Introducing ICT-Services in a University Environment

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EXECUTIVE SUMMARY

This case discusses the development and management of ICT-services at a Danish university. A special characteristic of the case is that the development has taken place on the basis of participatory design and voluntary adoption. On the one hand, this approach furthers the adoption of ICT-services. On the other hand, it may hamper the development of a uniform and universally accepted set of services. Some concrete examples of ICT-services are discussed from the point of view of factors favorable to the adoption of technological innovations. These include services for administration, communication, education, and integration. One lesson learned is that developing services for education is a cultural challenge as much as it is a technological one, and that the rate of adoption tends to be slower.

Keywords: *Academic Administration IS, Educational Technology, Faculty Computer Literacy, Higher Education, Information Technology Adoption, Institutional Policy, Organizational Culture, User-Centered Design*

ORGANIZATIONAL BACKGROUND

Framework

This is an account of the development of ICT-services (Information and Communication Technologies) at an institution of higher learning. The term "service" will be understood in three different meanings as: 1) *facility supplying some public demand*, 2) the *process of producing an intangible commodity*, and 3) an *administrative division in an organization*. The case thus discusses the planning, implementation, organizational integration and wider perspectives of several information and communication technologies designed for facilitating work processes. These work processes may be distinguished according to purpose into: *administration*, *communication*, *education*, and *integration*.

Focus is not on e-learning, but rather on providing the administrative framework for managing a university. Some general literature on the transformation of university management include Oblinger and Katz (1999), Duderstadt et al. (2002), and Cornford and Pollock (2003). Also, a number of case studies on the implementation of administrative systems are available (Chae &

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Poole, 2005; Okunoye et al., 2008; Pollock and Cornford, 2004; Todorova and Falls-Anderson, 2007). The present case differs from these cases, however, in its emphasis on participatory design and voluntary adoption.

Even in the sense of "supplying a public demand", the availability of a service does not automatically lead to general acceptance and widespread use. Nor can it guarantee that there will be positive derived effects—in the present case, increasing computer literacy and a keener awareness of the potentials of ITC for professional use. This, however, may have been an implicit assumption in the case that follows, where the purposes of administration and integration have been far better served than those of education.

Institutions of higher learning are complex both in terms of *organization* (administrative units versus academic units, central administration versus local administrative units) and in terms of ICT-users (McClure, 2003). Faculty, students, administrators, government agencies, suppliers, and the general public are all potential users of university ICT-services. Some of these groups will be using the same ICT-services, maybe in different roles. Other services are specific to just one group. In the present context, focus will be on intramural ICT-services, excluding e.g. electronic invoicing and general information web sites. Excluded from the discussion are also general management tools (e.g. finance systems and human resource systems) that are operated only by specialists in the institution's central administration, and where the service consists simply in automation of routines (e.g. payment of salaries) or easier access to information (e.g. statistics on sick-days).

The rationale for introducing ICT-services may seem self-evident in an age of "effectiveness" and "rationalization" where universities are becoming knowledge providers that have to compete in the market. To some institutional users, however, the new electronic services are not readily understood as "supplying a demand", regardless of whether they simply remediate existing practices or offer something entirely new. This is particularly true in the present case of an institution characterized by a fair degree of departmental and individual autonomy and a history of scepticism about "authority". The special aspects of the case in question are that (1) by and large adoption of ICT-services has been voluntary; and (2) the development of services has been almost entirely based on participatory design. It will be argued that both factors further, but also challenge the adoption of ICT-services.

Adoption being voluntary, a close correlation may be expected between the adoption of an ICT-service and its perceived usefulness. Therefore, the case is suitable for considering not just *how*, but also *why* innovations are adopted. To help bring out this aspect, the discussion of the examples will draw on the so-called *perceived attributes of innovations*. These five qualities have been identified as the key characteristics when it comes to explaining the rate of adoption of innovations (Rogers, 2003). Rephrasing Rogers slightly, to be adopted an innovation has to represent a *relative advantage* (be perceived to be an improvement), has to be *compatible* with the experience, values and needs of the users, has to decrease rather than increase *complexity*, has to be clearly *visible* (offer observability, in Roger's terminology) and to be *available* for trying out (afford trialability).

The Organization

Roskilde University, Denmark, has about 900 full-time and 300 part-time employees (faculty and administrative staff). Six departments offer a total of 28 programs to nearly 10.000 undergraduate, graduate and post graduate students. In 2009, the total budget for the University amounted to about 87 million Euro.