HOW PREPARED ARE UNIVERSITIES FOR DIGITALIZATION?

Fredrik Liljeblad[1]*, Joakim Lilliesköld[2]

[1]*Department of Network and Systems Engineering, KTH Royal Institute of Technology, Sweden, fli@kth.se*
[2] *Department of Network and Systems Engineering, KTH Royal Institute of Technology, Sweden, joakiml@kth.se*
(*Main presenter and corresponding author)

ABSTRACT

Problem
Digitalization is almost ubiquitous in society today, leaving no area unaffected. It has been named the fourth industrial revolution. The educational area is not exempt from this development. Thus, having seen a limited change in previous industrial revolutions, (other than the increase in living standards which led to more people could afford education), the area of higher education and its organizational form of universities has seen little change. The default mode of teaching is still the lecture, and the default mode of assessment is the written exam.

The process of digitalization shows signs of starting to change this. Challenging decades of institutional knowledge and culture by providing new teaching and assessment methods. This poses new challenges to the organizational form of the university. New skills and abilities are needed in the organization. Also, since the digitalization of universities is still relatively new, there are no established "best practices" of how to "do it." The organization is faced with the new challenge of working with technology-driven organization innovation.

Objectives
We are interested in investigating how the traditional university organization copes with the expectations of becoming a modern digitalized university. Thus, we ask:

Do universities have the required abilities and processes to steer digitalization, and are they able to balance the requirements of both delivering on their traditional education as well as working with innovations?

Methods
Since digitalization in the education context is a fairly new phenomenon, we approached the question with an exploratory, comparative case study. The study comprising two (n=2) Swedish public sector universities. The data collection was done via a mixed-method case study. The quantitative data collection was done via a survey directed at the universities upper and middle management. The survey was then followed up by qualitative data collection via semi-structured interviews with selected managers. For the survey, we employed a question-set developed for assessing digital ambidexterity, which measures factors within three overarching

areas "The organization's ability to work with Efficiency, Innovation, and Balancing of Efficiency and Innovation." For this part we have adopted organizational ambidexterity as an analytical lens to explore the universities endeavors to work with digitalization.

The two universities studied were selected to be organizations with different conditions. One university is a large single-faculty research-focused university with ample resources; the other is a multi-faculty educational-focused university with rather limited resources. This purposeful sampling is set to help us see if the different conditions could contribute to how they chose to organize and strategize for digitalization. Both universities were just starting to formulate their digitalization agendas/strategies at the time of the studies.

Findings

We find that both of the surveyed organizations are struggling with digitalization efforts. On the one hand, both organizations are focused on adopting digitalization to improve the efficiency of their existing organization and offerings. This is exemplified by both organizations spending most of their resources (personnel and funds) on maintaining existing processes and IT systems. On the other hand, both organizations lack an innovation-facilitating culture. We found that both organizations described that they did not have an organizational culture that allows for failures and the associated learning process. Instead, they primarily focused on avoiding risks. Both organizations also described that the research community had an innovation-facilitating culture, but it did not extend outside the area of conducting academic research. Thus, not aiding organizational innovation and change. We also found that both universities were struggling with how to enact digitalization within their organizations. None of the universities had any central functions for developing the organization (business/organizational development) but instead relied on bottom-up efforts for digitalization. While bottom-up approaches to organizational development are preferrable, we found two factors that hindered this approach. The first was the knowledge of what digitalization means and how it is realized. The managers in both organizations had low knowledge of what digitalization meant or could mean for their immediate area of responsibility or the larger organization. This prevented them from forming new innovative goals. The second was that the managers had little knowledge of how other areas of the organization (and even sometimes their own) contributed to creating value, in the end, for the organization. There was little cross-functional communication or development present in any of the organizations. This resulted in managers being reluctant to suggest any development outside of their scope or any at all since they were unsure of what the organization actually needed or how related areas were affected.

Conclusions and contributions

Studying how two Swedish universities, underpinning different organizational conditions, coped with digitalization efforts, we find that they share somewhat the same issues when facing digitalization.

Fredrik Liljeblad and Joakim Lilliesköld

The traditional organizational structure of a public sector university is ill-suited for pursuing the innovations needed to develop higher education digitalization.

Knowledge about what digitalization can bring needs to be introduced into university organizations in parallel with a culture of facilitating innovation and adopting cross-functional development.

Through this exploratory approach of comparative case study (n=2 cases), we contribute to the understanding of what hinders digitalization in public sector universities by identifying issues concerning both the organization of universities and the knowledge work of its managers.

Keywords: digitalization; digital transformation; ambidexterity; organizational change; university digitalization; public sector