Identification and Performance Management of IT Services

[Extended Abstract]

Paulo Marques
Instituto Superior Técnico
Lisboa, Portugal
paulomarques@ist.utl.pt

Abstract: Information systems have an increasingly important role in enterprises. Enterprises depend evermore on IT, however, the IT departments are still managed on an ad hoc basis. One of the main reasons why the IT departments do not know the quality of the service that they provide is because they do not exactly know what they provide to the enterprise. Without knowing the quality of the services they provide, it is impossible to manage them or even improve their delivery. This thesis proposes an approach for the IT management based on services, dividing it in four phases: Define Services, Service Levels, Define Metrics and Provide Results. The proposal was evaluated in a medium sized enterprise. The proposal is valid for small and medium enterprises, the approach is very simple and quick to implement and the enterprises may easily, begin to deliver the IT as services, guaranteeing the control of its performance.

Key words: Services, ITIL, IIITSM, SLA, Service Level, Services Catalogue, KPI

1. Introduction

The importance of Information Systems (IS) in the life of an enterprise is increasingly greater. The IS stops being the suppliers of business support tools and become the basis for business. The IS therefore dominate the enterprise's day-to-day.
Increase of the importance of IS in the enterprises has led to drastic changes in the enterprise, and more specifically, in the IT (Information Technology) department. The top management is increasingly aware of the evolution of IT, and the ad hoc management of IT has ceased to be efficient and effective. The quality of IT services offered to the enterprises was never perfect, still, the importance that it has nowadays in the enterprise's day-to-day has emphasised the problem.

2. Information Systems Management

The Information System Management has changed over the recent years. For years there were no methodologies and concerns with the management of the IS. However, with the growth of the IS departments and with the increasing dependency of the enterprises, the concern in managing efficiently the IS has been greater [1].

In recent years, there have been many methodologies to help the management of Information Systems. There are already international standards such as the ISO20000 and frameworks that are known and implemented worldwide such as the ITIL. All the methodologies have a clear principle: the IT must now be delivered to the enterprise as a service.

3. Problem

One of the major issues of the IT departments is that they are unaware of what they supply to the enterprise. It is common to hear the IT suppliers say that “they supply everything to the enterprise”, all the enterprise needs in terms of technology.

However this definition becomes vague and generates little value to the delivery management. Without knowing what they supply to an enterprise, the IT will never be able to manage the quality of the deliveries or manage the enterprise's expectations. Thus, the problem that this thesis intends to solve is the fact that IT departments does not know the quality of their services.
The reason for the issue is presented and we prove that it exists and that it is important. Based on scientific papers, we show that the IT departments have problems in the identification and in the quality of the service that they provide to the enterprise [2] and have difficulty in measuring them or managing their performance. [3].

We analyse the works of other authors related to the theme in question. Various methodologies and frameworks that address the problem of the thesis are studied, and for each methodology, the reason that leads to the non-resolution of the presented problem is revealed.

The ITIL is studied with special emphasis in the Service Design concluding that its application may have a good result but that due to its complexity, it implementation becomes complex. The Control Objectives for Information Technology (COBIT) is analysed, which is another framework for the IT management, and its conclusion is identical: the proposal is interesting and valid, however, in another practical application its application becomes too difficult. It is, however, a great platform for this thesis. The Capability Maturity Model Integration For Services (CMMI-SVC), an adaptation to the CMMI for the services, is studied too. This framework is very interesting and it demonstrates the importance of the thesis for an improvement of the level of maturity of the enterprises that are IT service suppliers. Other themes are analysed as well as some scientific articles. However, none of the presented frameworks solve the mentioned issue, but they are a a good basis for solving the problem stated here.

4. Proposal

This thesis proposes an approach to the identified issue and analyses the best way for an IT department of a medium enterprise to be supplied with services.

We introduced an approach divided in four points: identification of services based on the incidents registered in the enterprise; a way to manage the levels of services in a pro-active way, avoiding the long meetings with the various parts involved; metrics based on the assumption of automatic reading of the respective values; and
some ideas are identified for the design and conception of a report based on those metrics.

To test its viability the proposal was applied to a medium sized enterprise. The description of the practical application is presented and for each of the points of the proposal – Define Services, Service Levels, Define Metrics and Provide Results – the actions taken and activities carried out are demonstrated.

We analyse the practical application and evaluate the presented proposal according to the practical work done. For each phase of the proposal, we reveal the challenges faced in the implementation and what should be reviewed or improved. It is concluded that the defined proposal solves the presented problem, is simple to apply and is easy to adjust depending on the enterprise and the system of incidents management that it is using.

5. Research Methodologies

The research was based on the Action Research methodology.

![Action Research Cycle](image)

Figure 1 - Action Research Cycle

This methodology defends that all processes are subject to alterations which must be observed and must have effects in the carrying out of the work. It is a
methodology directed towards implementation and change and based on a systematic and interactive process of constant collaboration between the participants. The researchers are thus more actively involved, attaining real benefits for themselves, their work and for the enterprise [4].

Action Research is based on a cycle with five phases, presented in Figure 1. Each of these phases is developed in an orderly way as demonstrated in the figure. When the Specifying Learning phase is reached, we go back to the beginning and start a new cycle.

The five phases of an Action Research Cycle are:

- **Diagnosing** - Problem Identification.
- **Action Planning** - Specification of the actions that must solve the first problems found.
- **Action Taking** - Implementation of the actions defined in the previous phase.
- **Evaluation** – Evaluation of results by the researcher and participants. This checks that the expected effects were achieved in the theory in practice and whether the problems were resolved. If they have been, the theory must be adjusted to the next iteration of the process.
- **Specifying Learning** – Checks whether the proposal could solve the problem, specifying the withdrawal of their learning implementation.

This dissertation describes the entire research process, although it is divided in five chapters with distinct names of Action Research – Problem, Related Work, Proposal, Action, Evaluation and Conclusion. Although the names are distinct, it is possible to make a connection between each of the phases of Action Research and the structure of this dissertation. In Table 1, this relation is presented.
6. Summary

It's concluded that the proposal presented is not as solid as the ITIL or other known frameworks, however, it is a simple and quick way to start thinking and working using the services as a base. The simplified identification of the services together with the completely automatised way to measure their performance may be of use to many small and medium enterprises, a first step for the delivery of IT as a service.

6. References

