Assessment of IT Services: The Need for a Service Perspective

Research-in-progress

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1. Introduction

Today many organizations are increasingly reliant on IT, which is considered to be the critical enabler for transforming service industries (Chesbrough and Spohrer 2006). There is an increasing awareness of the need to become more service-oriented and customer-focused. According to Cater-Steel (2009, p. 2), " … many IT service providers are struggling to change the culture and processes within their own departments or organizations. Several IT service providers are still characterized by a culture which is technology-focused rather than customer-centric". IT Service Management (ITSM) is a strategy by which IT services are offered under contract to customers and performance is managed as a service (Pollard et al., 2009). The main purpose of ITSM is to deliver services from a customer perspective (Pollard et al., 2009) and thus it plays a critical role in supporting and satisfying business requirements (Galup et al., 2007; Galup et al., 2009; Bardhan, 2010). Winniford et al. (2009) add that ITSM focuses on defining, managing, and delivering IT services to support business goals and customer needs. This shift towards a service perspective could be seen as a reaction to the traditional goods-dominant logic which focuses on solving technical problems and not on fulfilling business needs and customer value (Vargo & Lusch, 2004; Vargo et al., 2008). This shift in focus is not a minor change of attitude; it is a paradigm shift for the whole IT sector. We view ITSM as a subset of Services Science and thus it should be based on a thorough service perspective.

There exist several promising models for assessing ITSM such as: Information Technology Infrastructure Library (ITIL) (Cannon et al. 2011); Capability Maturity Model Integrated for Services (CMMI-SVC) (SEI 2006) and ISO/IEC 20000 IT Service Management Standard (ISO/IEC, 2005). These models include processes and statements that service providers use to grade how successful they are in managing and deliver services to customers. The purpose of these self-assessment models is to gain a structured and documented knowledge of how to improve IT service delivery. We claim that these models are not fully based on a service perspective.

Furthermore, they are mainly developed from the perspective of the service provider. Not enough attention has been paid to what customers find important and how customers perceive service quality. Although it is important to include and maintain the service providers' perspective, we argue that this perspective must be balanced with the customers' interests. We claim that these two stakeholders jointly need to zoom in on value creation for both parties. As Lepmets et al. (2012) put forward, IT service quality improvement efforts could benefit from considering the internal IT service quality attributes from the viewpoint of the value the provided IT service could bring to both the customer and the service provider. This line of reasoning is strengthened by Grönroos and Helle (2010) who argue that value is a mutually created phenomenon, i.e. the value that a service provider can create in a business engagement with a customer is dependent on the value that this customer can create from being involved in the same relationship. That is, the final customer value is created through custom-

ers' everyday practices (value-in-use) (e.g. Vargo & Lusch, 2004; Vargo et al., 2008).

The purpose of this paper is to enhance models for management of IT services by applying a service perspective. Our claim is that current models primarily are based on: 1) good-determinant logic and 2) a too one-sided service provider perspective. In section 2, we describe the research method. Section 3 presents a theory-based criticism of the current assessment models and in section 4 we present an empirical verification of a new assessment model based on a service perspective. Finally, in section 5 we draw conclusions.

2. Research Method

This study is part of a three-year research project, which has an overall purpose to suggest efficient models and methods for ITSM. The research project includes analyses of several ITSM models such as ITIL and CMMI. The participants in the research project are: four researchers, eight firms and two municipalities. Both service providers and customers are represented. The research project covered analysis of six core processes for management of IT services: management of incidents, management of problems, management of changes, management of service levels, management of business relationship and management of request fulfillment. This paper reports from one part of the research project and due to limited space, we selected one process to illustrate our analysis. We selected the CMMI process Incident Resolution and Prevention (IRP) since management of incidents is the most commonly used process (DuMoulin T and Turbitt, 2007). IRP consists several statements which can be seen as measurements that should be used to assess the management of the service. CMMI is a popular model and the authors claim that the model includes collections of best practices that help organizations to improve their services. The purpose of CMMI is to provide a comprehensive integrated set of guidelines for providing superior services (SEI 2006).

To suggest enhancements of IRP, we have structured the research process into four steps. The first step consisted of an analysis of IRP based on a service perspective. The purpose of the analysis was to strengthen our claim that a service perspective is needed and to be informed about how to enhance the process. In the second step, we modified existing statements in IRP based on the outcome in first step. The result of the second step can be seen as a hypothesis. This hypothesis was built upon theoretical insights but lacked empirical verification. Thus, the purpose of the third step was to strengthen the hypothesis through empirical data. The empirical verification was conducted in a workshop that lasted for two hours and included participation of six firms and two municipalities. These organizations scrutinized the hypothesis consisting of the modified statements based on a service perspective and they were specifically asked to comment upon each statement choosing one of the following alternatives:

1) This statement is important and should be kept as it is.
2) This statement is good but needs to be modified in the following way.
3) This statement is irrelevant and should be deleted.
4) Other comments.

In the fourth step, we analyzed the comments from the workshop and modified the statements according to the comments. That is, the enhancement of IRP is based on theoretical insights and empirical data.

3. Theory-based analysis

From a historical perspective, goods and products have been considered to be the sole of the traditional economy (Söderström et al. 2015). However, a shift towards a more service-oriented economy has received increased attention (e.g. Gummesson 2006). This shift has meant an increased focus on:

- Consumers instead of producers (Gummesson, 2006).
- Customer value (e.g. Vargo et al. 2008, Payne et al. 1999).
- Co-creation.

The purpose of ITSM is to deliver services from a customer perspective (Pollard and Cater-Steel 2009, Winniford et al. 2009). This view of ITSM implies a closer relationship with customers and a need for an increased understanding of customer values. According to Grönroos (2007), value is the result of a process of co-creation where the service provider, through its offerings, enables the customer to create value. That is, value is determined by the customer and based on perception of actual usefulness. Vargo and Lusch (2004) call this 'value-in-use', meaning that value can only be perceived when the service is in use. Therefore, a service provider needs to understand what customers perceive as valuable in order to define and develop market offerings (Payne and Holt, 1999). Vargo and Lusch (2008) claim that service is the heart of value-creation. Besides the focus on value, the service perspective also emphasizes the importance of co-creation. That is, service innovation and service development should be co-created by service providers and customers (Lusch and Nambisan 2015, Chesbrough 2011). Vargo and Lusch (2015), explicitly defines the following foundational value-oriented premises:

- Value is co-created by multiple actors, always including the beneficiary.
- Actors cannot deliver value but can participate in the creation and offering of value propositions.
- A service-centred view is inherently beneficiary oriented and relational.
- Value is always uniquely and phenomenologically determined by the beneficiary.
- Value co-creation is coordinated through actor-generated institutions and institutional arrangements.

Moreover, Cater-Steel (2009) has identified six critical factors to achieve a service-oriented philosophy. The factors are: support from senior management; the threat or opportunity to outsource IT services; integration of processes to provide end-to-end service; involvement of business stakeholders; culture change of IT staff to service excellence; and the redesign of processes prior to investing in tools. We view all these reported findings from scholars important to consider for enhancement of the process IRP. IRP consists of three specific goals (SG) and ten generic practices (GP). Each specific goal consists of a number of statements. These SG's and GP's are used for self-assessment and organizations specifically use the SP's and GP's to grade their own performance in order to understand areas for improvement. The SG's and the related statements are described in table 1.

Table 1. Specific goals of IRP

Specific Goals	Statements
SG 1 Prepare for incident resolution and prevention	1.1 Establish an approach to incident resolution and prevention 1.2 Establish an incident management system
SG 2 Identify, control, and address Individual Incidents	2.1 Identify and record incidents 2.2 Analyze individual incident data 2.3 Resolve incidents 2.4 Monitor the status of incidents to closure 2.5 Communicate the status of incidents
SG 3 Analyze and address causes and impacts of selected incidents	3.1 Analyze selected incidents 3.2 Establish solutions to respond to future incidents 3.3 Establish and apply solutions to reduce incident occurrence

IRP does also include 10 GP's for process management. A GP is valid for all the included processes in CMMI and thus not specific to IRP. The GP's are described in table 2.

Table 2. Generic practices

GP 2.1	Establish and maintain an organizational policy for planning and performing the process.
GP 2.2	Establish and maintain the plan for performing the process.
GP 2.3	Provide adequate resources for performing the process, developing the work products, and providing the services of the process.
GP 2.4	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the process.
GP 2.5	Train the people performing or supporting the process as needed.
GP 2.6	Place selected work products of the process under appropriate levels of control.
GP 2.7	Identify and involve the relevant stakeholders of the process as planned.
GP 2.8	Monitor and control the process against the plan for performing the process and take appropriate corrective action.
GP 2.9	Objectively evaluate adherence of the process and selected work products against the process description, standards, and procedures, and address noncompliance.
GP 2.10	Review the activities, status, and results of the process with higher-level management and resolve issues.

Based on the literature discussed above, we can conclude that IRP lacks an explicit service perspective. Neither the SP's, nor the GP's include: customer involvement, relation to business needs, customer value, or co-creation. Moreover, there is no subject included which means that it is not obvious who is responsible for what. That is, we claim that IRP does not fully recognize customers as co-creators of services and value. The statements SP's and GP's in table 1 and table 2 represent normative measurements. That is, there is a risk that users who strictly follow IRP will not assess customer value since this is not included in the statements.

4. Empirical verification

Based on the theory-based analysis in section 3, we modified the SG's and GP's in the IRP. The new version included new and modified statements. We also changed the names 'Incident Resolution and Prevention'. 'Specific goals' and 'Generic practices' to 'Incident Management', 'Process Operation' and 'Process Improvement' respectively. The reason for the name changes was that the new names better correspond to the content and that new modified version should not be confused with what has been developed by SEI (2006).

We viewed the new version as a hypothesis, which is needed to be empirically verified. As described in section 2, we organized a workshop that included eight organizations. The purpose of the workshop was to empirically verify the new and modified statements in the IRP. The organizations scrutinized the new statements for assessment of IRP. We distributed the new version of the statements in the workshop and we collected written suggestions for improvement from the participants. The suggestions: 1) verified the changes made based on the theoretical analysis and 2) constituted improvements of several formulations of statements. We also received comments concerning that some of the statements should be removed since they were irrelevant or redundant. In the new empirically verified version (see table 3 and 4), we have explicitly:

- Involved customers (see table 3, statement 7, 11, 12, 13, 14; table 4, statement 17)
- Added a subject (see table 3 and table 4, all statements)
- Explicitly incorporated customer value (see table 3, statement 3; table 4, statement 17)
- Added co-creation (see table 3, statement 1, 2; table 4, statement 15, 17)

Table 3. Process Operation

1.	There is a co-created and documented process description for incident management.
2.	The criteria for how to prioritize incidents are co-created.
3.	Suggested solutions enable increased customer value.
4.	The service provider works proactively to prevent incidents.
5.	The service provider register the incident with a date an incident number.
6.	The service provider provides sufficient resources to solve the incident.
7.	The service provider keeps the customer informed about the status of the incident.
8.	The service provider offers acceptable temporary solutions until the incident is solved.
9.	The service provider analyzes the cause of the incident and provides a sustainable solution.
10.	The service provider solves the incident according to the service level agreement.
11.	The customer reports incidents to the service desk.
12.	The customer competence is used to solve the incident.
13.	The customer is always accessible to provide information about the incident.
14.	The customer approves the suggested solution before it is implemented.

Table 4. Process Improvement

15.	The strategy for how to conduct process improvement is co-created.
16.	The service provider monitors that the process is carried out according to the process description and records possible deviations.
17.	The service provider and the customer jointly analyze deviations, insufficiencies and other experiences in order to improve the process and to ensure that customer value is gained.
18.	The service provider has updated the process descriptions according to implemented process improvements.

5. Conclusions

This paper constitutes research-in-progress. As mentioned in section 2, this study is part of a three-year research project which has been running for two years. That is, this paper includes intermediate results that are not completely mature. Besides publishing mature theories, there is also a need to publish intermediate results (i.e. nascent theories) (Heinrich and Schwabe, 2014).

The analysis has revealed that IRP includes several interesting SG's and GP's and that they have constituted an excellent inspiration source for enhancements. By applying a service perspective, we can conclude that IRP does not fully support assessment of customer involvement, customer value and co-creation. We can also conclude that our the new model of Incident Management seems to be promising since it has been informed by theory and it has to some extent been empirically verified. We claim that our model is based on a service perspective and includes: a customer perspective as well as a service provider perspective; a subject

that informs about who is doing what; emphasizes customer value; and encourages co-creation. That is, we claim that the model supports service providers to gain a better understanding of customer values and customers to gain a better understanding of the service provider's conditions to deliver services. However, our assessment model has not been empirically verified in a real setting consisting of both service providers and customers that jointly assess the statements in the model. Thus, as future research, we suggest the assessment model to be thoroughly empirically evaluated.

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