IT Strategy in the Era of Digital Transformation: Case Higher Education

Pekka Kähkipuro[1]

[1]Brunel University London, Kingston Lane, Uxbridge, UB8 3PH, United Kingdom,
pekka.kahkipuro@brunel.ac.uk

Keywords
Digital transformation, Higher Education IT, IT capabilities, IT strategy.

1. SUMMARY

The role of IT strategy is changing radically with the progress of digital transformation. This is natural as IT is moving from a supporting role into the core of the business. Higher education is no exception: IT is now visible in the core business and in the supporting functions (Kähkipuro, 2015).

There is a new set of expectations for a successful IT strategy in the era of digital transformation. Moving into the core of business requires a new approach in target-setting and in the way IT's direction is defined. We briefly analyse the shortcomings of traditional IT strategies and how the additional needs have been addressed so far. While these approaches have allowed organisations to proceed with their digital development work, the outcome has often been an overly complex patchwork of strategy documents. To solve the issue, we propose a model where *digital capabilities* provide the underlying structure. This allows the inclusion of organisation-wide business aspects into IT strategy while keeping the role of IT clearly visible. The use of digital capabilities in the strategy blends the business with technology in a seamless way, just like in real life. Finally, we analyse how the new approach can be applied to the higher education sector. This demonstrates that the model works in practice and provides an example of using it in a complex and multi-faceted industry.

2. NEW REQUIREMENTS FOR AN IT STRATEGY

The purpose of an IT strategy is to show the way IT helps the organization to reach its goals. With digital transformation, the following additional viewpoints will need to be addressed:

- *Wider impact of IT*. Information technology is usually present in most activities taking place across the organization and its role is increasingly important. Some core activities, such as the delivery of on-line courses, can no longer be implemented without IT.
- *Core business*. Digital elements are increasingly important for differentiation in higher education. Digital experience can be used to attract both students and staff. Those institutions that are well prepared for rapid changes in their digital infrastructure are also better prepared for business changes, e.g. setting up new academic programmes for education and research.
- *Process and organisational integration*. Digital solutions typically span across organizational boundaries and it is often technology that provides the underlying links between different parties. For example, it is increasingly popular to use the same CRM platform for linking the full student lifecycle from recruitment and admission all the way to the alumni status.
- *People and structures*. Today, most business roles require knowledge on IT and, likewise, IT peopled are expected to have much deeper understanding of the business. For example, academic leaders are often information asset owners for business-critical information and, therefore, need new skills in information security and data protection.

3. ISSUES WITH TRADITIONAL IT STRATEGIES

Traditional IT strategies are not fully equipped to address needs emerging from digital transformation. IT strategy should cover areas that are beyond the scope of traditional IT work (McKeen et al., 2014). Typical examples include:

- *Business context*. In traditional IT strategies, the link to the business is often a one-way street where the IT infrastructure is expected to enable desired business changes as instructed.
- *Separation of business capabilities from information and technology*. Traditional strategy templates keep IT (and other) enablers separate from the "core" business.
- *People, culture, ecosystems*. Traditional business and IT strategies deal with people, culture and ecosystems with a layered approach: one approach is used for the business layer and another approach is used for the IT layer. Digital transformation brings these two layers together and the strategy needs to reflect this.

Due to the limitations of traditional IT strategies, organisations have often published separate "digital strategies" in addition to their IT strategies. While this provides an incremental workaround, the outcome is often complex and makes the implementation work more difficult.

4. USING DIGITAL CAPABILITIES TO BRIDGE THE GAP

The use of digital capabilities can bring clarity for dealing with digital transformation (Hentrich et al., 2016), and the model also works for the higher education sector (Kähkipuro, 2017). Capabilities have several characteristics that are useful in tackling the issues identified above:

- *Wider impact of IT*. Digital capabilities typically combine people, tools and processes across organisational boundaries. Consequently, IT elements get blended with business elements just like they do in real life.
- *Core business*. Some core business capabilities are completely dependent on the use of technology (e.g. on-line courses) and, with the capability approach, they will be addressed in their entirety without e.g. forgetting the required technology investments.
- *Process and organisational integration*. The capability approach allows the strategy to focus on processes rather than on organisational units. The focus will be on finding the optimal solution for the whole organisation rather than for the individual units.
- *People and structures*. With the capability approach, structures will be less important. Consequently, people will be more empowered, and the organisation can adopt different modes of operation depending on the skill sets that are available.

5. APPLYING THE MODEL TO HIGHER EDUCATION

In higher education, the above model leads can be implemented in several ways. One possible approach is to use the following grouping

- *Business driven capabilities*: education, research, professional services, business growth
- *Cross-cutting capabilities*: automation and self-service, cyber security and data privacy, digital content creation, digital project delivery
- *Organisational capabilities*: partnerships, governance, people: technical skills, digital scholarship
- *Future-looking capabilities*: business intelligence and analytics, artificial intelligence, etc.

Each group will need a separate approach but within the groups there are similarities and possibilities for synergies.

6. REFERENCES

Hentrich, C., Pachmajer, M (2016). *d.quarks: The Path to Digital Business*. Hamburg, Germany: Murmann Publishers.

Kähkipuro, P. T. (2015). Case Aalto University – Digital Transformation in Higher Education. In *Collin, Hiekkanen, Korhonen, Halén, Itälä, Helenius (eds.), IT Leadership in Transition, The Impact of Digitalization in Finnish Organizations*. Aalto University publication series, SCIENCE + TECHNOLOGY 7/2015, 81-88.

Kähkipuro, P. T. (2017). Essential IT capabilities for a successful digital transformation in Higher Education. *European Journal of Higher Education IT, 2017-1* (http://www.eunis.org/erai/2017-1/).

McKeen, J. D., Smith, H. A. (2014). *IT Strategy: Issues and Practices*. Essex, England: Pearson.

7. AUTHORS' BIOGRAPHIES

Pekka Kähkipuro is Chief Information Officer at Brunel University London since 2016. He is heading the Information Services Directorate responsible for ICT, Media, and Library services. Prior to joining Brunel, Pekka was Director of IT at Aalto University in Finland in 2010-2016 and, before that, he held various senior roles in the private sector including Nokia. He has been EUNIS board member on two occasions (2011-2015, 2018 onwards) and President in 2015. Pekka obtained his Ph.D. in computer science from the University of Helsinki in 2000.