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Prasad, Marasini Durga; Yoon, Seong No; Lee, Donhee

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Integrating Digital Transformation and Servitization into Digital Servitization: A Case Study on Domino's

Marasini Durga Prasad^a, Seong No Yoon^b, DonHee Lee^{a[†]}

^aDepartment of Business Administration, INHA University, 100 Inha-ro, Michhol-gu, Incheon, Republic of Korea ^bDepartment of Business, Edward Waters University, 1658 Kings Road, Jacksonville, FL 32209

ABSTRACT

Purpose: The purpose of this study is to suggest a digital servitization model which can be implemented by the restaurant industry and to explore the opportunities and challenges of digital servitization.

Design/methodology/approach: The case study analysis method was applied for this research.

Findings: This study reveals that pizza firms can gain competitive advantages and create value by implementing the digital servitization business model. In addition, firms can understand the opportunities and challenges of digital servitization and prepare themselves before implementing the business model.

Research limitations/implications: Digital servitization model was proposed to analyze a single pizza company but a comparative study with other firms can be conducted to identify differences and create a common strategy. **Originality/value:** Firms commonly use an integrated digital transformation and servitization model to create customer value, but few case studies on integrated case models are available. This study investigates this research gap using a case study. The findings of this study have meaningful implications for restaurant managers to implement a digital servitization strategy.

Keywords: Digital Transformation, Servitization, Digitalization, Digital Servitization, Competitive Advantages

I. Introduction

In recent years, the corporate environment has undergone dramatic changes as a result of the introduction of digital technologies (DTs) such as artificial intelligence (AI), cloud computing, big data, and the Internet of Things (IoT) (Hanelt et al., 2021). Numerous businesses have recently launched initiatives to research novel DTs and reap their benefits (Kraus et al., 2021). Organizations have modified their value creation processes using DTs to maintain their competitive advantages (Vial, 2021). Additionally, businesses have changed their business models, updated their products and services, improved their relationships with suppliers, and formed long-term alliances with customers (Ebert and Duarte, 2016; Kraus et al., 2021). Service providers and manufacturers go through change and development with digital transformation as a result of technology, deregulation, globalization, and intense competitive pressure. For instance, companies like Apple and Spotify have transformed the music industry by replacing the actual items sold through intermediaries with music subscription services (Vial, 2021). Starbucks has also expedited its digital transformation by offering consumers

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E-mail: dhlee04@inha.ac.kr

various options and convenience through the Siren Order and involving customers in the service process, and generating value for them (Lee, 2020). Businesses have undergone a digital transformation to increase productivity and transparency, cut costs, increase revenue, enhance customer experience, foster employee engagement and culture, and gain a competitive advantage (Kimberling, 2020).

Currently, most industrial sectors (such as manufacturing, healthcare, entertainment, education, and food) have implemented various initiatives to explore innovative DTs (Bogdandy et al., 2020). However, incorporating DTs alone is not sufficient to gain a competitive advantage. The servitization concept and digital transformation should be included to survive in this competitive and disruptive business environment. According to research, servitization and digital transformation are mutually reinforcing and drive each other (Dombrowski and Fochler, 2018). Digital servitization (DS) refers to the interaction between servitization and digital transformation and its effects on the operational strategies, value chains, operations, and business models (Momeni et al., 2021). Firms that provide products and services to customers using a DS approach can increase customer satisfaction, meet their demands, improve operational efficiency, and gain competitive advantages (Momeni et al., 2021; Sklyar et al., 2019). For instance, DS has created enormous growth potential for businesses by adding value and enhancing their technological capacity (Kolagar et al., 2021).

Recent COVID-19 has not only affected people's health but has affected business worldwide. Small companies that depend on physical places, such as wineries, bridal shops, hair salons, pet shops, and boutiques, were severely impacted by COVID. To get through this challenging phase, they quickly implemented DTs (such as e-commerce, conferencing tools, etc.) (Mandviwalla and Flanagan, 2021). Retail stores can anticipate various advantages from DT integration, including a potent marketing channel, broad mall reach, instant flash sale potential, customization of in-store reward programs, and quick and accurate receivables (Varol and Özçelik, 2022). Due to contact-free purchase

behavior, the retail internet sector has recently experienced impressive growth (Lee and Lee, 2020). In the case of the restaurant industry, more than 50% of consumers do not plan to eat out anytime soon, and revenue for dine-in restaurants has decreased by more than 80% since 2019 in the restaurant business (Jang, 2021). The digital revolution has increased competitiveness in the food and restaurant sector, and most recently, the COVID pandemic has had a decisive impact (Alt, 2021). In one of the most challenging business environments, restaurants have invested in digital devices, such as point-of-sale (PoS) devices, e-commerce platforms, and online ordering systems. These resources aid eateries in communicating with customers and taking orders (Soto-Acosta, 2020). The patterns of interaction between customers and restaurants are evolving because of the growing engagement of restaurant patrons in the digital world (Kim and Tang, 2020). Restaurants strive to adopt new digital technology that will enable them to improve customer expectations and increase operational performance. Digital transformation has a significant impact on how customers behave during their purchasing processes (Martín-Martín et al., 2022). Thus, as DTs advance, the restaurant sector is going through fundamental shifts that will alter what constitutes a restaurant in the future as technology and data are incorporated into marketing and management (Park and Kim, 2020).

Digital disruption also occurs in the pizza industry, part of the food and restaurant industry. According to 'Pizza Power Report 2020' of PMQ pizza magazine, the United States (US) pizza industry has increased efficiency by introducing new technologies, effective customer relationship management (CRM) operation, intact services, customized products, and services. The COVID-19 pandemic made non-face-to-face services inevitable. The adoption and acceleration of ordering through digital devices, contactless product delivery, and takeout are increasing rapidly in the pizza industry. Currently, the analysis that the US pizza industry is "taking advantage of digital disruption" is dominant (Park and Kim, 2020). This shows that the pizza industry is evolving by emphasizing the adoption of digital technology and guaranteeing effectiveness and safety in the ordering and delivery process. (Park and Kim, 2020).

In the US pizza industry, Domino's, Pizza Hut, and Little Caesars Pizza are the three dominant firms in terms of sales (Park and Kim, 2020). Most pizza companies and restaurants are already using or on the verge of introducing DTs and a new service model to gain competitive advantages. Among these businesses, Domino's was a pioneer in DT adoption. Since 2010, Domino's Pizza has shifted its business strategy from "Mobile First," which prioritized delivery speed, to "AI-First," which emphasizes digitalization-oriented innovation such as the development and introduction of AI technology and the maximizing of customer lifetime value (CLV) (Park and Kim, 2020). With a relatively short period of focus on technology capabilities, Pizza Hut is currently working on robotics and focusing on autonomous technology, standardization of services, and improvement of delivery. Little Caesars Pizza is implementing a plan to expand its existing model and strengthen its mass service strategy by adding technology-introduced mobile and autonomous services. Technology now plays a significant role in operations management for restaurant businesses due to the expansion of the telecommunications sector and the development of advanced technologies to support service delivery. For example, pizza firms are implementing business models that integrate DT and servitization approaches to operate efficiently and gain a competitive advantage.

Digital transformation and servitization have been studied separately. To create customer value, businesses frequently utilize an integrated digital transformation and servitization strategy. However, there aren't many case studies on these models. Therefore, research is required to determine how the integrated concept of digital transformation and servitization influences the creation of business strategies that differentiate companies apart from their competitors. The purpose of this study is to suggest a digital servitization model which can be implemented by the restaurant industry and to explore the opportunities and challenges of digital servitization. This study uses a case analysis of Domino's digitization and servitization approach to DS to fill this knowledge gap. This study will provide insights for other firms on incorporating DS strategies. This paper is divided into six sections. Section 2 highlights the theoretical background of digital transformation and servitization. Section 3 presents the differences and similarities between Domino's in three countries. Section 4 explains the servitization model and the digital transformation process implemented by Domino's. Section 5 describes the challenges and opportunities, and Section 6 provides the conclusions and limitations of the study.

II. Theoretical background

The unforeseen coronavirus (COVID)-19 pandemic has accelerated the previously slow development and implementation of DTs and infrastructure in many businesses and industries (Lee and Lee, 2021), such as retail, restaurants, banking, hotels, and education (Soto-Acosta, 2020). This pandemic has disrupted the market and service ecosystem and caused sudden environmental changes that encourage firms to adopt digital technology on a broader scale and under time constraints (Priyono et al., 2020).

DTs and transformation have evolved to regulate the precarious equilibrium between lockdowns and socioeconomic continuity in such a crisis (Fitzpatrick et al., 2020). The need for contactless services, remote employment, online purchases, online health services, and customized deliveries could only be met by DTs and servitization concepts (Savić, 2020). Additionally, DTs have improved our quality of life and allowed businesses to continue operating somewhat normally during this pandemic. The pertinent literature review on digital servitization, servitization, and transformation will be looked at in this part.

A. Digital Transformation

Companies are switching from product-centric

business models to digital service offerings that employ digitalization to meet client expectations (Kolagar et al., 2021). By reducing boundaries between people, firms, and things, a company's digital transformation disrupts businesses in practically every industry (Schwertner, 2017). Verhoef et al. (2021, p.891) proposed the three stages of digital transformation as "digitization, digitalization, and transformation." "Digitization is the encoding of analog information into a digital format (i.e., into zeros and ones) such that computers can store, process, and transmit such information." (Verhoef et al., 2021, p.891). Rha and Lee (2022, p.78) described digitalization as "the use of DTs and data to affect how work is done, transform how customers and businesses engage with and interact with each other, and establish new digital revenue streams." Vial (2021, p.9) defined digital transformation as "a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies." Ebert and Duarte (2018) reported digital transformation drives to enhance value creation, operational performance, and social welfare. It produces company-wide changes that affect the entire company and its business strategies, including agility and resilience (Kretschmer and Khashabi, 2020). In addition, digital transformation is tied to improvements in various aspects of an organization, including competitiveness, innovativeness, reputation, and operational performance. (Neumeier et al., 2017).

The IoT, big data, AI, and cloud computing are examples of DTs that are at the core of the digital transformation and are also seen as facilitators for a more sustainable and circular economy (Rusch, 2022). Many firms have incorporated these technologies to enhance their business and achieve revenue. Firms have used DTs to improve the flexibility and reliability of the process and product quality, which also allows for implementing new strategies along the entire value chain through manufacturing and sales to services (Branca et al., 2020). Supply chains, corporate operations, and producing goods are all impacted by the incorporation of DTs. (Matt et al., 2015). DTs will significantly impact the business environment of the industry through better integration of value chains and the exploitation of new markets, giving the industry a competitive advantage (Ebert and Duarte, 2018).

DTs enable value creation, which increases the provision of services to customers (Barrett et al., 2015). Although digital transformation is to improve the operational processes, develop products/services, and reduce waste time to enhance the entire process for customers' expectations, it is not an easy journey to apply and succeed (Tomičić Furjan et al., 2020). In this regard, Siemens is an industrial firm that uses a digital transformation to create a more efficient and customer-focused organization. They have achieved this by implementing a new digital enterprise platform to connect better with their customers and partners (Lee and Lee, 2020).

B. Servitization

Although DTs are critical, achieving competitive advantages only by implementing DTs is challenging. Servitization, an economic megatrend in modern society, is necessary to achieve this goal. "Servitization is the innovation of an organization's capabilities and processes to better create mutual value through a shift from selling product to selling Product-Service Systems" (Baines et al., 2009, p.4). In the previous study, servitization has been defined as follows: The evolution of a service to an inseparable stage is completely fused with a product (Robinson et al., 2015); a strategic change in which a manufacturing company becomes service-oriented or develops better services to satisfy customers, gain a competitive advantage, and improve corporate performance (Ren and Gregory, 2007); and organizational capacity and process innovation to create better mutual value by shifting from product sales to product/service integrated system sales (Lightfoot et al., 2013).

The concept of servitization is generally recognized as creating value by adding service concepts to products, and it grew as early manufacturing companies added services to their products (Hojnik, 2016). It means a development approach to exceed customer satisfaction, achieve sustainable business and competitive advantages, and expand market share (Dahmani, 2020). Xerox is an example of a firm that applies the servitization model. Initially, it was a product-based company that sold printers and photocopiers. Many manufacturers (e.g., GE, IBM, Rolls Royce, etc.) have now transitioned to a service-based business model, in which they provide services to consumers (Kamal et al., 2020).

C. Digital Servitization

Digital servitization (DS) is defined as "the transition toward smart product-service-software systems that enable value creation and capture through monitoring, control, optimization, and autonomous function" (Coreynen et al., 2020, p.267). Sjödin et al. (2020, p.479) defined DS as "the transformation in process, capabilities, and offerings within industrial organizations and their associated ecosystem to progressively create, deliver, and capture increased service value arising from a broad range of enabling technologies." Sklyar (2021, p.12) defined DS "as the utilization of DTs for transformational processes, whereby a company shifts from a product-centric to a service-centric business model and logic."

DTs have played a vital role in implementing DS strategies. Companies consider DTs to keep social distancing and adapt to the "new normal" (Soto-Acosta, 2020). As customers have focused on their core activities and outsourced peripheral ones, the demand for services has also increased (Gebauer and Fleisch, 2007). In order to maximize their service offerings, companies should make use of digitalization and technological advancements. Digital capabilities have enabled companies to provide better, more accurate, and more reliable services by identifying customers and products, geolocating, assessing usage, monitoring several indicators, predicting problems, and remotely controlling the equipment (Ardolino et al., 2017; Kohtamäki et al., 2020).

According to research, servitization and digitalization are closely related, and digital transformation technologies are key forces behind servitization (Dombrowski and Fochler, 2018). Firms can improve their servitization strategies by embracing DTs (Pagoropoulos et al., 2017). Martn-Pea et al. (2018) stated that businesses interested in servitization should first carry out digital transformation. Business models severely affected by DS include the musical industry, health sector, education, e-commerce, and e-books (Marcon, 2019). With DTs, organizations can shift from selling physical items to providing services as part of their value offer, as well as come up with new innovations that meet customers' demands and collect customer data (Porter and Heppelmann, 2014; Wamba et al., 2017). DTs can encourage innovation or result in innovation. Offering new functionalities and value-added to existing products or services is how digitalization is viewed in the context of innovation outcomes (Nambisan, 2013). DTs can expedite the process of servitization by enabling them to offer sophisticated and cutting-edge services (Shen et al., 2021). Advanced technologies, innovation, and digitalization have driven servitization (Kryvinska et al., 2020). Businesses can use DTs to benefit from and drive servitization, which can reduce challenges and risks associated with it while maximizing its benefits (Ardolino et al., 2018). Additionally, the provision and development of digitally assisted services allow enterprises to enhance their competitive advantage and performance (Shen et al., 2021). Consequently, this interaction between digitalization and servitization yields a new concept known as DS.

Businesses that rely on DS frequently manage to hold up a competitive advantage in the market. (Shen et al., 2021). With DS, organizations can sense and seize new opportunities for business growth by integrating new innovative service offerings with smart productservice systems (Linde et al., 2021). DS also allows small and medium-sized firms to transcend their "local" liabilities and expand globally through the use of advanced digital services and support tools (Schroeder et al., 2020). Thus, firms are driven to implement a DS strategy due to fierce competition and technological advances (Coreynen et al., 2020).

Companies across a wide range of industries have been confronted by the COVID-19 pandemic. Many of these businesses are under intense pressure to make their products available through digital channels and have been forced to establish new internal working methods. The COVID-19 outbreak has prompted the development of digital services and forced service providers to focus their efforts on developing products using digital technologies (Rapaccini et al., 2020). Furthermore, the COVID-19 crisis presents manufacturers with an unprecedented opportunity to update their business models quickly and create specific products and services that meet customer needs (Paiola and Gebauer, 2020; Zambetti et al., 2020), and redesign their offer delivery models (Tian et al., 2021).

DS is gaining momentum, and it will be an essential business model for firms to survive in this competitive business environment, gain competitive advantages, and create value for customers. Although several firms have incorporated either digitalization or servitization approaches to gain competitive advantages, an integrated DS model provides the advantages of both methods. Lockdowns and other preventative measures have caused significant sales losses for restaurants all around the world (Kim & Lee, 2020). They have made significant investments in digital resources, including PoS devices, online ordering systems, and e-commerce platforms, in addition to developing new pickup and delivery procedures and low-contact client engagements in order to sustain their business (Alt, 2021). The pizza industry has also taken the path of digital transformation and servitization. The future world for restaurants is believed to be completely changed after the pandemic and will not be similar to the pre-pandemic period (Milwood & Crick, 2021; Murphy, 2021). In this study, Domino's DS approach is examined, and a model that can be used by other firms is suggested.

III. Case Analysis

Several companies have embraced DTs and servitization concepts in this challenging business environment to gain a competitive advantage. However, Domino's, for our case analysis in this study, was selected because it is a successful company that incorporated DS and has transformed from a pizza company to a tech giant in the present world (NCR, 2021).

Established in 1960 and franchised in 1967, Domino's Pizza chain has the most revenue globally, followed by open stores (Park and Kim, 2020). Its business model is straightforward: "preparing and serving quality food at a competitive price, with easy ordering access and efficient service, aided by technological innovations" (Domino's annual report 2021).

In 2008 and 2009, Domino's experienced its worst crisis and nearly bankrupted. The company lost its competitive edge, and its pizza ranked last in consumer taste surveys (Buvat et al., 2017). Domino's operates 18,800 shops in more than 90 countries with a daily sales volume of 3 million pizzas and net revenue of \$4,12 billion in 2020 (Domino's annual report 2021). Domino's stock price beat renowned tech behemoths, including Amazon, Apple, Facebook, and Google, from 2010 to March 2017 (Purdy, 2017). Even in this pandemic, where many firms have struggled, the Domino business has flourished.

Domino's has heavily invested in digital capabilities, marketing, and software engineering staff to propel the company forward (Domino's 10-K Annual report, 2016). Innovations in ordering and delivery, such as AnyWare applications to order from any device and drones and automated cars for delivery, differentiated Domino from its competitors (Garf, 2020). The vision of Domino's to optimize delivery, locate outlets in affordable and route-optimized retail sites, and create a successful digital brand and mobile application is now paying off (Keesling, 2020). Domino's successfully introduced DTs, which resulted in competitive advantages over other brands, leading to a more significant market takeover, increased turnover, customer satisfaction, value creation, and loyalty (Pratap, 2021). Therefore, Domino's for our case study was selected to analyze its digitalization and servitization approach and to propose a DS model.

A. Domino's Characteristics Country-wise

Three countries-the US, Australia, and Korea-

were selected for our study. Although Domino's has stores in more than 90 countries, we chose these three countries because the US is where the company is headquartered and has a disproportionately high number of locations. Australia is the largest master franchisee for Domino's Pizza brand outside the US and has a crucial role in overseas sales and development. Korea is one of the largest markets in Asia and has advanced information technology (IT)/digital systems.

Table 1 (comparison of Domino's by country) shows that Domino's has been a leading pizza company in all three countries in terms of sales. New technologies have been incorporated for swift delivery services but not the same technology across these countries. Domino's Australia seems to be on the frontline in terms of advanced digital services in comparison to Dominos USA and Domino's Korea. The number of Domino's stores differs in these countries because of differences in geography, population, competitors, etc. Domino's has been creating pizza in accordance with local preferences. As a result, different pizza menus exist based on the nation. To serve the market, it employs a differentiated targeting strategy based on taste and preferences.

B. Domino's Digital Services

The brand directory lists Domino's as the fifthranked restaurant for 2021 and the largest pizza company in the world as of right now. However, Domino's stock price fell to its lowest levels in 2008; to rebound, Domino's developed a unique plan. J. Patrick Doyle, the CEO of Domino, boldly pursued a multi-pronged strategy with a focus on technological and product innovation. It transformed Domino's into an "e-commerce company that sells pizza" rather than just a company that sells pizza online (Wong, 2018).

Numerous manufacturers have tried to differentiate their products through product services to increase sales because the quality gap between manufacturers has narrowed as a result of the standardization and modularization of parts and global sourcing (Won, 2010). Due to the different promotion strategies, success factors, and considerations that depend on the target (promotion of product sales or service revenue rise) and the type of service, combining products and services (added or derivative type) requires a different approach.

In order to differentiate itself from its competitors, Domino's has been offering digital services in the following areas: accounting and controlling, ordering, payment and transaction, sourcing and supply, staffing and employee education, comforting and entertaining, delivery, digital signage, food preparation, hygiene, information and marketing, and staffing (Alt, 2021).

C. Domino's Digital Servitization Approach

Domino's was a well-known brick-and-mortar pizza restaurant that advertised "30 minutes or less" for delivery. The firm's conventional pizza delivery method has been seriously threatened over the past 20 years by the expansion of the Internet and the use of mobile devices, which has compelled the

Fable 1. Comparison	of	Dominos	by	country	
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Dominos (USA)	Domino's Pizza Enterprises (Australia)	Dominos (Korea)
 Established in 1960, headquarter Has 6571 stores (2022) Early-stage drone delivery test Robot car (Nuro) delivery service (Houston) Review for DOM pizza checker Philly Steak Pizza is the most popular pizza Highest sales pizza company in the US 	 Established in 1983, the master franchise Has 717 stores (2022) 1st pizza delivery by drone in 2016 (Auckland) Robot car delivery in progress Introduction of DOM Pizza checker Pepperoni is the most popular pizza Highest sales pizza company in Australia 	 Established in 1990, franchise. Has 477 stores (2021.12) Tested drone delivery service in 2021 (Sejong district). Robot car delivery in progress Review for DOM pizza checker Domino New York's original pizza is the most popular. Highest sales pizza company in Korea

company to provide online ordering. These technological developments forced Domino's to create a new business plan to compete. (Ottenbacher & Harrington, 2009). To differentiate itself from its rivals and to meet changing customer demands, Domino's, a pioneer in the field of online delivery, has invested in digital tools, mobile technology, and data analytics platforms (Domino's 10-K Annual report, 2016). Domino's describes itself as "a tech firm as much as a pizza company" today (Taylor, 2016).

The success of the firm is mainly dependent on a seamless delivery experience. To improve the service, Domino's has made considerable investments, installing GPS in half of its locations and creating an online tracker that keeps track of the driver's journey. Due to crucial improvements, digital channels now account for 4/5 of Domino's sales (Rogers, 2018). Domino's aims to effectively use its data to evaluate and forecast consumer behavior, personalize messaging, and do market research. The company is also interested in exploring the part voice, and chat will make the ordering experience easier and faster in the future. To improve the consumer experience, Domino's has embraced technology in every way. The development of a digital platform with a customer-facing focus was one of Domino's primary digital transformation initiatives. Domino's facilitated customer ordering and significantly invested across multiple digital platforms (Tiwari, 2020).

Huikkola and Kohtamäki (2018) have classified servitization business models into four types: product business model, service-agreement business model, process-oriented business model, and performanceoriented business model. The production, sale, and delivery of a product, as well as supplemental services, form the foundation of the product-business model. Service-agreement business model focuses on service agreements. The services offered under this business model primarily support the usage of tools, the accessibility of products, and their dependability and functionality. Process-oriented business models provide several services such as sales outsourcing, operations management, equipment maintenance, remote diagnostic services, project management, and equipment leasing. Examples of solutions under the performance-oriented business model include sales operations and maintenance (O&M), consultancy, turn-key, integrated, and data analytics services. Servitized business models contain various components, including value propositions, markets, value chains, value networks, profit potential, and competitive strategies (Gunnarsson and Axelsson, 2019; Saxena,2020). In order to carry out their strategy and generate profit, businesses must recognize the necessary principles inside each element of a servitized business model.

Dominos have identified those relevant concepts and implemented them in its business model. In Domino's case, these service components can be categorized as product innovation, technological innovation, customization, and service commercialization.

1. Product innovation

Pizza, the only product sold in Domino's, had to be the best for people to buy and eat. The customers' negative reviews of Domino's pizza were a harsh truth; the company's strategy was to acknowledge the low quality of its pizza. The company discarded its 49 years old recipe and announced a new menu and pizza, launching a campaign called "Oh yes, we did." At the time, Chris Brandon, Domino's spokesperson, said: "Our 'Oh Yes We Did' campaign only shows consumers that we have indeed been hearing what they have to say - but it also shows them how we have done so." (Goel, 2020). They changed the ingredients used, and the chef team strived to develop a pizza menu based on people's tastes.

Product innovation can also be found in Domino's international markets, where head franchisees can suggest products based on local consumer preferences. It also introduced side menus (chicken, pasta, sandwich, etc.) to its stores so customers could enjoy products other than pizza. During the pandemic, product innovation helped Domino's recover its customers and attract more people interested in a delicious pizza at affordable prices and comfort. The company used an automated pizza-making robot and developed a unique packaging box to warm the pizza during delivery. Technology helped Domino's develop existing products and create new products effectively.

2. Technological Innovation

Customers want to order food quickly and easily. Thus, Domino's has implemented DTs to improve its ordering and delivery systems, heavily investing in digital capabilities. Domino's initially created strong IT skills, allowing the business to develop these new digital advances internally before putting these digital innovations into practice. Domino's brand perception has radically altered as a result of the digital transformation from a pizza delivery service to a technology corporation. Domino's became a technology firm thanks to its desire to concentrate on operations and customer experience, as well as its dedication to creating and uniting behind a compelling vision. Every advancement in Domino's digital technology has been used with the goal of creating a seamless consumer experience (Roepke, 2019). Domino's digital journey can be summarized as presented in Table 2 (Domino's digital journey).

3. Customization

Domino's utilizes customer involvement for customization to fulfill customers' needs and satisfaction. Customers are at the core of any business, and their participation is essential. Domino's has been working toward customer comfort and satisfaction. Domino's dedication to digital technology has improved value for customers by lowering the hurdles to ordering and delivering their pizza. Customers can easily select the pizza type, ingredients, and collection using digital devices. Customer feedback has been seriously considered, which has helped Domino's rank higher in customer satisfaction. Various discount events and promotions also attract more customers. Domino's has actively provided value to its customers to satisfy them and become a trustworthy brand.

4. Service commercialization

Domino's is a worldwide brand with over 18,000 franchise units in the US and across six continents in 90 international markets. Necessary guidelines and training are provided to franchisees to open a new

Date	Activity	Implication
1984	Pizza delivery within 30 minutes	For customers who ordered pizza by Phone call
2007	Introduced online and mobile ordering	Helped to make customers' experience convenient as pizza could be ordered easily.
2008	launched "pizza tracker technology" and pizza builder	Using cutting-edge technology, customers can track the status of their online orders as they leave the oven and are ready for pickup or delivery. Allowed consumers to customize their pizza with their preferred crust and toppings and watch it come to life on the computer.
2009	Initiated "Oh yes we did campaign"	Change of pizza recipe, the addition of new menus to improve product quality.
2011	Launched iPhone app- order on the go	Helped iPhone users with a seamless ordering process
2012	Opened "Pizza theater"	Brought the fun and art of pizza-making to the forefront.
2014	Launched cutting-edge artificial- intelligence ordering bot, Dom	AI helped in easy ordering.
2015	Launched Anyware app	Allows customers to order from several devices in many ways, anywhere, at any time.
2016- 2017	First-ever delivery by drone launched Dominos Robotic Unit (DRU)	Delivered pizza by drone in New Zealand for the first time, a self-driving vehicle that delivered pizza and reacted to customer
2018	Domino's hotspot feature	delivery to locations without actual addresses like parks, riverside, etc.
2019	DOM pizza tracker-(Australia)	tests the quality of pizza, and if it doesn't pass the test, it's remade.
2020	Domino's Carside delivery service	Pizza can be ordered contactlessly and delivered right to the customer's vehicle.

Table 2. Domino's digital journey

Product innovation	Technological innovation
- Introduction of new menu	- Introduction of IT applications (Digital transformation) for
- Change of ingredients	Swift ordering and delivery system
Customization (customers' involvement)	Service commercialization
- Choice of own ingredients	- Establishment of master franchise
- Customer feedback	- Strong supply chain
- Discount system	- Training Facility

Table 3. Digital servitization matrix of Domino's

Domino's store. Domino's receives royalties through domestic and international franchising, supply chain revenue, and retail sales at its own stores. Additionally, the business makes money from running a large number of restaurants, as well as by selling food, supplies, and equipment to franchisees, primarily in the US and Canada. Domino's franchisees are privileged as they can use the technology and innovative ideas brought up by the Domino headquarters (Buvat et al., 2017). The PULSE PoS solution from Domino's is intended to boost franchisee and corporate management operational effectiveness. Domino's markets are annually increasing, and it is expected to open stores in more countries, leading to more global expansion.

In summary, Dominos have created value for customers by implementing DS, which focuses on product, technology, service, and customization (see Table 3). DS can act as organizational resilience and allow the organization to change its management structure, procedures, and practices ensuring long-term corporate survival while dealing with crises and disasters (Hamsal et al., 2022).

Based on Domino's case study and its proposed DS approach, we briefly examine the opportunities and challenges of DS in the next section.

IV. Opportunities and Challenges of Digital Servitization

One of the significant shifts in business nowadays is DS (digitalization of goods and services). This transformation is being driven by technological advancements that allow organizations to offer customized and effective services (Paiola and Gebaur, 2020). Big data, the cloud, the Internet of Things, and other cyber-physical technologies have all had a significant impact on how people conduct business, including how they communicate and think about it. This wave of digital technology has also changed how equipment is created and maintained (Tronvoll et al., 2020). In several industries, the growth of digital infrastructure has been expedited by factors including natural disasters, pandemics, and consumer purchasing patterns (Lee and Lee, 2020). As a result, companies have also adopted a DS approach to grow their businesses.

Domino's differentiates itself from other pizza firms by using digital technologies and servitization. The customers' overall experience is vital for a comfortable sustaining business in this competitive market. Domino's has used DTs to make customers' journeys seamless and meet the demands for easy ordering and a swift delivery system. The introduction of DTs has changed consumer behavior and lifestyles. Domino's has an excellent infrastructure for ordering food quickly from any channel, delivering a seamless experience across devices. In addition, it has a fast, convenient, and accessible delivery system. To help other small businesses prosper, Domino's may offer them access to its digital infrastructure, create a separate joint venture company to participate, and reach arrangements with payment companies (Denning, 2021). This strategy can help the company grow. Other pizza firms have followed Domino's path and invested in digital technology.

Domino's has accumulated a large amount of consumer data that can be used for cloud-based customer relation management. Consumer data is an excellent asset for any business to flourish. Firms can study consumers' consumption patterns and preferences and then launch specific programs to engage them. Innovations in ordering and delivery will create loyal customers and attract new customers. Domino's seamless delivery systems particularly helped them attract new customers during the pandemic. The restaurant industry can use digital technology-driven services to gain a competitive advantage. Firms across several industries can achieve the following opportunities through DS.

A. Organizational Transformation

DS usually entails complex organizational transformation (Tronvoll et al., 2020). DS allows firms to enhance operational efficiency, reduce operating costs, increase resource allocation, generate additional revenue, assess the risks of current product or service provision, and provide transparency in support of better decisionmaking (Suppatvech et al., 2019). It also facilitates new customer interaction and closer integration, maintains long-term business relationships with customers, and provides opportunities to develop customized value propositions (Tronvoll et al., 2020). The increased data availability helps firms improve their operations and generate new outcome streams.

DTs might potentially lower a firm's costs when they replace more expensive humans with robots or virtual agents, streamline logistics streams, and lower supply chain expenses through AI and blockchain (Verhoef et al., 2021). Digital firms have dominated numerous industries and ranked high among the most valuable (Apple, Microsoft, Amazon, Facebook, etc.). Manufacturers can improve their understanding of their customers through the application of IoT technology by increasing the visibility of their activities in customer-specific settings. All manufacturers who are having trouble growing their service businesses due to the difficulties in tracking product usage conditions and associated data can benefit from the IoT (Paiola and Gebauer, 2020). It is crucial in enabling service-oriented business models.

B. Value Creation

Consumer behavior is continuously changing due to new DTs. Customers are shifting to online purchases and contactless services and increasingly rely on digital touchpoints. Customers can contribute to value creation by creating new products, updating existing ones, providing last-mile delivery, and assisting other customers by posting digital product reviews. New DTs have the potential to become new standards for defying old corporate rules.

DS allows businesses to adapt to these changes, draw in clients, automate cost-saving tasks, and enhance customer satisfaction to boost revenues. The DS process requires digital resources, capabilities, and skills related to digital agility and networking, as well as a flexible organizational structure (Verhoef et al., 2021).

Therefore, DS firms can apply new services and technologies quickly and flexibly, increase workflow efficiency, minimize technical errors, improve work quality and performance, increase beneficiary satisfaction, and increase re-investment ability (Hai et al., 2021). However, opportunities and challenges are prevalent in adopting a DS model for firms.

C. A Barrier to Business Model Adoption

Digital services frequently replace (or cannibalize) traditional products, making business model adoption difficult. When digital services are established, the marginal cost of producing new products is almost nil, which reduces users' views of the value of the offering (Vendrell-Herrero et al., 2017). The old industrial, cultural paradigm is being tested by DS, which impacts how value is shared, generated, and retained (Coreynen et al., 2017; Ehret and Wirtz, 2017).

D. Difficulty in Coordination

As coordination is a process that links various activities within an organization as well as among

stakeholders, it can be difficult to coordinate with each other. However, a well-designed DS requires close collaboration with different stakeholders, new approaches to customer interaction, high investments in technology, data management skills, and innovative offerings aligned with customer needs (Pialo and Gebaur, 2020).

E. High Investment

Organizations may need to invest a lot of money in technology to implement DS, which is not feasible for all businesses. Firms must consider cultural changes as employees and organizational leaders adjust to adopt and rely on new technologies. Leaders must change their minds and perceptions about the importance of DTs and actively strive to incorporate these technologies into their business. Businesses need to hire workers more receptive to new technology, such as statisticians and business analysts who can function in a digital setting.

F. Security and Privacy

Concern about data security and privacy is a significant challenge that firms must overcome to operate their business in this competitive market. Hackers target firms that collect a large amount of personal information. As personal data is important, firms must create secure systems to ensure the safety of customer information. Effective DS strategies will help firms gain competitive advantages and propel themselves in this harsh business environment. However, they must also prepare for these challenges. Leaders must have a specific plan and recruit a skilled workforce to adapt to the digital working environment.

V. Conclusion and limitations

The introduction of new technologies causes changes in products, processes, and organizational factors. They influence businesses' operations, open new business prospects, and collaborate across industries (Feroz et al., 2021). A sector with considerable potential for advancement in digital technologies is hospitality and restaurant services, which is varied, fiercely competitive, and one of the fastest-growing service industries (Verevka, 2019). Firms must take initiatives such as changes in employee structure, engagement of internal and external stakeholders, cultivation of agile methods of working, the establishment of digital service centers, focus on customer value, and development of new business models to incorporate DS (Tronvoll et al., 2020).

Different businesses have different DS processes, some moving through these several stages gradually while others do so in steps. In the case of Domino's, establishing a sizable, powerful IT division that works in tandem with marketing counterparts to draw in both potential and current customers was essential to the company's digital transformation and servitization. Product innovation, technological innovation, customization, and commercialization were the four strategies adopted by Domino's to expand its business. Domino's has provided quality customer service and created value through these strategies. Other firms can use such strategies to reform their business models, reach more customers, and make value and profit. DS aims to provide a service-oriented business structure that offers new services to address companies' challenges, help deliver financial benefits, and improve future digitalization activities. Businesses are poised to prosper by providing services focused on optimizing the customer experience, but they must be ready to face the challenges encountered when adopting a DS model.

This study proposed a DS model based on a case study. This study provided insights into how an integrated version of DS helps firms operate successfully. Thus, the results of the case study provide the following academic values and practical implications. For academic implications, first, the academic scope was expanded by presenting digital servitization by the existing cases of DT and DS. Second, the opportunity factors (Organizational transformation, Value creation) proposed through DS in this study can be used for academic empirical analysis. Understanding the challenges (A barrier to business model adoption, Difficulty in coordination, High investment, and Security and privacy) for DS model implementation will help firms to be prepared beforehand. For practical values, first, the results of this study can help firms develop a servitization strategy to gain a competitive advantage. Second, managers can learn the importance of DTs and incorporate them into their operations. Then, firms can formulate their strategies depending on the service type and purpose.

This case study has several limitations. We selected Domino's operation in the three countries to study its characteristics. Additional characteristics would have emerged if other countries had been chosen. Although we analyzed the DS model of Domino's, a comparative study with other firms can be conducted to identify differences and create a common strategy for all pizza companies to flourish. Further research can be conducted by focusing on the digital technology used by other companies and the maintenance of sustainable businesses. Interviews and empirical studies are suggested for future research.

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