

The Important Aspects to Transform a Digital Organization: Examples of a Traditional Organization and a Public Company in Thailand

Yuwarat Srisupawong, Kanyuma Kamata, and Noritsugu Kamata

Abstract—In a new digital economy, consumers are using social media, smart mobile, cloud, etc. to interact with business products and services. All industries have to conduct their key operations supporting new digital technologies. To get a deeper understanding of digital transformation, this article reveals the literature about the related factors of digital transformation by focusing on the research question: What are the crucial aspects of digital transformation? The results of a review showed that the key areas of success associated with the balancing from four dimensions of the digital transformation strategy, a customer engagement or experience strategy, a digitalized solution strategy, the characteristics of a digital leader, and the guiding of the digital adoption. These are the central concepts helping organizations journey with digital transformation. However, the success of the digital transformation is not easy to do and complete within a few years. A big old company needs to re-engineer organizational structure and processes, and encourage staff to understand the digital culture and customers to engage in the corporate products and services.

Index Terms—Digital transformation, digital organization, digital technology, digital transformation strategy.

I. INTRODUCTION

In recent years, many industries explored new digital technologies concerning the related advantages and benefits toward organizational operations including products, services, and processes [1]-3]. New digital technologies mainly refer to SMACIT – social, mobile, analytics, cloud, and internet of things [2] which influence organizations' transformations of key business operations. To transform the traditional business operations to digital technologies is the challenge of nowadays organizations [1], [4]. The report of the International ICT Literacy Panel since 2002 from the representatives of Australia, Brazil, Canada, France, and the United States mentioned that there was numerous and vital growth of digital transformation around the world. Digital technology has been involved with people's everyday life and influenced various communities such as organizations, schools, and homes [5]. In Thailand, the digital economy master plan (2018-2021) emphasized the development of the digital economy, workforce, and infrastructure normally called “Thailand 4.0”. The goal of Thailand 4.0 relates to

promoting the digital transformation to the country's economy, culture, security, and society. The government initiated over Bt1,096.62 million of the investment to encourage digital industries and businesses. Moreover, digital awareness and public realization are also pushed into digital technology development and innovations to achieve the national goal [6]. Examples of governmental projects which relate to digital transformation operations are one-stop service – a single point of e-government services using a national identity card to verify oneself, e-payment (e.g., Prompt Pay) - cashless society, and national single window (NSW) - international trade facilitation to exchange digital data for national import, export, and logistics operations, etc.

According to the rapid change of digital technology toward business, this study intends to review the factors which are essential to transform a company into digital by focusing on the research question: What are the important aspects of digital transformation? The following sections present the result of a review of literature about the concept of the crucial factors and the adoption of digital diffusion that influence the navigation to a digital organization.

II. KEY SUCCESS FACTORS TO TRANSFORM A TRADITIONAL ORGANIZATION INTO A DIGITAL FIRM

There are various concepts of strategies to explore and integrate digital technology into organizational operations and activities. The operations between traditional and digital technology always require different management practices. For example, waterfall approaches are associated with conventional operations in contrast to cross-functional development. Existing information technology (IT) strategies usually focus on IT infrastructure rather than new digital technology development and innovations. IT strategies have limited to drive an innovation organization. They generated the restrictions of customer-centric and product-centric. Digital transformation strategies are the consolidation of IT strategies and business strategies, and the transformation of new digital technologies (SMACIT) into business operations that have different purposes and goals depending on the business perspectives. These strategies focus on the organizational products, processes, and aspects and guide organization's leaders to create new values by combining the organization capabilities with new digital technologies [1], [2].

The previous studies demonstrated that there are many factors of the mentioned strategies influencing digital transformation. They concluded that the important aspects or challenge dimensions for establishing a digital organization

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are financial resources, technology usage, structural change, and change in value creation [1], [7]. In addition, customer experience or engagement is one of the major factors of digital transformation [2], [7]-[10]. Strong leadership is also important to drive change an organization to digital [1], [9], [11]. Mindset is one of the hardest parts which is needed to change before taking action of digital activities [12]. The following details are the important keys that contribute to helping organizations achieve their goals.

A. Four Dimensions of a Digital Transformation Strategy

The four essential dimensions are 1) the use of technologies – organization’s attitude toward digital technologies and abilities to decide on technology usage or create own technological standard to fulfill business operations, 2) change in value creation – the impact of a digital strategy on a company’s value chains: how far new digital technologies (e.g., using in activities, products, and services) differs from the existing core business, 3) structural changes – organizational setup of new digital activities into a business structure and reducing hierarchical levels and 4) financial aspects – financial pressure toward a company’s act [1], [7]. The four dimensions are a part of the digital transformation framework which supports corporate to assess their current abilities and their capabilities to transform into a digital firm. The balancing of the four dimensions is crucial for a digital transformation strategy (Fig. 1). It is necessary to assign clear responsibilities and scope for a digital strategy’s implementation [1], [7].

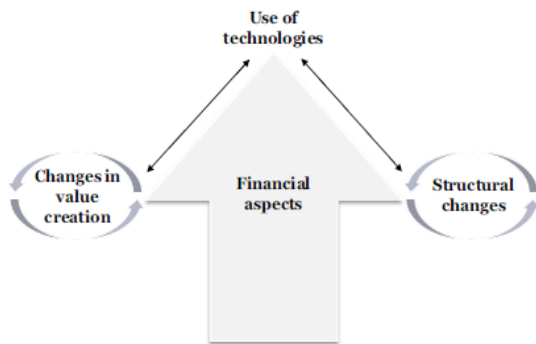


Fig. 1. The balancing of four dimensions [1].

B. A Customer Engagement Strategy or a Customer Experience Strategy

From the study of Ref. [2], the result from 25 companies of samples indicated that 8 of them pursued a customer engagement strategy. Thirteen of them pursued a digital strategy, and others did not show a clear strategy to use. For instance, Amazon uses a customer engagement strategy from building customer loyalty and trust by creating personalized, innovative, and integrated customer experiences. This strategy provides easy access to order, inquiry, pay, and receive support through any company channel. The growing customer repository can apply a better understanding of varying customer demands. Kaiser Permanente, a healthcare organization, has shifted from the hospital-centric view to the patient-centric view. CIO gave “We need to make it easy for people to get access to care anytime and anywhere preferably from any device.”. A customer engagement strategy helps a company achieve higher customer satisfaction and loyalty. Moreover, increasing customer experience by understanding

customers’ needs and expectations assists the improvement of organizational operation which reflects the digital change [7], [9], [10]. Besides, Ref. [8] emphasized ““to succeed in digital transformation leading companies’ focus on two complementary activities: reshaping customer value propositions and transforming their operations using digital technologies for greater customer interaction and collaboration.””. Boosting a better customer experience, corporates can reshape the customer value proposition in products and services (e.g., information and customer engagement) in 3 stages: 1) enhancing corporates’ products and services with digital content by creating the difference in their brands, 2) extending the existing products and services by adding new revenue streams and 3) redefining core elements to digital and creating digital value and revenue (Fig. 2) [8].

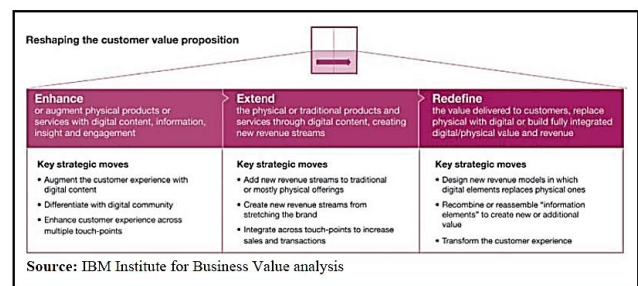


Fig. 2. Three stages for reshaping the customer value proposition (as cited in Ref. [8]).

C. A Digitalized Solution Strategy

The strategy intends to reformulate the corporate value proposition by integrating products, services, and data which is driven by research and development (R&D). R&D efforts search for expectation and innovation rather than response toward customer needs. Steve Jobs, the previous chief executive officer (CEO) of Apple Company, trusted his instincts to introduce an innovation to the company. Apple tried to imagine what things could do for customers by offering a digitalized solution strategy [2]. Digitalized solutions may help companies shift the revenue from selling products to recurring ongoing services [13]. Some companies apply analytics, a part of digitalized solutions, to develop predictive models and smart algorithm distinguishing their products and services from competitors. Two main technology-enabled assets, an operational backbone and a digital service platform, are essential to transform organizational operations into digital technologies. An operational backbone automates efficiently repetitive processes of operations, whereas a digital service platform supports rapid development and implementation of innovations (e.g., a variety of technologies and business services, a massive amount of data, data analytics with meaningfulness, connecting data and processes with an operational backbone) [2].

D. Strong Leadership: Chief Information Officer (CIO) VS. Chief Digital Officer (CDO)

At present, there is no clear who should be the leader of digital transformation. Potential candidates, CIOs or CEOs, can be a business transformation manager or CDO [1]. CDO role associates to transform a firm into a “digitally

empowered and customer driven” [11]. CDO should be a person who has enough experience to manage digital transformation projects and is responsible for a digital transformation strategy and digital processes. He should also have strong transformational leadership skills and active involvement [1], [9], [11]. Besides, a cross-functional character, cross-functional and operational strategies, IT strategies, and organizational perspective are the aspects of a digital transformation strategy that CDO should understand and be able to manage [11]. A comparison table of CDO and CIO positions is following (see Table I).

TABLE I: COMPARISON OF CDO AND CIO POSITIONS [11]

Characteristics	CDO	CIO
Responsibilities	1. Digital mobilization 2. Initiation of digital 3. Company collaboration	1. IT development 2. IT support
Strategic perspective	Digital transformation strategy	IT strategy
Specialist role	Digital transformation	IT specialist

III. THE ADOPTION OF DIGITAL TRANSFORMATION DIFFUSION

The theory of diffusion of innovation (DOI) of Ref. [14] helps people clarify the characteristics of innovation adoption. They are 5 main characteristics: 1) relative advantages - the efficiency of innovation related to organizational processes, 2) compatibility – innovation fits the existing processes, 3) complexity – the degree of innovation is difficult to learn or use, 4) observability – the result of innovation can visible to others, 5) trialability – the degree of innovation can be experimented with. Furthermore, a meta-analysis of Ref. [15] concluded that other essential characteristics of innovations’ adoption are also important: costs, communicability, divisibility, profitability, and social approval. The study of Ref. [16] reported 1,415 companies from six European countries about the characteristics of the adoption of digital innovation diffusion in the stages of usage and impact. They confirmed the theory of Ref. [14] and a meta-analysis of Ref. [15], and added that security concern was a unique characteristic for e-business. The result showed that the innovative characteristics: relative advantages, compatibility, security concern, and costs respectively are the important factors of innovation diffusion among companies. First, they mentioned that relative advantages are the significant factor to drive the organizational usage of IT innovations which are beneficial to companies for the expansion of the international market, increasing sales and profitability, business performance improvement, and the reduction of operational cost, transaction, and coordination cost. Second, the compatibility factor has been demonstrated in the usage of a firm. This factor relates to the degree of innovation that is compatible with the firm’s business processes, culture, and value. Lacking compatibility may generate the difficulty of innovation usage and need more effort to solve issues. Next, security concern relates to the authorization of data accessibility, privacy protection, the security of financial transactions, etc. Last, cost refers to the digital implementation expenses such as an organization’s restructuring, and business processes re-engineering including supporting software, hardware, and user training

expenses. The study of Ref. [16] concluded that the integrative framework of innovative characteristics (relative advantage, compatibility, cost, and security concern) can be applied to a company’s framework of innovative adoption. They highlighted that compatibility focusing on the process, channel and corporate culture is the most critical role of the innovative framework. Security concern including privacy protection and financial protection is the second major issue of online business. Organizations can encourage the usage of online by providing security protection in their policies. As a result, consumers may have the willingness to engage in e-business which may also push organizations to drive change.

IV. THE EXAMPLE CASES IN THAILAND

A. The Challenges of a Traditional Organization

What does a traditional organization need to do for a digital firm?

This is a simple question which many organizations ask themselves to transform their business operations. Some big old organizations try to transform their operations in many parts, while others can do only the fundamental processes [9]. The example case is a kind of governmental organization. The responsibility of the firm is mostly associated with communications and digital technologies. Therefore, it is necessary to maintain a cooperative image for a digital leader organization. Because of the limitation of IT strategy, the firm should have a digital transformation strategy and a smart CDO whose vision relates to digital transformation. The four dimensions of a digital transformation strategy can be adapted to the organization’s framework. The firm has not been troubled with financial aspects and the use of technology but the other two dimensions (structural change and change in value creation) have still not been fully concerned. The dimension of financial aspects was gotten good support from organizational budgeting. This is the most important dimension which helps the organization drive and force to a digital organization [1]. The use of technology’s dimension gives the idea of fulfilling digital into business operations which may help the organization become a digital leader of the governmental sector. The organizational digital project development, for instance, National Single Window (NSW), one-stop service, e-payment/bill payment, enterprise resource planning (ERP), customer relationship management (CRM), and the data management center are considered to correspond with Thailand master plan which benefits to cut off the redundant operations. However, customer engagement and staff mindset have not been focused on all projects. NSW system – the electronic logistics system for customers’ import and export license declaration of digital equipment to the Thai Customs Department. One-stop service provides an online licensing service. Customers can apply for a license via the website instead of coming to the organization. Besides, they can pay licensing fees via bill payment using a QR code or a reference code from any mobile device. CRM project helps the firm to understand customers’ needs, experiences, and attitudes toward the services. ERP flows daily information (e.g., finance, asset, and accounting) and shares data across departments. The data

management center creates and shares the internal operational data across departments and government agencies such as customer data, payment transactions, and licensing data. The implementation of these organizational projects may also affect the dimension of structural change in terms of product, process, and skills [1]. This means that the hierarchical levels may need to reduce. Flatten structure, decentralization of decision making, employee collaboration, and knowledge transfer are concerned in order to increase organizational productivity. The placement of the new digital activities has not been fully implemented for all characteristics of the structural change. The bureaucratic model may be a barrier to both internal and external processes, and structure that cannot change in the rapid [7]. In addition, the dimension of change in value creation has not been currently expanded and enriched in the organizational products, services, and customer segments.

The organization has been trying to change from traditional processes to digital technology. Nevertheless, it is not easy to complete in a few years. The firm seems to be not fully with digital functioning in all dimensions. Flatten structure is needed. Organizational mindset and customer engagement are still the issues. Using digital technologies such as social media, mobile devices, and analytics tools assist businesses to reform organizational processes and services. The existing business operations may be needed to emphasize customer engagement and behavior, and staff mindset. For customer engagement, social media may be an influential channel to get a deeper understanding of customer experiences which can integrate into the existing digital projects e.g., NSW, one-stop service, e-payment, and CRM. This media may help the organization understand customers' satisfaction better. The firm can also promote branding through social media, build new public online communities, and keep customers' personalized data of preferable products or services. The administrators of each online community can help and answer customers' questions more personally and directly. Customers may feel good about the organization. An example of mindset, many employees still believe in the hard copy of papers supporting their work and keeping for evidence. Some of them always require customers to bring their official documents for a service request. Furthermore, the memorandum or the official document is also required to confirm their working from communication or interaction between departments.

B. A Public Company

A public company is the largest retail property and investment in Thailand. The core business is the development of the shopping center, office buildings, condominiums, hotels, and residence. There are roughly 3,500 employees. The core values are about innovation—welcome all opportunities and challenges to improve the company's quality and performance, customer—focusing and providing excellent service, alliance—business teamwork, relationship—spirit with colleagues, business partners, and society, and ethics—respect in business operations.

Because of the digital transformation, the retail business has an impact on digital disruption. This firm is one of the public companies that have to fight e-commerce trends. The company has fully gone ahead with the digital transformation

by joint investment with a big e-commerce platform, the second-largest online shopping from China. The investment was over 17,500 million baht to create a Thai e-commerce platform. The platform aims to sell quality products from China to Thai consumers. The company hopes to expand the proportion of online retailers from 5% to 15% within 5 years [17]. For the case of this firm, all dimensions of a digital transformation strategy were fitted to the company. It may no doubt in the dimension of financial aspects. The company invested a lot of money in order to be the leader of technology usage and created a new standard of e-commerce retailer in Thailand. After the joint investment with China's company, the company seems not so difficult to change the organization's structure and manage the business functions. In the dimension of change in value creation, the firm has created opportunities and expanded the values of its products, services, and customers. The core business is still the retailer even online (e-commerce) or offline shopping (department stores) but the company can increase the revenue from the diverse channels of selling quality products. In addition, the company has more chances to welcome new customers which may vary in generations and ages from offline shopping. E-Commerce helps customers easily get access to products and services. They may have good experiences with online shopping and feel more engaged in the company. The firm has followed the core value according to the above mention, especially in the management of customer-centric and innovation creation.

V. CONCLUSION

Based on the findings of a review of literature, the success of digital transformation can come from the combination of many aspects such as the dimensions of a digital transformation strategy, customer engagement or customer experience, strong leadership, organizational mindset [1], [2], [7]-[12], and innovative characteristics of adoption [15], [16]. Digital transformation does not mean the offering of a new application or a web shopping with an old management idea but the entire activity system needs to be reconfigured and changed in value creation [12]. A smart digital leader and customer engagement are important parts. Mindset is also needed. Characteristics of innovative adoption are also crucial for digital business, especially compatibility and security concern [15], [16]. Firms need to focus on how to adopt innovation and be compatible with company processes, culture, and value, and be careful of security concern in terms of data privacy and data exchange [16]. Lack of compatibility and security affects innovation diffusion [18], [19]. Currently, most traditional organizations may have truly understood how to drive value with digital transformation to reach the country's master plan. However, this may take several years to reach the organizational vision and staff involvement. A digital culture needs to be implemented wisely. A digital transformation strategy has to be created. A strong CDO is required to drive change, and the ability to inspire others is also necessary. In contrast, a private or public company seems to be flexible and rapid to transform the company into digital in terms of products, processes, services, and customer sectors.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Yuwarat Srisupawong, Kanyuma Kamata, and Noritsugu Kamata observed the example cases, and did the literature review; Yuwarat Srisupawong wrote the paper; all authors had approved the final version.

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