Digital Business Transformation – Research Opportunities

Dr. Kabaly P Subramanian & Dr. Rengarajan Veerasamy
Arab Open University, Sultanate of Oman

Introduction

Digital technologies - social, mobile, analytics and cloud - are making significant transformations on organizations, industries, society and most areas of human activity. Digital technologies can be classified into four (non-mutually exclusive) categories: 1. Efficiency technologies (e.g., "cloud technologies"), 2. Connectivity technologies (e.g., 5G technologies and IoT), 3. Trust disintermediation technologies (e.g., blockchain), and 4. Automation technologies (e.g., big data and artificial intelligence).

Digital transformation is a multi-faceted phenomenon that originates from the synchronous adoption of the bundle of digital technologies to transform institutions, industries and organizations with a view of managing competition and creating value for customers and other stakeholders.

A study by Massachusetts Institute of Technology suggests digitally transformed businesses are 26 percent more profitable than the traditional businesses. IBM Institute for Business Value (2017), states "markets have evolved from organizational centricity, in which manufacturers and service providers largely define what to produce and market to customers; to individual centricity, in which consumers demand insight driven, customized experience; and into a radically different economic environment today" (Berman et al., 2016).

Digitization to Digital Transformation

'Digitization' refers to conversion of analogue information into digital information, while 'digitalization' refers to the use of digital technologies to optimize business processes and Digital transformation involves innovative business models which provide new revenue and value-producing opportunities; it is the process of moving to a digital business (Gartner, 2017). Organizations go through digital transformation in different phases. It starts from Digitization to Digitalization to Digital Transformation.

Digital Transformation

There is a considerable interest in Digital among scholars and practitioners given its enormous potential impact on products, services, innovation processes, and business models (e.g., Andal Ancion, 2003; Lyytinen et al., 2016; Nambisan, 2017). To sustain in this new world order, Organizations need to integrate these digital technologies and improve capabilities to alter processes, involve talent and drive new business models to compete and succeed in the digital world. Primary goals of organizations are to improve customer experience, rise efficiency, better innovation, improve decision making, transform the business.

Digital transformation explains the deep-seated changes in industrial and organizational activities, processes, and capabilities required to appropriate the opportunities and respond to the challenges produced by the new digital paradigm, including a large array of enabling technologies, such as the Artificial Intelligence (AI), Internet of Things (IoT), Additive Manufacturing (3D Printing), Big Data , Cloud Computing, Augmented and Virtual Reality (AR and VR), and Blockchain (Rindfleisch et al., 2017).

Successful digital transformation goes hand in hand with reengineering and optimization of business processes in the most appropriate way for the strategy. Digital transformation is only a result of how we can think we can remain relevant for our customers and serve their needs best. It is about re-inventing the customer experience at all customer touchpoints, streamline and optimize internal processes and operations and migrate customers from physical to digital channels. Digital

transformation is all about engaged customers, empowered employees, transformed products and optimized operations. (Berman,2012).

Goals of Digital Transformation

According to leading consulting companies like McKinsey, PwC and Delloite, The primary goals of digital transformation initiatives are : increasing efficiency, improve existing business models and processes, improve customer experience and engagement, improve employee experience and engagement, accelerate and facilitate innovation, build and strengthen digital mindset and culture, Improve decision making, Implement fundamentally new business models, support talent management and recruitment.

Digital Business Transformation

According to Reis et al (2018), Digital business transformation can be defined as the use of innovative digital technologies that can significantly improve the business processes and influence the stakeholder's value, particularly customers. Digital business transformation consists of several elements as identified different studies: business model, organizational structure, digital skills of employees, digitization of business processes, IT infrastructure, digitization of products / services, digital channels for interaction with clients. Digital business transformation is only possible through transformational changes in strategy, leadership and organizational culture. Organization transformation studies has shown that successful digital-based business have a clear strategy, commitment to senior management with change, motivated employee involvement in the process, and focusing on changes to customer needs and interests.

In digitally transformed context, everything will be connected and secure, intelligence will be embedded everywhere, everything will be understood through data. Data will be the new oil. Big data and data analytics will provide necessary insights. Real time will be new just-in-time. Successful organizations must leverage strategy, culture and leadership to reap the potential of digital transformation of business. The organization need to be creative and innovative compared to their competitors. Leadership need to have enough skills, experience to lead digital strategy.

Opportunities for Research on the phenomenon "Digital Transformation"

Recent call made by Academy of Management Discoveries (2018), highlights the opportunities for research in this emerging phenomenon categorized into three major themes. This includes

1. **Digital transformation institutions and strategy**
   - How do regulations and digital technologies co-evolve?
   - Who are the major players in adapting regulations to face a more digital world?
   - What are the processes by which individuals and organizations come to an agreement about needed regulatory changes?
   - How are the players and processes involved in regulatory change different for responding to digital transformation compared to previous regulatory changes?
   - How do regulation and digital transformation change the influence of economies of scale, and thereby increase or decrease the likely concentration of markets?
   - How do digitalized organizations arbitrage between different regulations to design their entry strategies?
   - In what industries is digitalization more likely to increase the use of a platform model? Does digitalization facilitate innovation in such industries, or does platformization constrain the scope of potential innovation?
   - How do these changes influence the number and diversity of competitors in an industry? What do we need to understand about consumer welfare with respect to these changes?

2. **Digital transformation, business models, organizational learning, and innovation**
   - What are the mechanisms that organizations should activate to reconfigure a business model to face digital transformation? Do they change across industries? How do organizations coordinate multiple business models wherein some may be digitalized and others not?
   - Does digitalization increase the frequency at which firms introduce new products or platforms, or the scale and scope of their collaboration with other individuals or organizations? How does it shape the organizational design? How does digital

transformation enable new organizational forms and new ways of thinking about organizational boundaries when there is an increasing level of connectivity among products?

- Is digitalization more likely to transform organizations in some industries more than others? Are there particular types of organizations better positioned to benefit from digitalization?

- Does digitalization of organizations diminish, substitute or reinforce the role of geographical distance in competition and collaboration? How does digitalization transform the way that innovation is achieved in the large multi-location firm? Does digitalization increase the likelihood of knowledge (and innovation) spillovers?

- How do digital technologies shape organizational coordination and generate new organizational design, if any? What is the effect of digital transformation on organizational learning and knowledge creation? How to integrate internal knowledge of employees and external expertise from new working arrangements? How much does the use of digital technologies affect knowledge transfer? How should organizations balance new internal capabilities with outsourced skills accessible via platforms and communities? What is the effect of new digital competences on the localization of knowledge within the organization?

- How does digital transformation change the mix of workers that we need in particular industries, and what are the implications for training and education? How do institutional traits, such as culture, influence the (new) composition of internal and external workers?

- The use of new working arrangements affects the degree of internal specialization of an organization. Will digital transformation cause jobs to become increasingly specialized or increasingly broad?

- How much do trust and personal network ties (still) affect the creation of organizational knowledge? Are there digital substitutes for the interpersonal trust and knowledge that we have typically assumed emerge only through frequent interpersonal contact?

3. **Digital transformation, individual career choices, capabilities and cognition**

- How does digital transformation affect career choices? How does it reflect on organizational performances?
- How does digital transformation shape reciprocity, empathy and emotional capabilities within the organization?
- What is the effect of the use of digital technologies on friendships and informal communication in organizations?
- What is the role of digital tools in individuals' searching capabilities?
- Do digital tools extend or limit individual cognition?
- What are the effects of artificial intelligence and digital technologies on creativity, imagination, and intuition?
- How do artificial intelligence and digital technologies shape cognition and framing within an organization?
- How should organizations overcome resistance in using digital technologies and AI?
- How does the use of AI and digital tools influence strategic decision-making?
- Does the support of AI and other digital technologies increase the scope and accuracy of managerial attention and reduce errors? What known biases may digital technologies reduce or exacerbate? For example, does training AI systems on flawed heuristics amplify prior biases? Are there new biases that digital transformation may create?
- Which parts of the strategic decision-making process are likely to be outsourced to intelligent machines and what are the likely effects on organizational performance?
- How will the role of managers change if decision-making is outsourced to machines?

There is lot of action happening in "Digital Transformation" space across the globe. This brings new opportunities for academic scholars for investigating into this phenomenon. Such investigations will be a great contribution to the world.

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