Industry Portals for Small Businesses

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INTRODUCTION

Various initiatives, promoted by public and private organizations, attempt to overcome the difficulties hindering the actual use of Web technologies by small and medium-sized enterprises (SMEs). Among such initiatives, the design and implementation of industry portals are deemed to be an earlier step toward e-business by SMEs. There has been a proliferation of portals, especially in traditional sectors, created with the purpose to facilitate the communication by SMEs with their trading partner, to favor information sharing, improve the efficiency of individual firms and supply chains, and promote innovation. While there are interesting examples of successful industry portals, several others failed. This article aims to investigate the particular factors that affect the success of such projects, and in detail to:

- delineate the concept of industry portal and describe its basic features;
- review the economic and organizational factors that can lead to its success;
- provide empirical evidence, by comparing cases of industry portals devoted to SMEs; and
- discuss managerial implications, and offer insights into possible "best practices."

BACKGROUND: BARRIERS TO THE ADOPTION OF WEB TECHNOLOGIES BY SMES

One essential starting point is the discussion of the main factors that inhibit the adoption of Web technologies by SMEs. In doing this, we refer to the several studies already available. The barriers can be summarized in three main categories (Chau, 2001; Grandon & Pearson, 2004; Mehrtens, Cragg, & Mills, 2001; Sadowski, Maitland, & van Dongen, 2002; Scupola, 2002; Stansfield & Grant, 2003; see Table 1):

- **Evaluation of Benefits and Costs:** Being able of assessing the possible benefits and costs of a new technology is vital for a potential adopter. In the case of Web applications, the most important benefits are difficult to determine, and may be neglected. While the attention often focuses on *tangible* benefits (e.g.,

Table 1. Main barriers to the adoption of Web technologies by SMEs

Type of barriers	Issues involved
Evaluation of benefits and costs	Intangible elements (organizational changes, relationships with partners, etc.) Peculiar aspects of network technologies Adoption often disjointed from systematic evaluations
Organizational readiness	Limited financial resources Lack of technical skills Inadequate IT staff Unawareness of the full e-commerce potential Lack of managerial commitment Poor external support
External environment	No critical mass No confidence in regulatory-legal system Unwillingness to share information Lack of trust Local market relationships Lack of external pressure to adopt Lack of standards

reduction in clerical work), more important advantages come from other elements (such as: the number of total users, as is typical of network technologies), which may be difficult to assess in advance. As regards the costs, some (e.g., equipment, software, telecommunication services) may be relatively easy to evaluate, but others (personnel training, organizational changes, etc.) are not. These issues affect the evaluation by any firm, but are even more problematic in case of SMEs, for which the decision to adopt is often disjointed from a systematic economic analysis. Some studies state that costs do not have a major influence on the adoption (Mehrtens et al., 2001; Scupola, 2002). Others (Sadowski et al., 2002; EBPG, 2002) underline that, due to limited financial resources, SMEs do not have the money for doing experiments and making expensive mistakes, and therefore choose a wait-and-see strategy;

- **Organizational Readiness:** Even when a systematic evaluation shows that benefits outweigh costs, this may not be sufficient for the adoption. A firm might just *not feel ready* to use the new tools. This *lack of readiness* can relate to organizational aspects, such as: skills and knowledge about the technology, internal IT expertise, and relations with third parties (such as: vendors or consultants). Empirical evidence highlights that many SMEs (especially in traditional industries) neither have the competencies to exploit the full potential of e-business, nor understand what competencies are needed. As a point of fact, small enterprises are more dependent than larger companies on outside sources of technological and managerial knowledge;
- **External Environment:** As happens for other inter-organizational systems, business partners play an essential role in the adoption and use of Web technologies. To be usefully exploited, Web technologies require a *critical mass*, that is, a minimal number of connected organizations or a minimal amount of available information. Other barriers are due to the limited confidence in the regulatory-legal system (especially in the case of electronic transactions), the lack of *trust* between trading partners, the reservations to share private information, and so on. Also, the existing market relationships (especially when based on geographic proximity) may hinder the adoption. In other words, firms having only next door trading partners may find it useless or risky to reach the global markets by means of the Web. Last, but not least, the lack of common standards, regarding both software applications and business practices, constitutes another major barrier.

INDUSTRY PORTALS AS A WAY TO PROMOTE THE USE OF ICT BY SMES

The term *industry portal* generally denominates a particular category of portal designed to provide information and other services to specific targeted groups, and namely to firms or professionals whose activity centers on a single industry or economic sector. Although, in principle, such services can regard all kinds of firm in an industry, very often industry portals are directed to the needs of specific business environments, such as: local production systems, clusters of small firms, industrial districts, etc. This is based on the fact that, while large corporations have the resources to build and manage a successful enterprise portal, this is generally not the case of local SMEs (Chan & Chung, 2002). Hence, there is an increasing number of portals promoted by industry associations with the purpose to serve as a single window service, and provide collective information processing, knowledge retrieval, and marketing platforms (Chou, Hsu, Yeh, & Ho, 2005). The industry portals created by associations of small firms (hereafter indicated as IPSME) is the focus of this article.

An IPSME can be intended as a *B2B vertical portal* mainly targeted to firms (and their customers or suppliers) operating (or having interest) in the same industry (Ho, Au, & Newton, 2003). IPSMEs are thus hubs of online services ranging from simple provision of contacts to sophisticated e-commerce platform for a large number of firms (for a non-exhaustive list, see Table 2).

A quick glance at the table allows highlighting the main issues regarding the development and management of an IPSME (Chou et al., 2005; Clarke & Flaherty, 2003; van Brakel, 2003). In particular, by observing the issue from the viewpoint of the promoting organization, a number of questions arise:

a. **Multiplicity of Information Contents and Services:** Although IPSMEs are targeted to a particular industry, they are designed to involve as many firms as possible. Due to its "third party" role, the promoting organization should ensure that the services provided are of interest to the large majority of the users. In case of portals built by associations of firms, the needs of members should be considered first. This, however, can raise several problems. The contents and services to provide should be analyzed and selected carefully. The specific knowledge of the users is essential here. Since any firm can, in principle, have peculiar needs, a proper trade-off between generality and personalization is essential, but not easy to reach.
b. **Investments and Operating Costs, and the Problem of Fee:** A well known dilemma of portals is: should