

Literature Review: Understanding information systems strategy in the digital age

Bibliographic Data

The completed research paper was written by R. Alexander Teubner, and Jan Stockhinger, entitled: "Understanding information systems strategy in the digital age". It was published in December 2020 in the Journal of Information Technology Theory and Application (JITTA).

Theme of the paper

The paper falls under the scientific area of information systems strategy in the digital age, the specific topics discussed in the paper include the challenges of digital transformation, the role of technology in business strategy, and the importance of aligning business and technology strategies. The keywords for the paper include digital transformation, information systems strategy, and technology alignment.

Synthesis of the paper

The paper discusses research articles, conferences, and textbooks, regarding their usage of terms such as "information", "technology" and "system" in relation to "strategy". It also researched the definition and difference between digitalization and digitization. The papers discuss the usage and connection between business strategies and IT/IS strategies and how their hierarchical systems are changing.

The first research question the authors tackled was about the quantitative effect of digitalization in the IT/IS strategy debate. And the research yielded results that showed a spike in articles about IT/IS strategy in the late 80s and 90s, where they first found the business potential of IT and its potential competitive impacts. The interest then dropped as authors believed IT didn't have the potential to achieve sustainable competitive advantages and served only as a commodity. Over the last decade, the interest has been increasing again as alignment between IT strategy and business strategy is being widely recognized as an important factor to survive in the current digital era.

As for the second research question, two approaches were combined to capture the specific influence of digitalization: the literature review from 2008 to 2018 focused on the use of the terms "digitalization" and "digital transformation," and the formulation of a working definition of digitalization. The definition of digitization considered the interaction between digital technologies and the social and institutional processes that shape modern society and the economy. IT/IS management textbooks were analyzed to understand how digitalization has influenced teaching about strategy. Textbooks already established in the market in editions three or more were selected to ensure academic relevance and to allow the analysis of changes made to editions over time. The study showed that digitization found its way into all the textbooks analyzed but in different ways. The literature review identified 141 research articles that contributed to the IT/IS strategy debate. The analysis of these articles showed that research on IT/IS strategy has changed from previous periods, but not in fundamental ways. Only a small proportion of the articles explicitly referred to the phenomenon of "digitization" in the title or abstract.

Rather than having found a revolution in IT/IS strategy research, five new research trends were identified as an answer to our second research question:

1. Researchers explicitly recognize that IT/IS strategy-making should not stop at an organization or industry boundaries, but should involve a broader, cross-industry business context.
2. Researchers pay specific attention to the accelerating environmental change driven by digital technologies.
3. While researchers have traditionally investigated the exploitation of IT in support of the business strategy, IT/IS strategy is increasingly recognized as being corporate-wide and enabling business strategy. Consequently, recent research is interested in exploring new valuable uses of IT as opposed to exploiting the potential of IT in known ways.
4. We note the trend in the development of resource-based theories to extend the view of IT resources and capabilities to business capabilities enabled by IT; these resources are not conceptualized as separate sets of IT assets and skills but are associated with co-specialized business capabilities, especially with capabilities assumed to be critical in the digital age.
5. The IT/IS strategy concept has broadened to recognize the interconnectedness of business and IT. Some scholars even propose replacing IT/IS strategy with the broader concept of a "digital (enterprise) strategy."

Then the paper starts defining IT/IS strategy and discussing the importance of IT/IS strategy in enabling organizations to achieve their goals and gain a competitive advantage in the market. The authors also discuss the evolution of IT/IS strategy over time, from early approaches that focused on technology as a means to an end, to more recent approaches that view IT/IS strategy as an integral part of overall business strategy.

The study then examines how digitalization has affected IT/IS strategy. According to the authors, digital technologies have fundamentally altered how IT/IS is implemented and managed within enterprises, in addition to accelerating its pace and scope. The transition from centralized, hierarchical IT/IS structures to more decentralized, networked structures with IT/IS integrated across the enterprise is specifically highlighted by the authors.

The main differences to the traditional perception of IT/IS strategy are that digitalization made departmental plan obsolete, as it does not provide adequate response because digital IT/IS is now the heart of doing business, the creation of a new approach Digital Business Strategy (DBS) that refer to new concerns in business strategy making raised by digital technologies. Also, digitalization brought digital ecosystems that are more dynamic than traditional supply chains as new firms can join and leave without putting value generation at risk. Finally, companies changed their architecture and governance approaches, developing an "IT/IS management strategy". This strategy answers the question of "who" takes responsibility for IT/IS in the organization and "guides how the organization should run IT/IS activities" - information function strategy.

The paper's major conclusions are that businesses must adopt a holistic approach to strategy development and implementation if they are to succeed in the digital age, and that information systems strategy is essential for that success. The authors contend that firms can utilize technology to further their overall objectives by coordinating their business and technology strategy.

Questions and reflection

1. How can organizations balance the need for innovation with the need for stability and consistency in their technology investments?
2. How can organizations overcome resistance to change and ensure that all stakeholders are aligned around the organization's strategy?

As I would see it, the paper offers valuable insights into the importance of information systems strategy in the digital age, the authors provide a comprehensive overview of the challenges and opportunities in this area and offer practical guidance for organizations looking to develop effective information systems strategies.

Later on, I accept I will be more mindful of the significance of aligning business and technology strategies, and the need for a holistic approach to information systems strategy development and implementation.