

Influence of IT Service Management on Innovation Management: First Insights from Exploratory Studies

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Abstract The paper explores the relation between innovations and standards in companies that have implemented an IT Service Management framework. Six German companies were asked which process was implemented first: the framework or the Innovation Management process. In addition, the companies were queried on the impact of IT Service Management frameworks on innovation. The resultant research shows that a great majority of companies that adopted an IT Service Management framework first and later implemented the Innovation Management process. Benefits observed include a faster adoption of innovations and an enhanced ability to recognize potential for improvement.

Introduction

The adoption of IT Service Management (ITSM) frameworks is on the rise. It is estimated that 90% of US companies are considering or currently using an ITSM framework [1]. One of the goals of ITSM is to attain a particular level of standardization of operational processes in the Information Technology (IT) department. Innovation, moreover, is a process requiring creativity. Hence a specific degree of freedom is needed for the development of new ideas. The processes – innovation and standardization – are seen as either mutually exclusive [2]: 6 or complementary, as in the study by Allen and Sriram [3]: 180, in which they found that standardization spurred innovation in 50% of the cases.

Relevant to this research is the impact of a standard per se on innovation in IT departments. IT is one of the most frequently changing departments. As stated by

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Nolan [4]: 399, by adopting the stage theory as a foundation, methods for managing the department must evolve over time if the management of IT in the long term is to be successful. Further, Mohr [5]: 112 suggests that an organization may be more likely to produce innovative ideas when its environment is rapidly changing. Consequently we focus in this paper on companies that have implemented the ITSM standard, and we explore below their different views on managing innovation.

In this context, the following three research questions are addressed:

- (1) Which process – ITSM or Innovation Management – is implemented first in the majority of cases?
- (2) Are ITSM and Innovation Management independent processes?
- (3) What is the impact of ITSM on Innovation Management?

Theoretical Foundation

Management of Innovations

Rogers [6]: 5 defines innovation as “the application of new ideas to the products, processes or any other aspect of a firm’s activities.” Furthermore, innovations can be understood as improvement, and when implemented in the market, they expand the competitiveness of the innovator for at least a limited amount of time [7]: 43. Organizational innovation can be defined as “the adoption of an idea or behaviour that is new to the organization adopting it” [8]: 197. Ven et al. [9]: 592 describe an innovation as an idea that is new to the people involved, even though it may appear to others as an imitation.

To stay competitive and to promote innovation, companies cannot rely on chance alone. It is crucial to manage the innovation process systematically, providing both structure and goals [10]: 43. This necessity is based on limited financial, material and human resources [11]: 47.

In general, “Innovation Management is about learning to find the most appropriate solution to the problem of consistently managing this process” [12]: 762. It can also be defined as planning, organizing, executing and controlling all activities related to the development and implementation of innovations [13]: 57. Moreover, Drejer et al. [14]: 5 describe Innovation Management as consisting of five activities: technological integration, the process of innovation, strategic technology planning, organizational change and business development.

Fundamentals of ITSM

The ITSM framework can be defined as “a set of processes that co-operate to ensure the quality of live IT services, according to the levels of service agreed to by the customer” [15]. It can also be seen as a philosophy for orientation toward market, service, life-cycle and process in general [16]: 13. The main focus of the framework is not the development of IT applications, but rather the management of services. The most frequently adopted ITSM resource is the IT Infrastructure Library (ITIL), the de facto standard for IT Service [17]. Other ITSM frameworks include HP ITSM, CobiT and ISO 20000.

Methodology

To examine objectives and experiences reflecting the impact of ITSM on Innovation Management, partially structured expert interviews were conducted. Chief Information Officers (CIOs) of eight IT Service Providers were approached, of whom six agreed and were interviewed between November, 2008, and January, 2009. Interviewees came from different fields and levels of responsibility. The interviews averaged 20 min and were primarily held by telephone. Some were conducted by e-mail, with the potential for further questioning to supplement incomplete information.

Based on the theoretical foundations, interview topics were outlined and grouped into four sections: (1) personal information on the interviewees' background and responsibilities; (2) reasons for ITSM adoption; (3) the conducting of Innovation Management; and (4) possible links between ITSM and Innovation Management. In order to encourage interviewees to express their opinions, many questions were open-ended. The order and direction of topics varied, as openness and flexibility allowed new points to be raised. Each interview was recorded in order to permit information to be extracted and compared in a systematic and objective fashion.

The limiting of our sample to companies in Germany allows for greater comparability as well as a simplification of the data collection. One criterion is the use of ITSM within the company. In Table 1, the interviewed companies are introduced, along with a description of their respective IT services.

Table 1. Interviewees' sample demographics

Case	Company size	Company description
A	Large	Internal IT service provider
B	Mid-size	IT consultant
C	Mid-size	External IT service provider
D	Small	Software management and software distribution
E	Small	External IT service provider
F	Large	Internal IT service provider

Results

The following section presents

- (1) the results, considering separately ITSM adoption and Innovation Management implementation; and
- (2) the interviewees' perception of the impact of ITSM on their Innovation Management.

Results are later summarized in Table 2.

ITSM Adoption

The length of time that ITSM has been in place in the various companies differs. Cases A, B and C have implemented ITSM over a period of 7–10 years; cases D and F for 5 years; and case E for 3 years.

Since different perceptions of maturity levels exist, it is important to know what is meant by "maturity" in the various cases. Five out of six respondents employ the Capability Maturity Model Integration (CMMI), or models based on CMMI, such as the CobiT maturity levels, as their basic definition.

Following the CMMI model, cases A, D and E show a "defined process" maturity level, in which the processes have been standardized and documented. Cases B and F reflect a "managed and measured" maturity level, where procedures are monitored by the management.

Case F is alone in reporting difficulties in specifying a maturity level. They have installed Key Performance Indicators (KPIs) for the assessment of central processes, but not for all processes.

Case C has an “optimized” maturity level, in which processes have been polished to a level of good practice. Areas of improvement targeted were customer satisfaction, internal processes, standardization of processes, service quality, efficiency, and return on investment.

Innovation Management Implementation

In case A, Innovation Management is conducted on an interdepartmental basis. The various ideas for improvement of products and services are collected as part of the Innovation Management process, after which they undergo review and are considered for implementation.

Case B focuses not only on internal processes but also on innovation geared at customers. A special team is solely responsible for research and innovation. Suggested innovations are evaluated by a standardized process.

Innovation Management in case C is essential to their business strategy, to improve the effectiveness and efficiency of their products, services, processes and structures.

Case D implemented Innovation Management and holds yearly reviews of their internal processes in order to assess efficiency and effectiveness. They expressed that a more systematic Innovation Management will be implemented in the future, once a higher maturity level of their Service Management and other processes has been reached.

Due to their size, case E does not yet see Innovation Management as an independent process within their company. Finally, in case F the main focus of Innovation Management is on collaboration with customers to identify improvements in products and services.

Link Between ITSM and Innovation Management

On the question of the noted effect or impact of ITSM on Innovation Management, companies submitted different feedback.

In case A, no direct impact of ITSM on Innovation Management is noted, thus the two need to be considered as separate processes. As a first step, ITSM needs to be aligned with customers’ needs and interests. Only when all ITSM processes have been installed properly and reached a certain maturity level can Innovation Management follow as a next step, to optimize and develop processes.

Case B describes ITSM and Innovation Management as “natural enemies,” for they represent contrary goals. According to their perception, that is, the adoption of an innovative process distracts from the main objective of ITSM frameworks, which is to have clearly defined standard processes. Innovation Management has

to be seen as a separate process in which innovations are identified, developed and implemented; and the implementations of these innovations need to proceed under controlled circumstances in order to be able to evaluate the results in a standard fashion.

In contrast, case C claims that they could identify impact of ITSM on Innovation Management. Using a “Plan-Do-Check-Act” cycle to recognize potential for improvement, they believe that Innovation Management within their ITSM framework shows three basic types of impact: (1) significant increase of customer satisfaction; (2) image improvement; and (3) product and service quality improvement.

Case D definitely noticed the effect of ITSM on their Innovation Management; for them it is not a question of whether there is an impact, but rather how great this impact is. Specifically, they have noticed that, due to the faster adoption of innovations via the ITSM, customers’ needs can be handled more efficiently. In this the company differentiates itself from its competitors

In assessing the impact of ITSM on Innovation Management, case F sees ITSM as the superior model. After first implementing ITSM, they later introduced Innovation Management into the framework as an independent process. This opportunity to employ Innovation Management as a new strategic process was possible since case F’s ITSM consists of not only operational processes (e.g. Incident Management) but also strategic processes (e.g. IT Strategy, IT Business Assessment).

Table 2. Interview results

Case	Years of adoption	Maturity level	First implementation	Independent processes
A	10	Defined	ITSM	No
B	8–10	Managed	Innovation Mgt.	Yes
C	7	Optimized	ITSM	No
D	5	Defined	ITSM	No
E	3	Defined	ITSM	No
F	5	Managed	ITSM	No

Discussion

When companies were asked which process was implemented first – the ITSM framework or Innovation Management – interviewees more frequently responded that ITSM frameworks preceded implementation of Innovation Management. One possible reason for this could be the inherent capacity of the ITSM framework for continuous improvement of extant services. This process – Continual Service Improvement (CSI) – is “responsible for managing improvements to ITSM Processes and IT Services” [18]. Rather than considering Innovation Management as a separate entity, ITSM includes innovation in its very structure.

Additional insight was gleaned when the companies were asked if in fact they had implemented an Innovation Management process, and if so, where it was introduced. This revealed case B as the only company to have implemented Innovation Management independently of the ITSM framework. This was done to give enough space for innovations to evolve without obligation to integrate them within current business operations. It thus eliminates the risk of affecting business processes already defined in line with ITSM. By separating the two, they reduce the risk of compromising the quality of either process.

On the contrary, cases A, C and F have fully integrated Innovation Management into their ITSM. This can lead to an Innovation Management that is more directly related to business operations as well as to customers, incorporating improvements through the CSI process. It can however be suggested that this process yields if not favours incremental rather than radical innovations.

One particularly interesting aspect of the interviews merits further examination. For the two small companies, who have not yet implemented systematic Innovation Management, nonetheless reveal that innovations are developed more quickly than in the cases of the larger companies. This appears to contradict researchers' conclusions that there is a positive association between organizational size and innovation [19]: 395. Furthermore, these two small companies explain that they not only incorporate their customers' innovative requirements, but also emulate innovations observed in suppliers and competitors. Ven [9] confirms these ideas, but also points out that an innovation can also be an imitation. We observe, then, that this behaviour again favours incremental rather than radical innovations.

Finally, when the companies were queried on the impact of Innovation Management on ITSM, five out of six described a modification in both speed and quantity of innovations, as well as an improved ability to recognize potential for improvement.

Conclusion

Three principal observations from the study show that (1) in its yield of incremental improvements, Innovation Management as a subset of the ITSM framework is able to contribute to standardization efforts; (2) companies develop an Innovation Management process due to adoption of an ITSM, employing the concurrent Continual Service Improvement built into the ITSM; and (3) companies recognize that one impact of ITSM on Innovation Management is an increased ability to adopt innovations and to identify areas for potential improvement.

As limitations to this study, we identify: (1) the lack of understanding of the different types of Innovation Management in the companies (systematic, non-systematic or prescribed from ITSM specifications); and (2) the focus on companies in Germany alone. Thus the paper and the conducted expert interviews are

merely explorative in nature. Further research should include a larger-scale survey employing the same factors to understand adoption of Innovation Management inside and outside of ITSM. Moreover, the perception of maturity level of the ITSM should be explored as it relates to the adoption of Innovation Management.

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