

# A Two-Tier Approach to Elicit Enterprise Portal User Requirements

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## INTRODUCTION

Organizations are increasingly turning to enterprise portals to support knowledge work. Portal deployment can be intra-departmental across several business units in one organization or even inter-organizational. Currently in the industry, most of these portals are purchased solutions (e.g., collaboration and smart enterprise suites) and many of these purchasing and selection decisions are primarily driven by the interest of a small group of stakeholders with strong influence from IT vendors. The true requirements for the portal as well as the strategy for its medium- to long-term phased deployment are, in general, poorly addressed. This, together with other reasons, has led to many failures or to a low adoption rate of the enterprise portal by staff at various levels of an organization. Common problems that hinder portal adoption include lack of an overall governance model, mis-alignment with business processes, poor or non-existent content management (process, tools, and governance), and technical problems associated with the development and configuration of portlets. This article focuses on one critical issue that directly influences the success of an enterprise portal deployment, namely the correct elicitation of user requirements (which in turn lead to the chosen portal's features and to the style of the portal interface). Taking into consideration the advancement and landscape of commercial portal vendors in the market, this article discusses a bottom-up approach to the identification of high-level drivers for portal usages for its users.

## Reasons for a Low Portal Adoption Rate

A survey of 387 organizations by META Group (Roth, 2004) has revealed that although portal adoption among organizations is strong (e.g., some 35% in mid-2003), there have been plenty of setbacks in sustaining or enhancing user adoption of a portal after it has been deployed. Based on the authors' experience gained from working on various KM systems and portal projects (in the Asia Pacific region), prominent reasons why an enterprise portal are under-used include:

- The portal is difficult or unpleasant to use due to poor interface design and to information being difficult to locate. This may include a lack of coordination of the information stored in various portal pages, and inadequacies in the user interface design as well as in the tools provided in the portal.
- Compared to an intranet, the response of a portal is generally slower because of the additional abstractions and messages passing between system components in and outside the portal. Slower responses, needless to say, cause user frustration.
- Portal content may show a lack of integrity because of duplication and inconsistent information in the portal. As a result, users soon lose interest in accessing the portal for purposes of information retrieval. Without a single unique sign-on solution, portal users often get annoyed as they need to remember and enter multiple sets of user "IDs" and passwords when accessing different parts of the portal.
- Nearly all portal deployment is top-down and enterprise-driven. There is a strong governance on the creation and regulation of documents, folders, and communities/discussion boards. As such, it is often time-consuming to go through the administrative procedures in order to set up a portal (or a portal community space for collaboration).
- Some organizations exert too many restrictions on the use of the portal such as specifying the maximum size of documents that can be uploaded. Certain portal users are permitted to upload only content that is in pre-defined folders. These are issues related to over-governance.
- Some portal interfaces are not aligned with the needs of the users. For example, mobile workers generally require lite-access to their enterprise/project portal via handheld devices.
- Because of personal habit, convenience, or speed of access, many users resort to old sources (e.g., Intranet) to retrieve the information they seek without going

through the portal. After a portal has been deployed, many organizations fail to eliminate (i.e., close-off) the previous access-points hence compromising the single gateway concept/value of having a portal.

- Many employees find enterprise portal capabilities far inferior to the Internet/Web portal that they are now so familiar with (Weiss, Capozzi, & Prusak, 2004).
- Sometimes there is a lack of focus on portal content as insufficient funds are being committed for data migration, content maintenance and features upgrade (Murphy, Higgs, & Quirk, 2002).
- The features, tools, and content provided in the portal do not always align with the business processes or with the KM strategy.
- Not paying sufficient attention to the creation and maintenance of a taxonomy and meta-data, users experience difficulties in locating the needed information via search and navigational means.
- A poor or non-existent change management program means that users are ill prepared for the launch of the portal. This means that they do not appreciate the full potential of the portal.

### APPROACHES TO COLLECTING USER REQUIREMENTS

To address the previous problems, the authors have developed a framework and a system to systematically find out what an organization requires of a collaboration tool or portal. The proposed framework adopts a two-tier approach to elicit the user requirements regarding the importance and priority of several well-known and commonly used functions (Collins, 2003) of a portal. These are

- information and communication;
- collaboration and communities;
- content management;
- business intelligence; and
- learning.

The aim of the first part of the proposed framework is to identify the primary and secondary purposes of the portal. This is done by collecting responses via surveys and interviews involving a series of very different sets of questions from various stakeholders including decision-makers, professional staff, and end users. Once the primary and secondary purposes of the portal have been identified, additional and in-depth requirements will be further elicited (via various methods including anecdote circles (Callahan, 2004), narratives (Snowden, 2002) and/or sense-making (Dervin, 1999)). Focus and control groups will then be established to gauge the effectiveness of the framework when it is applied.

### FRAMEWORK FORMULATION

Enterprise portals are designed for work processes, activities, and user communities so as to improve the access, workflow, and sharing of content within and across the organization. Recent evolution and consolidation in the portal marketplace have to lead to a handful of portal vendors offering portal products with, as far as enterprise applications are concerned, varying degrees of product strength. Regarding the deployment of an enterprise portal, Collins (2003) stated that the basic functions of the corporate portal should include content management, collaboration and communities, business intelligence, and learning. In practice, the Delphi Group found that nearly 75% of customers believe portals should be deployed with search, content management, and collaboration functions (Plumtree, 2003). According to a study by IDC on enterprise portal adoption trends (eINFORM, 2003), more than 55% of the respondents indicated that portal software is used internally as a productivity tool for employees, rather than as a tool for partners or customers. The major interests of companies when purchasing software to support portal initiatives are Web-based reporting, Web development tools, Web content management, e-mail, document management, data warehousing, and so forth. The previous reinforces information and communication, collaboration and communities, and content management as some of the key drivers for adopting a portal.

In addition to the previous requirements, Raol, Koong, Liu, and Yu (2003) also pointed out that business intelligence is one of the key drivers for using a portal. Also, Neumann and Schupp (2003) stated that e-learning makes an important contribution to the accessibility, transparency, and maintenance of knowledge management in a corporation. In fact, more and more e-learning material and activities are delivered via a portal interface nowadays.

In summary, we propose a framework to collect the user requirements of the portal that may include these five major components: information and communication, collaboration and communities, content management, e-learning, and business intelligence. The branches under each of these categories have been summarized in the following mind maps (Figure 1). Each branch has a set of specific questions to ask. The results are collected, counted, and weighed in different branches. Sample questions are listed in the next section.

### QUESTIONNAIRE DESIGN

Kim, Kim, Park, and Sugumaran (2004) propose a multi-view approach based on the structuring principles of Davis (1990) for complex software requirements. The multi-view approach is a hybrid method that combines the strengths of scenario-based analysis, goal-based analysis, case-driven

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