

Economical Aspects when Deploying Enterprise Portals

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INTRODUCTION

Enterprise portals have become the backbone for the integration of a large number of different applications, content, and services (Smith, 2004). Nowadays, electronic business can hardly be imagined without the use of these portals as central entry points. At the same time, companies become more and more aware that portal projects are complex, time- and cost-consuming, with a high risk of failing. Costs and benefits to build up and operate an enterprise portal have to be weighed up in a systematic manner, including make-or-buy decisions with regard to packaged portal platforms vs. open source developments, individually developed vs. purchased standard portal components (Hazra, 2002).

However, often clear figures describing the economic impact of portal solutions are missing. Furthermore, there is still uncertainty which methods are suitable, at which stage of the implementation process they have to be used, how they have to be adapted and customized, and which preconditions have to be set in order to assess the economic impact of enterprise portals. In addition, enterprise portals can be deployed across a broad range of industries and application areas, thus enabling the implementation of such different portals like knowledge portals, employee portals, ERP portals, collaborative portals, process portals, and partner portals. All these types of portals need a specific and individual approach to evaluate the economic impact.

The goal of this article is to contribute to the decision of how to analyse and evaluate the economic impact when deploying large enterprise portals. For that purpose, we present a framework that can be applied by carrying out the following steps: At first, important preconditions and assumptions concerning the portal solution have to be collected. Then, key factors, derived from the results of the previous step, can be identified. Finally, these factors have to be evaluated and, if possible, quantified and measured. Consequently, these steps have to be embedded in the development process of the portal solution. We describe a procedure model, based on the stages of the PDCA-approach (plan, do, check, act), which can be used to carry out a structured analysis taking into account the whole life cycle of the deployed portal solution.

As foundation of the framework, we provide a classification, where measurable key factors of portal costs, benefits, and risks are collected and structured (according to the main portal types B2E, B2B, and B2C). In particular, qualitative factors play an important role in portal projects. Even though these factors are hard to measure, they are urgently needed to draw a complete picture of the profitability of a portal project. Based on this classification, existing methods to measure the economic impact are reviewed and assigned to the corresponding items of the classification.

PDCA: AN APPROACH TO MANAGE THE ECONOMICAL IMPACT OF PORTAL PROJECTS

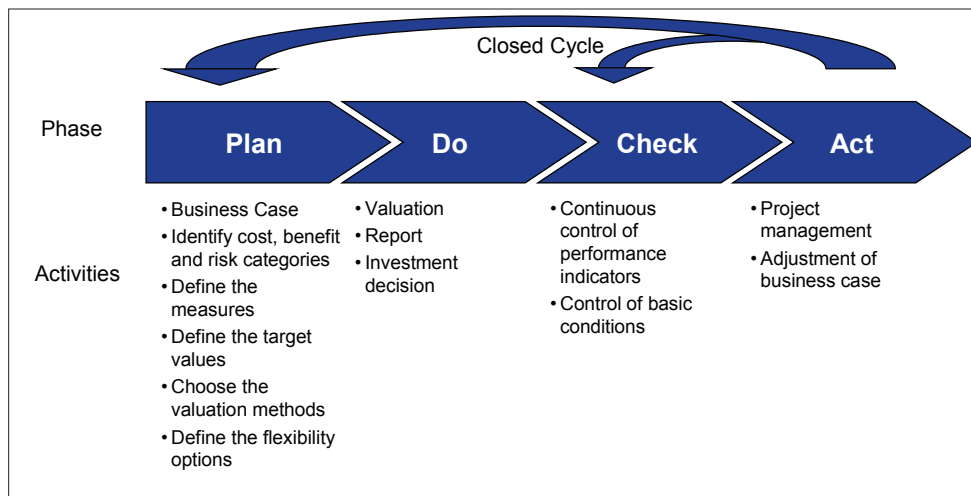
Originally, the PDCA is used to systematically implement changes as well as improvements and therefore, especially suitable for the deployment of portals, as portal projects tend to influence and often change many internal and external processes. The PDCA is based on the common practice of identifying and testing hypotheses, resulting in measures to correct the initial assumptions. The procedure can be carried out in multiple cycles, ensuring a continuous improvement of the economical analysis (Bushell, 1992). Hierholzer (2000) is using the PDCA-process to manage and implement process improvements with regard to benchmarking.

Plan Phase

The first step in the PDCA approach contains the business case, the identification of categories with regard to benefits, costs, and risk, as well as the identification of performance indicators and target values. In addition, methods to evaluate the identified benefits, costs, and risks, as well as options for flexibility are determined, which can be relevant for project management later on.

In portal projects, the business case intends to set requirements and details the upcoming investment, taking into account a rough analysis of effects on the value adding and the technical description of the planned investment. In

Figure 1. PDCA-approach



order to make a final decision on the project start, costs, benefits, and risks have to be identified and transferred into measurable performance indicators. Similar to the analysis of costs of IT investments using the well-known method of total cost of ownership (TCO) (Elsener, 2005; Wild & Herges, 2000), cost, benefit, and risk categories have to be split up into more detailed categories; finally defining atomic items, where concrete values can be assigned. The resulting framework can be used as a checklist to support the identification of appropriate categories and to assign specific analysis methods.

There are many possible performance indicators, for example, ROI, NPV, payback period, and so forth. However, during the implementation of portals, often benefits are realized that are difficult to measure in quantitative values. This is the main reason why it is suggested to additionally consider qualitative performance indicators used in for example, balanced score card (BSC), employee life-time value (ELTV), and customer life-time value (CLTV).

The next step is to define target values as basis for analysing progress and deviations. As soon as all indicators are determined appropriate, evaluation methods have to be selected. Often, this procedure is already contained in many popular methods, such as TCO, real cost of ownership (RCO), total value of ownership (TVO), total economic impact (TEI), and rapid economic justification (REJ) (Amberg & Okujava, 2005 provide a short overview of these methods). The choice of the valuation methods and the scope of the valuation are dependent on the stage of the portal's development life cycle. Furthermore, the analysis of flexibility options can outline possible options for action. Possibilities to manage the IT project can be identified and corresponding effects assessed. With these, guidance companies get the opportunity to react

upon internal and external influences and adapt the project procedure accordingly.

Do Phase

The *do* phase is the core phase of the economic evaluation. All results are collected in a report, which is an important part of the business case and serves as basis for the investment decision.

The report is seen as a reference to evaluate upcoming IT investments, building the starting point for the evaluation and the systematic management of IT investments. It contains the business case and categories of benefits, costs, and risks, together with their corresponding evaluation methods. Furthermore, the report supports a project controlling, by collecting performance indicators together with their target values in a transparent way. In addition, it contains possible scenarios and flexibility options. The report is accomplished by an executive summary containing a description for the best solution, its economic impact together with the main pros and cons for this solution.

Check Phase

The goal of the check phase is to control the progress of the project, the achievement and control of goals and, if necessary, modifications of the business case.

In order to identify differences already in early stages, many authors demand a continuous monitoring of performance indicators (Deming, 2000; Kütz, 2003). There are different comparison methods: As typical, savings need a certain amount of time until they become effective, the com-

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