2017

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Analysing Digital Transformation among Hungarian Organizations

PÉTER FEHER, ZOLTÁN SZABÓ & KRISZTIÁN VARGA

Abstract This paper presents the findings of a research on Digital Transformation, performed among the Hungarian companies in the first half of 2016. Investigated organisations consider digital business transformation as a key issue. Many factors influence Digital Transformation readiness: risk-tolerance, development of IT skills, and conscious management of innovations ideas. Adequately aligned IT strategy can be also a catalyst of digital strategies.

Keywords: • Digital transformation • Innovation sources • Digital strategy •
1 Introduction

In the new era of technology-enabled competition, many organizations have to deal with disrupting technologies, emerging new competitors, challenging IT-based innovative models. In many industries, digital transformation is a key enabler of future success or survival, by better connecting digitally with consumers, partners, by improving internal efficiency through improved process, by facilitating deeper insight and business intelligence, and by providing enhanced products and services (Capgemini, 2011).

The increasing use of integrating digital technologies (social media, mobile applications, business analytics and cloud based services) has a transforming impact on companies and on how their businesses work. The depth of changes is dependent on digital maturity. Digitally less-matured businesses have limited opportunities by concentrating on solving discrete business problems, using individual digital technologies. Digitally most matured organizations develop digital strategy based complex innovations to transform the business (Kane, et.al. 2015).

Digital business is a complex approach influencing all aspect of operations, provides several benefits, like improved transparency and control of operations, extension of IT based systems, data collection and analysis, increased integration of business applications, transforms analogue process to streamlined and efficient digital ones. Typical organizations have internal efficiency and operational focus, while the digitally matured organizations the priorities are: automation of processes, distant control and execution of procedures and automation of human activities.

Pressures for digital transformation are also present in Hungary. This paper presents the findings of a research on Digital Transformation, as a new and special part of our yearly IT management survey of Hungarian organizations. Research data were collected through anonymous questionnaires, and complemented with case study findings. The questionnaires were filled voluntarily, mostly by top and mid-level executives. Our survey panel consists of over 100 Hungarian organizations, that have critical IT infrastructure, they are valid representatives of conscious Hungarian information management practitioners. Most of the respondents were invited through the Hungarian professional communities (CIO Association, itSMF Hungarian Chapter). Almost 19% of the organisations are micro or small enterprise, 27% are medium-sized enterprise, and 54% of them are large-sized enterprises. Organisations both represent the public sector (22%) and the private sector (78%).

Our goal was to explore the attitude of Hungarian companies towards the concept of digital transformation, to identify patterns in the implementation or plans, and to provide a deeper understanding of the problems and impediments of digital transformation oriented initiatives.
Based on the survey our intention with this article is to investigate the following issues:

- **Strategic perspective**: How do companies integrate digital transformation concepts to their strategic planning, especially to IT related strategic thinking?
- **Innovation perspective**: What are the origins of innovative ideas in organizations, how do they explore new opportunities?
- **Implementation perspective**: Are the Hungarian organizations prepared for digital transformation? Have they the necessary competencies and resources? What are the major enabling/inhibiting factors?
- **Technology perspective**: What are the relevant IT initiatives, innovative technologies that are frequently used in Hungarian companies?
- **IT organizational perspective**: What is the role of IT units in digital transformation?

### 2 Survey Results: Digital Transformation in Hungary

Research results confirmed that the investigated organisations consider digital business transformation as a key issue. The research also points out that there are many uncertainties on the way towards digitization: organizations cannot foresee the challenges and opportunities, and only some of them marked out clearly their digital business strategy, or even just a few implemented digital transformation projects. Most of the companies are not so enthusiastic about the risk related to the introduction of innovative digital solutions.

#### 2.1 Digital Strategy

Bharadwaj et al (2013) states, that a digital strategy should be different of traditional IT strategy. An organization’s IT Strategy should focus on business needs, the ability of IT to meet those needs, how to close any gaps, how decisions will be made and how to measure progress (CIO Magazine, 2008). Dave Aron (2013) from Gartner stated, that IT Strategy is a technical answer to a business question, while Digital Strategy is a business answer to a digital question.

So, digital strategy in a cross-functional strategy, that address all functions and processes of an organization. The role of IT strategy is to fulfil the requirements of the digital strategy, that is interpreted as a business strategy.

Our research showed, that almost half of the surveyed organizations include digital transformation issues into their organizational strategy, while a little more than a quarter of the organizations include digital transformation questions into their IT strategy. Moreover 10% of the organizational have an independent digital transformation strategy, and 15% of the organizations have no digital strategy at all.
The results partly follow the insights of Bharadwaj el al (2013), as most organizations integrate digital questions into their strategy, but there is still a huge number of organizations which still believe the role of IT in these questions.

Moreover, if we analyse how the business and IT strategy is related to each other, we can realise, where strategic alignment of business and IT could be accomplished, higher share of business integrated digital transformation is present (65% vs. 50%), and there is no independent digital transformation strategy at all. Companies developing IT strategy as a derivative of the business strategy are less interested in digital transformation, some of them have an independent digital strategy, and the IT unit's influence on digital strategies is weaker. Companies having integrated business and IT strategic planning are more active in digital transformation, and they tend to involve digital innovation to their existing planning activities. Based on these results, an adequately aligned IT strategy can be a catalyst of digital strategies.
2.2 Innovation Process - The Origin of New Ideas

Even though there is the willingness and implementation capacity, solutions are needed that meet external (customer) and internal (staff) requirements. Therefore methods and approaches of idea-generation and collection in companies are key issues.

Figure 3: Both external and internal sources support digital transformation (1-5 scale)
Based on the survey results idea-collecting activities of companies are somewhat stronger than the medium in average, but there are various levels of emphases on the different sources of innovative ideas. The two most important area mentioned are the external (customer) and internal (employees) related ideas, there is no significant difference between the importance of these sources. Companies put much less emphasis on systematic exploration of the operations, collection and evaluation of data related to operations.

In addition to these feedback sources the statistically analysed data and focused customer and employee data collection, process monitoring, problem detection may be the best basis for organizations to identify the improvement opportunities of activities, processes customer experience.

Although placed backward in the survey, outside opinions (analysts’, consultants’, supply chain representatives’, or partners’ and competitors’ experiences and ideas) can be also a valuable source of innovation.

3 Planning and Implementation

Recently many CEOs generally understand the strategic opportunities and threats of digital transformation, and developed a vision or even a strategy for their companies to initiate changes. On the other hand, most organizations have only insufficient skills and knowledge in digital business, which can be a major impediment of executing the digital strategy (HBR 2015).

Digital transformation has become the major facilitator of business success, it provides new approaches to optimise processes, improve data analysis and extend customer relationships. Although technology can be mentioned as a key enabler of recent business innovations, it is generally accepted that strategy is the key driver in the digital arena (Kane, et.al. 2015).

The digital business transformation can bring significant changes in the life of organizations, but it means also significant risks. This dichotomy can be observed in most of the companies: despite the importance of digital transformation for many organizations, organizational readiness is a key factor in the assessment of risks. While the domestic entities reported the strategic importance of the issue (on a scale of 1-5, 4.15), they evaluated their own preparedness to a much lower level. Organizations estimated their technological knowledge and skills necessary for digital transformation just slightly higher than the medium level.
Figure 4: Despite importance making it happen is not trivial

Lack of clear vision and mission is a top barrier mentioned in international research (Rich, 2017), just as cultural and organizational issues. From this perspective, the situation is promising (the importance of the digital transformation is generally accepted), but the key aspects of the implementation capabilities are just slightly better than medium. Culture of innovation is not the strongest feature of many organizations (Capgemini, 2011), so the Hungarian results are also not surprising.

In this sense, we can understand the risk-avoidant behaviour of the organizations, since taking a risky step requires preparation and knowledge:

- Employees should have IT knowledge and digital skills (and it is not just the privilege of the IT staff), and organizations should consequently develop these skills
- The organizations should consciously monitor and evaluate technology trends, innovative solutions should be piloted
- Companies should set up a group with well-defined goals, roles and responsibilities to implement digital transformation.

According to the results of Weill and Aral (2006) high IT savviness is originated from five characteristics of successful organizations, amongst them companywide IT skills and management involvement. Our results showed that companies recognized the strategic importance of the digital transformation, but the implementation related competencies should be developed further. Analysed companies evaluated their ability to give quick response to the fast environmental changes at lower than medium level, so the implementation capability should be significantly improved.
Most of the leading service providers reported in a survey (Rich, 2017), that they are still in the early stages of their transformation program. The overall observation of our survey was somehow similar, but in Hungary many companies are just in an experimental phase, complaining about many issues – lack of experiences, lack of skills, etc.

The Role of IT in Digital Initiatives

In 2016 digital transformation primarily occurred in cloud and mobile platforms, but companies improved their communication technologies and great attention was paid to the integration of social media solutions. The transformation does not only mean the introduction of IT solutions, but also requires the change of organizational operations or the transformation of processes, even with the introduction of radical, new solutions. Our results are similar to other surveys (e.g. BT (2016), where the most widespread disruptive technologies are the cloud (58%), mobility and collaboration (54%); while the popularity of data (BI, big data) related initiatives were much less frequently mentioned in Hungary (19%) than on international level (52%).
The organizations in our research think, that IT knowledge is necessary to the digital business transformation in all areas – the difference may be in the extent. Not surprisingly, the leader of the list is the IT area, but more importantly, the responders evaluated the existence of digital knowledge in most areas higher, than 'medium'. What's more, the business respondents evaluated digital knowledge in marketing, finance, accounting and logistics more important compared to respondents from IT.

While IT knowledge necessary for the business transformation is required from IT professionals by organizations, the role of IT seems to be more supporting: to address security issues, the implementation capacity (supplier management, development, project management), architecture design. Interestingly, participation in innovative projects (initiation or execution) pushed to the end of the list – but it is worth noting that even this category is stronger than 'medium' (1-5 scale: 3.84 and 3.77).
It seems that IT, and IT leaders have to manage an interesting situation: their knowledge is essential to the successful implementation of digital business transformation, but our research showed that in the making of ideas or innovation business areas do not rely on them. Business areas often go their own way, and involve IT areas later – sometimes too late. As evidence, we have seen that most organizations consider the digital transformation strategy distinct from IT strategy, and they put the emphasis on business issues such as how will my business processes change, what can be used from an existing digital toolbox. Since the use of cloud services is increasingly widespread in Hungary, it can happen easily that business areas decide to use IT services without involving the IT - then of course they need integration, standardization, and raise security issues. This leads IT to lose control and the opportunity of proactiveness.

5 Conclusion

Our research results showed that the Hungarian companies have a positive attitude towards the digital transformation concept, the general level of awareness is high. Among the analysed topics we discovered some general patterns:

- Maturity in Strategic alignment has a positive effect on digital transformation planning and initiatives.
- Companies combine external (customer) and internal (staff) innovation ideas, and less active in other potential sources of digital transformation initiatives.
- technology is a key enabler of digital transformation, cloud based application and mobile initiatives are still very popular.
There are also many problems related to the concept:

- The implementation capability should be significantly improved.
- IT knowledge and skills are important not just for the actual development, but for the awareness rising and idea generation.

The current question that IT managers face nowadays: what will be their role in digital business transformation, and what extent can they remain part of the whole process? While the IT area is best suited to identify and test new technologies, it will have to evolve in order to comply with users', customers' needs, and offer services in business language. Another important area to be developed is speed: if IT is not capable of quick changes or supply fast solutions, business areas can take over control.

Acknowledgement

The publication was prepared within the Széchenyi 2020 program framework (EFOP-3.6.1-16-2016-00013) under the European Union project titled: „Institutional developments for intelligent specialization at the Székesfehérvár Campus of Corvinus University of Budapest“.

The authors wish to acknowledge the support of the Hungarian CIO Association, and itSMF Hungarian Chapter.

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