


Chapter 1

Digitalization Strategies in the New World Order: A Conceptual Study to Understand Digitalization Strategies

Burak Çapraz

 <https://orcid.org/0000-0002-4631-2080>

Ege University, Turkey

ABSTRACT

Digitalization in organizational context enforces organizations to define their own strategies. In this sense, organizations make their choices from a variety of digitalization strategies from IT strategy to digital orchestration strategy. Organizational digitalization, their digitalization capabilities, and transformations that they have experienced define their routes in the digitalization process. Thus, the purpose of this chapter is to present digitalization strategy choices mentioned in the business management literature through examples.

INTRODUCTION

For all organizations, the importance of resource dependence and transaction cost theories sharply rise in the new world order. Triggering effect of trade wars, fluctuations in both national and international economies, movement of the workforce and capital, development of new technology enforce governments to make strategic decisions to sustain their national competitiveness. The great economic collaborations among countries such as NAFTA, EU etc. are no longer itself a competitive power source while these relations among nations are becoming more fragile. Capital movements as an important factor in the world economy, are in search of more secure harbors where they can get greater benefits. All these changes put a remark not only on governments but also on companies where resource dependence is greater and cost-based competition is higher.

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In this competitive world, organizations are dealing with the problems of technology adaptation. Automation systems, enterprise resource planning systems, and business process management systems are examples of core areas in technology adaptation process that many companies have put their concentration on. Results are the minimization of the workforce but maximization of talented ones and minimization of costs in internal and external transactions. Digitalization efforts for many organizations have already started years ago. But what puts digitalization more in focus today is the existence of aggressive global competition and the increasing global risks.

Digitalization cannot only be linked with the encoding of information. Yoo et al. (2010) state “digitalization goes beyond the technical process of encoding information in digital format and involves organizing new sociotechnical structures with digitized artifacts”. Digitalization should also be related to creating knowledge. With the knowledge, digitalization of organizations enables them to show more adaptive behaviors in markets by decreasing costs, decreasing inaccurate product and service rates by digitizing information and recruiting more talented workforce.

BACKGROUND: DIGITALIZATION

Even digitalization is talked much among organizations, how they can be digitalized is still a question mark. The prior issues for organizations to decide are “what really digitalization means for them”, “what are the needs for digitalization”, “what are the capabilities of organization for digitalization”.

Not every organization can be digitalized. Organizations may not even need digitalization. It is necessary for an organization to define very carefully what outputs it expects to achieve in the context of digitalization. Sometimes it is possible to achieve organizational goals only by improvements on the IT system or IS system without a high level of digitalization. For this reason, digitalization should not be seen as an application that provides automation or data recording. Organizations should be aware that digitalization can bring high costs to the organization. If the emerging costs do not cover the investment, digitalization may not be the right choice for the organization. However, it should be kept in mind that even the steps toward digitalization create costs. Taking new steps with the help of learning and experience curves in the digitalization process can create advantages both in terms of cost and time.

IT Strategy and IT infrastructure can sometimes be seen as business strategies. Within the IT infrastructure, there are factors affecting digitalization.

Data collection: Although the importance of data collection in an organization is important, the quality of data collected, processed and stored is becoming more vital for digitalization practices. In the context of system analysis, the problems are encountered in the determination of the data generated areas, sources of data (autonomous systems, semi-autonomous systems, manual systems), data collecting sensors (autonomous / non-autonomous), transmitters (labels / barcodes / QR code) and so on. “Smartization” is the critical concept behind the importance of these data generating areas. Smartization of products are also increasing competition among firms (Porter & Heppelmann, 2014, 4). The data transmitters’ calibrations and error frequencies, and the software and hardware capabilities of the registered IS systems affect the data quality. Any decrease in data quality quickly can reduce the confidence in digitalization and increases the resistance of the staff to digitalization related applications. According to the study in Deutsche Bahn, Ehmke (2017: 181) also points the risk of information loss and states aggregation and disaggregation of data must take place on many decision levels.

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