embeds the solutions into the IT system. During the whole learning process, the role of a mentor, who guides it in a structured way was found to be essential.

Based upon the typology of the learning methods presented in Table 1, it can be concluded that the consultants prefer a strategy of personalisation over codification and that they principally gain experience through exploration-based learning during real-life situations. This finding contradicts the typology from Hansen, Nohria and Tierney (1999), according to which Enterprise System consultants fall into an operations-oriented consulting category and therefore should follow a codification-based learning pattern. Instead, the consultants in the study prefer the personalisation approach, based on person-to-person contacts between senior and junior consultants and training people through mentoring, which is attributed to strategy-oriented consultancies.

The results of this study support the previous findings (Ambos & Schlegelmilch, 2009; Scheepers et al., 2004), which suggested that the type of consultancy does not determine the preferred learning pattern, but is rather dependent upon the knowledge-selling strategy of an enterprise (Alvesson & Empson, 2008).

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