

# **Digital Transformation and Its Influence on Performance of Creative Industry Companies: The case of Vietnam**

Van Hai Trieu Tran, Ph.D.

Doctoral Thesis Summary

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**Digitální transformace a její vliv na výkonnost společností  
kreativních průmyslů ve Vietnamu**

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## ABSTRACT

Digital transformation has recently become a popular concept globally, along with the development of high technologies following the trend of Industry 4.0. It has brought much creativity and innovation for growth in different industries. Especially technology innovation based on digital platforms is vital for creative companies to compete in the market. Creative industries are the term used for fields where goods and services depend on periods of creation, production, and distribution originating from the input of creative and intellectual capital (UNCTAD, 2008). Creative industries are now pioneering and helping to promote brands and exploit markets for other industries. They focus on critical fields with high competitiveness and dynamics and advance the direction of diversifying and linking multidisciplinary; as a result, there are many opportunities to expand creative industries based on inbound and outbound cooperation. Furthermore, creative industries contribute significantly to GDP growth and influence other macroeconomic indicators, including employment, interest rates, and associated social programs (Martinaitytė & Kregždaitė, 2015).

According to UNCTAD, creative industries may be broken down into several subgroups, such as design, creative services, new media, audio-visuals, performing arts, traditional cultural expressions, cultural sites, visual arts, publishing, and printed media (UNCTAD, 2008). The current trend of digital technologies, namely artificial intelligence, big data capture and analytics, blockchain, augmented reality, virtual reality, digital marketing, and online advertising, are also applied in creative industries (UNCTAD, 2018). Furthermore, digital transformation derived from the information communication technology infrastructure improves competitiveness and company performance by improving business models, modern technologies, processes, products, and services (Goerzig & Bauernhansl, 2018). Digital transformation has also improved company performance by applying new technologies, such as improving the limitation of broadcast coverage and business models in the field of digital television (Kaltum et al., 2016), upgrading company image by using social networks and websites to build a good relationship with the customer (Jones et al., 2015), and enhancing the interaction between visitors and virtual museums (Margetis et al., 2021).

As such, the primary goal of this thesis is to offer a theoretical and methodological understanding of the research framework for adopting digital transformation and evaluating its impact on company performance. The theoretical framework is based on theories of Industry 4.0, digital transformation, company performance, and technology-organization-environment (TOE) framework. This study addresses the research aim of identifying two issues associated with the research

gap. First, identify the factors that affect the adoption of digital transformation in Vietnam's creative industries. Second, considering factors of company performance that are impacted by the adoption of digital transformation in Vietnam's creative industries.

The proposed research framework model fills the research gap using the TOE; especially, it emphasizes how company performance is affected by the adoption of digital transformation. An investigation carries out in creative companies in Vietnam; participants in the survey are mainly from Hanoi and Ho Chi Minh City. These respondents include middle and senior managers and owners of creative businesses in Vietnam. Data are collected and tested using the structural equation modeling (SEM) approach.

The analysis shows a significant correlation between technological, organizational, and environmental factors and the adoption of digital transformation. The investigation also shows that adopting digital transformation significantly influences the company's performance. These results contribute much more to our understanding of the challenges raised by the digital revolution in the creative industries. The research findings can help researchers and practitioners in creative companies to identify factors based on contexts, including technology, organization, and environment, that impact adoption of digital transformation; moreover, they bring new insight into company performance influenced by digital transformation. Furthermore, based on these findings, a list of recommendations is proposed, each of which has the potential to have significant implications for the application of the adoption of digital transformation in creative companies in Vietnam.

## **ABSTRAKT**

Digitální transformace se v poslední době stala celosvětově populárním pojmem spolu s rozvojem špičkových technologií podle trendu Průmyslu 4.0. Přinesla kreativitu a inovace pro růst v různých průmyslových odvětvích. Zejména technologické inovace založené na digitálních platformách jsou zásadní pro to, aby kreativní společnosti mohly konkurovat na trhu. Je evidentní, že kreativní průmysl je termín používaný pro oblasti, kde je tvorba, produkce a distribuce výrobků a služby závislá na vstupech kreativního a intelektuálního kapitálu (UNCTAD, 2008). Kreativní průmysly jsou průkopníky a pomáhají propagovat značky a využívat trhy pro jiná odvětví. Zaměřují se na kritické oblasti s vysokou konkurenceschopností a dynamikou a posouvají směr diverzifikace a propojování multidisciplinárně; v důsledku toho existuje mnoho příležitostí k rozšíření kreativních odvětví na základě vzájemné spolupráce. Kromě toho kreativní průmysly významně přispívají k růstu HDP a ovlivňují další makroekonomické

ukazatele, včetně zaměstnanosti, úrokových sazeb a souvisejících sociálních programů (Martinaitytė & Kregždaitė, 2015).

Podle UNCTAD lze kreativní průmysly rozdělit do několika podskupin, jako je design, kreativní služby, nová média, audiovizuální umění, scénická umění, tradiční kulturní projevy, kulturní místa, vizuální umění, vydavatelství a tištěná média (UNCTAD, 2008). Současný trend digitálních technologií, konkrétně umělá inteligence, sběr a analytika velkých dat, blockchain, rozšířená realita, virtuální realita, digitální marketing a online reklama se uplatňují i v kreativních odvětvích (UNCTAD, 2018). Kromě toho digitální transformace odvozená z infrastruktury informačních a komunikačních technologií zlepšuje konkurenceschopnost a výkonnost společnosti zlepšováním business modelů, moderních technologií, procesů, produktů a služeb (Goerzig & Bauernhansl, 2018). Digitální transformace také zlepšila výkonnost společnosti aplikací nových technologií, jako je zlepšení pokrytí vysílání v oblasti digitální televize (Kaltum et al., 2016), vylepšení image společnosti pomocí sociálních sítí a webových stránek k vybudování dobrých vztahů se zákazníkem (Jones et al., 2015) a posílení interakce mezi návštěvníky a virtuálními muzei (Margetis et al., 2021).

Primárním cílem této práce je proto nabídnout teoretický a metodologický výzkumný rámec pro digitální transformaci a vyhodnocení jejího dopadu na výkonnost společnosti. Teoretický rámec je založen na teoriích Průmyslové 4.0, digitální transformaci, výkonnosti společnosti a rámci technologie-organizace-prostředí (TOE). Tato studie se zaměřuje na dva problémy spojené s mezerou ve výzkumu. Nejprve identifikujte faktory, které ovlivňují přijetí digitální transformace ve vietnamském kreativním průmyslu. Za druhé, identifikuje faktory výkonnosti společnosti, které jsou ovlivněny digitální transformací ve vietnamském kreativním průmyslu.

Navrhovaný model výzkumného rámce zaplňuje mezeru ve výzkumu pomocí využití rámce technologie-organizace-prostředí; zejména zdůrazňuje, jak je výkonost společnosti ovlivněna přijetím digitální transformace. Šetření bylo provedeno v kreativních společnostech ve Vietnamu; účastníci průzkumu byli především z Hanoje a Ho Či Minova města. Mezi tyto respondenty patřili střední a vyšší manažeři a majitelé kreativních podniků ve Vietnamu. Data byla testována pomocí modelování strukturních rovnic (SEM).

Analýza ukázala významnou korelaci mezi faktory technologickými, organizačními a faktory prostředí a přijetím digitální transformace. Šetření rovněž prokázalo, že přijetí digitální transformace významně ovlivňuje výkonnost společnosti. Tyto výsledky přispívají k pochopení výzev, které přináší digitální revoluce v kreativních odvětvích. Výsledky výzkumu mohou pomoci výzkumníkům a praktikům v kreativních společnostech identifikovat faktory v

kontextu technologií, organizace a prostředí, které ovlivňují přijetí digitální transformace; navíc přináší nový pohled na výkonnost společnosti ovlivněnou digitální transformací. Dále je na základě těchto poznatků navržen seznam doporučení, z nichž každé má potenciál mít významné důsledky pro aplikaci digitální transformace v kreativních společnostech ve Vietnamu.

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## INTRODUCTION

The highly integrated platform of the digital-physical-biological connection system with the breakthrough of big data, internet of things, artificial intelligence, data management platform, cloud, blockchain, and others is the source of the Industry 4.0 revolution. According to the study by Schumacher, Erol, and Sihh (2016), Industry 4.0 is the advance of technology, including the internet and supported technology for machines, equipment, and human factor to create intelligent machines, processes for the organization, and good value chain. In addition, Nwankpa and Roumani (2016) demonstrated the shift and transformation facilitated by technological platforms; therefore, digital transformation is detectable as an enterprise-wide transition to platforms that include several advanced technologies. One core tenet of Industry 4.0 is using cutting-edge technology for digitalization and digital transformation in any industry to boost corporate performance in various ways.

The creative industries are vital for the expansion of the economy, and their impact is observable in a variety of macroeconomic indicators, including the gross domestic product index, levels of employment and unemployment, interest rates, and the welfare programs that are associated with those variables (Martinaitytė & Kregždaitė, 2015). Heritage, arts, media, and functional creations are the four major categories of creative industries. These categories were established in 2008 by the United Nations Conference on Trade and Development (UNCTAD, 2008). These large groups are divided into nine subgroups, which include the traditional cultural expressions (like arts and crafts, festivals, and celebrations), cultural sites (such as archaeological sites, museums, libraries, and exhibitions), visual arts (such as painting, sculpture, photography, and antiques), performing arts (such as live music, theatre, dance, opera, circus, puppetry), publishing and printed media (including books, press and other publications), audio-visuals (namely film, television, radio, and other broadcasting), design (along with other interiors, graphic, fashion, jewellery, toys), creative services (together with architectural, advertising, cultural and recreational, creative research and development, digital and other related creative services), and new media (e.g., software, video games, and digitalized creative content). The study by Mangematin et al. (2014) provides more insight into the effects of digitalization on the creative industries, including music, films and videos, publishing, video games, and television, based on content distribution, storage, and viewer choice. Moreover, UNCTAD (2018) cites a boom of technological innovations in the creative industries. These technologies include artificial intelligence, big data capture and analytics, blockchain, augmented reality, virtual reality, digital marketing, and online advertising.

More remarkably, the technology-organization-environment (TOE) framework (Tornatzky & Fleischer, 1990) and the technology acceptance model (TAM) (Davis, 1989) have been used in practical studies to look at how technology adopts in different industries, such as that of the adoption of cloud computing in small and medium enterprises (Ahmed, 2020), the impact of organizational adoption of social networks in hospital industry (Pateli et al., 2020) and the adoption of augmented reality for e-Commerce (Chandra & Kumar, 2018). Furthermore, several studies have shown that digital transformation improves company performance. Digital transformation based on the ICT infrastructures promotes competitiveness and firm performance by enhancing business models, cutting-edge technologies, processes, goods, and services (Goerzig & Bauernhansl, 2018). Digital transformation also improves labor productivity, cost savings (Guo & Xu, 2021), and optimization of business activities in companies (Awa et al., 2015). In fact, many prior complex studies focused on creative industries have been out in developing country as Indonesia (Fahmi et al., 2016); South Africa's creative industries as economic drivers (Oyekunle & Sirayi, 2018); Creative industries affecting ASEAN's economic performance during pandemics (Che Arshad & Irijanto; 2022); The mapping of crucial creative areas in Vietnam for arts, music, movies, dance, design, and ICT (Ly, 2014; Ly, An & Quyen, 2018). However, there is still no complex study in the context of creative industries related to digital transformation in developing countries based on TOE frameworks.

Impressive highlights of Vietnam compared to other developing countries are that Vietnam's national strategy policy for creative industries contains a 2030 vision. The newly approved national digital transformation criteria will help innovative enterprises enhance investment and execute digital transformation initiatives. Vietnam has joined the Association of South East Asian Nations (ASEAN) and linked Free Trade Areas (FTAs) with several countries and regions, such as European-Vietnam Free Trade Agreement (EVTFA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and other similar things. Hence, Vietnam has tremendous potential to establish a creative industrial economy in Southeast Asia, and creative industries will be one of Vietnam's principal assets and strengths in the future. However, the concept of creative industries (UNCTAD, 2008) is not used in Vietnam. There is only an official Vietnamese cultural industry definition and classification following the development strategy of the Vietnamese cultural industry by 2020 and with a vision to 2030 from Decision No. 1755/QD-TTg issued on 8 September 2016, such as advertising, architecture, software, and entertainment games, crafts, design, film, publishing, fashion, performing arts, arts, photography and exhibitions, television and radio, and cultural tourism. Therefore, the thesis is

devoted to studying digital transformation and its influences on the performance of creative industry companies in the case of Vietnam based on the classification of creative industries of UNCTAD (2018) instead of using the local concept of cultural industry in Vietnam.

## **1. CURRENT STATE OF SUBJECT AREA**

This chapter analyses the theoretical background of the research area and provides an overview of creative industries' development. Importantly it also considers the historical context of Vietnam's creative and cultural environment from many prior studies, including Vietnam's economy overview, Vietnam's cultural policy, Vietnam's creative and cultural industries, along with opportunities and challenges of Vietnam's creative industries.

### **1.1 Theoretical background in the research area**

During the industrial revolution, there were four stages: steam-based machines in the 18th century; electrical energy-based mass production in the 19th century; computer and internet-based knowledge at the end of the 20th century; and an era of artificial intelligence, big data, the internet of things (IoT), cloud, and blockchain in the 21st century (Imran et al., 2018). Specifically, the digital trend of the digital-creative economy evolves through big data and analytics, augmented reality, artificial intelligence, virtual reality, blockchain, digital marketing, and online advertising (UNCTAD, 2018). Nevertheless, the critical point is which technology adoption theories should apply in this research; for instance, the technology acceptance model (TAM) of Davis (1989) and technology-organization-environment framework (TOE) of Tornatzky and Fleischer (1990).

Based on the TOE framework, Lin et al. (2018) demonstrate that researchers use the TOE framework to examine the acceptability of diverse technologies, such as mobile marketing, enterprise 2.0, mobile reservation systems, enterprise resource planning (ERP) systems, e-commerce, and information and communication technologies (ICT). The research of Chandra and Kumar (2018) shows that senior management support, relative advantage, technological competitiveness, and customer preparedness significantly impact the adoption of augmented reality by the organization for e-Commerce. In addition, several studies illustrate applications of modern digital technology for digital transformation in creative industries. Jones et al. (2015) demonstrate the efficacy of social networks and websites in expanding attention and inquiry, acquiring new customers, maintaining positive consumer connections, and enhancing the image of businesses. It has also been recommended that museums adopt virtual and augmented reality technology to let visitors explore, experience, and engage with

more realistic digital replicas (Margetis et al., 2021). Notably, the research by Mangematin et al. (2014) has thrown further insight into how digitalization has impacted music, movies and videos, publishing, video games, and television in the creative industries. Furthermore, digital transformation improves company operating performance, such as cost savings, labor productivity improvement, using assets effectively, and supply chain optimization (Guo & Xu, 2021).

## **1.2 An overview of creative industries' development**

Creative industries are ones of the most active parts of the global economy today, allowing developing nations to jump into new high-growth areas (Dronyuk et al., 2019). Many developed countries have considered creative industries as the backbone of their economies, such as the United Kingdom, USA, Germany, Singapore, and Japan (Zhang et al., 2011). Young people ages 15-29 have worked in the creative industries more than in any other industry, and women make up almost half of the workforce in this area; creative industries are responsible for around 30 million employment and 3 percent of the global GDP (The Economist, 2021). According to the study by Dronyuk et al. (2019), nearly one million businesses and 1,784 creative clusters have operated as creative industries inside the European Union, and there are 180 creative cities per 72 nations around the globe. Creative clusters account for more than sixty percent of businesses operating in the film, video, music, video game, software, design, and architectural sectors.

According to the report by The Economist (2021), the value of innovative products doubled from 2002 to 2015, between 208 billion USD and 509 billion USD, driven mainly by design, fashion, and cinema, which had tremendous growth. In 2015, four developed countries (the United States of America, France, Italy, and the United Kingdom) exported the most innovative products among the top eight countries (the United States of America, France, Italy, the United Kingdom, Germany, Switzerland, Netherland, and Poland). China, Hong Kong, India, and Singapore dominated developing-country exports (China, Hong Kong, India, Singapore, Taiwan Province of China, Turkey, Thailand, Malaysia, Mexico, and the Philippines). The exports of creative products from South Africa's developing economy totaled 3.4 billion USD compared to 476 million USD for the import of innovative products, with an export growth rate of 18.8 percent on average during 2003-2015 (Oyekunle & Sirayi, 2018). More remarkably, many countries (Vietnam, Singapore, Thailand, Malaysia, Indonesia, and Brunei) that belong to ASEAN had exports of creative industries generally stable between 2013 and 2021. During 2013-2021, these ASEAN nations had an estimated yearly export growth rate of 20.04 percent in the creative industries. It had progressively increased from 18.83 percent of overall commerce in 2013 to

23.83 percent in 2021. Vietnam was the country that had the biggest exports of creative products in comparison with others, while Brunei had export at least in this period (Che Arshad & Irijanto; 2022).

### **1.3 Vietnam's economy and the development of creative industries**

#### **1.3.1 Vietnam's economy overview**

According to General Statistics Office (GSO, 2021), Vietnam completed the five-year socioeconomic development mission in 2016-2020 with many difficulties and challenges. It can be said that Vietnam has achieved economic growth during the last decade in the period 2016-2020 through socioeconomic indicators; for instance, the GDP per capita from 2016 to 2020 was more than \$3,500, and the average growth of GDP from 2016 to 2020 was approximately 7%. In 2020, 34% of GDP was saved for reinvestment, urban unemployment was less than 4%, and 80% of the population had health insurance. Vietnam's GDP increased by 6.78 percent between 2016 and 2019, more than Singapore's 2.44%, Malaysia's 4.8%, and the Philippines' 6.6%. Vietnam is one of the countries that have the highest economic growth rate in the world and has macroeconomic and political stability.

#### **1.3.2 Vietnam's cultural policy**

Son (2013) divided Vietnam's cultural policy into three periods: before 1954, 1954-1986, and from 1986 to the present. Before 1954, this period had focused on cultural activities that promoted propaganda for the resistance movement with the values of patriotism and the struggle for national independence, and the image of the person-soldier, became the primary inspiration for all artistic creations. Vietnam had been building the ideas of a culture with socialist and nationalistic ideals that had their positions, roles, and functions during 1954-1986. Remarkably, the Government established the Ministry of Culture in 1955 and other professional associations around this time, such as the Association of Architects, the Association of Writers, the Association of Fine Artists, the Association of Theatre Artists, and the Association of Musicians. The Party has been some changes regarding its view on a culture built up based on the characteristics of nationalism, modernity, and humanity from 1986.

Furthermore, Ly (2014) referred to the importance of reform in 1986, which has helped economic reform, poverty eradication, and globalization significantly change Vietnam's society. Loan (2019) indicates that there is 26 cultural heritage listed by UNESCO, 3,447 national heritage; 95 unique national heritage; 142 national treasures; 228 intangible cultural heritage inscribed on the national intangible cultural heritage list 159 museums in Vietnam. Moreover, many

historical and cultural heritage and attractions have been restored by the state budget or from the funding mobilized from other social sources.

### **1.3.3 Creative and Cultural Industries in Vietnam**

Vietnam's doi moi (renovation) foreign policy of 1986 must be considered the apex of the growth of the country's creative industries (Were, 2019; Dong & Truong, 2020; Path, 2020). During 35 years of doi moi, the policy has helped developing countries like Vietnam develop numerous socioeconomic aspects, living standards have steadily risen, and the economy has become deeply integrated into the global economy, despite the country still facing numerous challenges and obstacles. However, only a few prior studies have used a variety of research approaches to examine the creative economy and creative industries, and Vietnam's creative sectors lack statistical data. According to Dong and Truong's (2020) research, the proportion of Vietnam's exports of creative products to the country's gross domestic product was just 3.21% in 2002 and 5.01% in 2015. Hung (2016) examines the nature of the radio and television-related book publishing sector in Vietnam and the reading culture of printed and electronic books. In addition, the research of the British Council (2018) analyzed the Vietnamese cultural industry's development strategy by 2020 and a vision to 2030 from Decision No. 1755/QD-TTg issued on 8 September 2016, in which it identifies the creative and cultural sectors, such as advertising, apps and software development, architecture, art, and antique market, cinema and video, crafts, fashion design, and jewelry, galleries and exhibitions, etc.

However, the definition of creative industries is more prevalent in the world. UNCTAD (2008) classifies four broad groups as heritage, arts, media, and functional creations. These groups are divided into nine subgroups: traditional cultural expressions, cultural sites, visual arts, performing arts, publishing and printed media, audio-visuals, design, creative services, and new media. According to the study by Hoa (2018) and Loi et al. (2019), the value added by the cultural industry compared to GDP was analyzed using input-output tables with two stages between 2007 and 2016. It only reached 0.64% in 2007 but increased more than twice between 2007 and 2012. In addition, the analysis showed Vietnam's economic growth from 2007 to 2016. The highest contribution of agriculture was nearly 30% compared to others from 2007 to 2012. The trend of its contribution steadily decreased by 17.9% in 2016. The industry and services' contribution sharply increased by 48.4% and 31.1%, while the culture's contribution was 2% during 2012 – 2016.

Furthermore, creative industries are pioneering and driving for development of other industrial sectors by providing creativity and innovation. Now many countries have become more aware of the development of creative industries and

consider culture and knowledge as assets and value addition to the whole economy. However, there are still different impressive highlights in some developing countries' creative industries compared to Vietnam. Each developing country has its important development sectors, but some policy makers in emerging countries have a limited understanding of developing creative industries. (Fahmi et al., 2016; Oyekunle & Sirayi, 2018; Che Arshad & Irijanto, 2022). Especially, Vietnam has a comprehensive national strategy that has driven the growth of creative industries with a vision for 2030, in addition to the national digital transformation criteria for firms, ministries, and provinces.

#### **1.3.4 Opportunities and challenges for Vietnam's creative industries**

According to World Economic Forum (WEF, 2019), the opportunities are both creative economy and creative industry, as follows: (1) lower barriers to entry for businesses are the traditional creative contents that are being digitally produced, distributed, and stored, such as music, film, television, literature. (2) by distributing innovative cross-border products, companies can seek many works from outbound, and consumers quickly access goods and services in the world. (3) new technologies benefit clients with many choices, conveniences, and affordabilities. However, the creative industry must face many challenges (British Council, 2018): (1) human resource issues as a significant constraint on the sector, (2) the lack of public policies to allow to develop sectors, (3) the lack of judicial protection of intellectual property rights, (4) the lack of policy support through a meaningful regulatory framework hindering the development of innovative, creative, and design-led activities, (5) the lack of subsidies for the arts and cultural sectors, (6) how the creative economy should be taxed and financed.

## **2. RESEARCH AIM, RESEARCH QUESTION, AND RESEARCH OBJECTIVES**

The overview analysis shows the essential benefits of creative industries to socioeconomic development in developed and developing countries, including Vietnam. Especially each developing country has its vital areas for growth; however, some policy makers of developing countries have finite awareness of developing the creative industries. The highlight difference in the creative industries among developing countries is that of Vietnam, where Vietnam's comprehensive national strategy has driven the development of the creative industries with a vision to 2030. The recently approved national digital transformation criterion for businesses, ministries, and provinces will be a crucial foundation for innovative companies to boost investment and implement digital transformation strategies. Therefore, the chosen research topic context with the case of a developing country like Vietnam compared to other countries is appropriate for conducting a study on adopting digital transformation and

company performance of creative firms in a country with excellent potential for development and diversity of national cultural identity.

Furthermore, as analyzed relevant theories in the research area, the researchers largely agreed with Tornatzky and Fleisher (1990) that the three TOE contexts impact adoption; however, they hypothesized that there is a unique set of characteristics or metrics for every technology or context evaluated (Baker, 2011). However, no research on adopting digital transformation to increase creative companies' performance derived from the TOE framework in developing countries has been conducted. Based on the identified research gap, therefore, the main research aim is defined as follows:

**Research aim:** To identify factors influencing creative companies' digital transformation adoption and analyze the effect of digital transformation on company performance of creative industry companies.

As referred to the research aim, this part proposes two research questions, along with partial research objectives, as follows:

**Research question 1:** What factors influence companies' adoption of digital transformation in creative industries?

- **Research objective 1a:** To identify factors in the technology context.
- **Research objective 1b:** To identify factors in the organization context.
- **Research objective 1c:** To identify factors in the environment context.

**Research question 2:** What is the impact of digital transformation on companies' performance in creative industries?

- **Research objective 2:** To identify the factors of company performance impacted by digital transformation.

### **3. THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT**

As discussed above, digital transformation can be seen as a critical decision that can change all business activities in any company or organization. Therefore, in this study, the TOE framework theory is used to consider the relationship between factors in technology, organization, environment contexts, and adoption of digital transformation, as well as the effect of digital transformation on the performance of creative companies.

#### **3.1 Technology context**

According to Awe and his colleagues, the technology platform built on information technology applications depends on several factors, including technical abilities, application developers, user experiences, and the internal



technology infrastructure of organizations (Awa, Ojiabo & Emecheta, 2015). The findings of a study conducted by UNCTAD (2018), specifically, the use of contemporary technology in creative industries for digital transformation, are assessed by elements (big data capture and analytics, augmented reality, artificial intelligence, virtual reality, blockchain, digital marketing, and online advertising). Research by Murschetz and Schlütz (2018) explores the challenges and opportunities of big data to advance value relationships between television broadcasters, audiences, and advertisers in digital television broadcasting. The gaming industry is often recognized as one of the most important markets for virtual reality, along with other related fields such as the previsualization of designs or creative creations in building, architecture, and film-making (Anantrasirichai & Bull, 2022). Augmented reality enhances the actual world with virtual things, a rich experience, and news for clients (Li, 2013). More especially, programs, algorithms, and other components that contribute to developing more intelligent goods or services can be called artificial intelligence (Shankar, 2018). Products and services are quickly updated for customers, increasing the likelihood of making a purchase and diffusing the spread of information using digital marketing and online advertising (Erokhina et al., 2018). Furthermore, blockchain technology may increase openness throughout the music industry's supply chain; this technology can determine who is legally responsible for a work's copyright (Arcos, 2018). Therefore, the following research hypotheses have been developed to investigate adopting digital transformation within the technological context of creative industries.

H1a: Big data capture and analytics positively influence the adoption of digital transformation.

H1b: Augmented reality positively influences the adoption of digital transformation.

H1c: Artificial intelligence positively influences the adoption of digital transformation.

H1d: Virtual reality positively influences the adoption of digital transformation.

H1e: Blockchain positively influences the adoption of digital transformation.

H1f: Digital marketing and online advertising positively influence the adoption of digital transformation.

### **3.2 Organization context**

Researchers have studied factors in an organizational context. For instance, Hwang et al. (2016) determined organizational context elements: corporate resources and assets, internal stakeholders, and organizational procedures to foster innovative business practices. The essential factors emphasized by Chandra and Kumar (2018) are the competence of decision-makers, financial strength, and

the support of senior management for the adoption of the augmented reality of e-Commerce. Other elements that impact the adoption of e-Commerce include the company mission, social influences, and corporate size (Awa et al., 2015). In his systematic review of the literature in the public sector, Mergel (2013) found that social media techniques included using Facebook, YouTube, Twitter, blogs, or other digital media sharing platforms to promote the organization's mission and handle issues and relationships with the public. However, digital transformation also needs to be extensive finance and other resources. Research by Teng et al. (2022) on the digital transformation and performance of SMEs also focuses on the requirements of digital transformation that need to have resources, such as the support of finance, people, materials, and other resources. Consequently, the organizational context of creative industries is evaluated by factors (social influences, organisation's mission, and financial strength), and the following research hypotheses have been developed.

H2a: Social influence positively affects the adoption of digital transformation.

H2b: Organisation's mission positively influences the adoption of digital transformation.

H2c: Financial strength positively influences the adoption of digital transformation.

### **3.3 Environment context**

In their work on digital mindsets, Solberg et al. (2020) state that the impetus for digital transformation comes from the conviction that technological advances can foster innovation and competitive advantage. The business environment context includes Government, industry, rivals, partners, and consumers. Hwang et al. (2016) decided to focus their attention on research on green supply chain adoption on four distinct categories of environmental factors: government regulation, consumers, competitors, and social communities. Chandra and Kumar (2018) cite consumer readiness and competitive pressure in the study of the adoption of augmented reality. Furthermore, Verhoef et al. (2021) argue that digital transformation facilitates cross-border connections with providers, consumers, and competitors through digital technologies. Advanced digital technologies push firms under pressure to innovate; new goods and business models allow massive platforms to facilitate differentiation by responding to client preferences (Capobianco & Nyeso, 2018). As such, the environmental context of creative industries is evaluated by factors (customer, competitor, competitive pressure, and social community), and the following research hypotheses have been developed.

H3a: Customer positively influences the adoption of digital transformation.

H3b: Competitor positively influences the adoption of digital transformation.

H3c: Competitive pressure positively influences the adoption of digital transformation.

H3d: Social community positively influences the adoption of digital transformation.

### **3.4 Company performance**

According to Şerban (2017), digitalization requires a business with in-depth knowledge and understanding of high-tech for investment to effectively benefit from technological architecture and infrastructure. Customer engagement, mainly when it is data-driven big data, may be sustainable for businesses, provided they can satisfy customers with their value (Kunz et al., 2017). The value of information technology can give corporate profitability, consumer surplus, and productivity; big data also includes cost reduction and enhances goods and services (Huang et al., 2020). Furthermore, the study by Bayo-Moriones et al. (2013) showed that internal and external communication, and operational performance, were the main points where ICT has been an indirect effect but significant contribution to overall success, such as profitability, market share, and margin. Similarly, Jones et al. (2015) also admitted the advantages of websites and social networks as contemporary marketing channels to enhance sales and assist in cost reduction. Teng et al. (2022) have also proven in recent research that digital transformation (that is, digital technology, digital skills, and digital transformation strategy) has a positive effect on the performance of SMEs. In addition, Rodriguez, Ajjan, and Peterson (2016) identified the resource-based approach as the basis for social networks in significant organizations with extensive sales force use. Especially, Zhu et al. (2021) presented a comprehensive analysis of how investments in research and development (R&D) and ICT positively influence product and process innovation. Consequently, the company's performance is evaluated by factors (customer engagement, profitability, cost reduction, sales growth, productivity, and innovation), and the following research hypotheses have been developed.

H4a: The adoption of digital transformation positively influences customer engagement.

H4b: The adoption of digital transformation positively influences profitability.

H4c: The adoption of digital transformation positively influences cost reduction.

H4d: The adoption of digital transformation positively influences sales growth.

H4e: The adoption of digital transformation positively influences productivity.

H4f: The adoption of digital transformation positively influences innovation.

### **3.5 Control variables**

The survey by Chandra and Kumar (2018) applied control variables such as company size, company age, and the company's location to identify the adopter

affecting the adoption of augmented reality. However, the study by Nwankpa and Datta (2017) focused on company size and the type of industry in their research. In addition to the primary research factors indicated in Figure 3.1, this study uses control variables (company size, creative industry fields) to examine how the adopter affects the adoption of digital transformation and company performance.

### 3.6 Conceptual Framework

After thorough research and analyzing the relevant theories and studies, this thesis presents its research model to address the research gap, which is based on the TOE framework and is structured as follows (Figure 3.1):

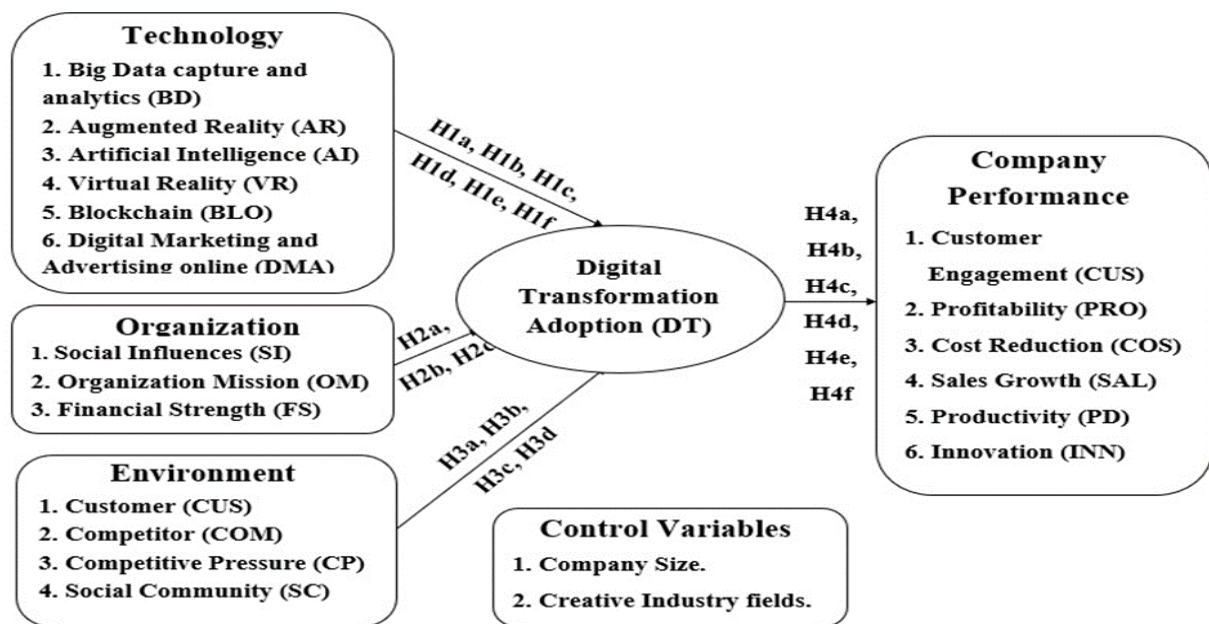


Figure 3.1 Conceptual framework. Source: Own processing

## 4. METHODOLOGY

Based on the development of the theoretical framework and the research framework proposed above, data are collected using an online questionnaire; all the surveyed questions are developed in English and translated into Vietnamese to avoid any misunderstanding caused by potential language barriers. The research interviews experts who are middle and top managers representatives of companies in Vietnam's creative industries, as clarified by UNCTAD (2008).

### 4.1 Research instrument

The research developed a survey questionnaire. Participants were requested to complete responses using a 7-point Likert-type scale on which they rated each item from 1 to 7 for disagreement or agreement. Self-proposed measurement tools were designed for the examination of research hypotheses through factors of adoption of digital transformation (four questions for the survey), technological

context (eighteen questions for the survey), organizational context (nine questions for the survey), environmental context (twelve questions for the survey) and company performance (nineteen questions for the survey).

## **4.2 Population, sample, and data collection**

Most of the survey's emphasis was on Hanoi City and Ho Chi Minh City in Vietnam and a small number of other regions. However, the latent variables are independent, dependent, or both (*shown in Figure 3.1*); therefore, the thesis uses a quantitative approach to apply structural equation modeling (SEM) for testing. According to Hair et al. (2010) and Watson et al. (2014), an acceptable sample size for this study is a 10: 1 ratio between the survey participants and the observed variables. As a result, the minimum sample size for this study is 620, based on the number of variables observed by the factors. In addition, the technique used for sampling is called snowball sampling (Cohen et al., 2007). Snowball sampling is a non-probability sampling methodology. This way, small individual groups of innovative companies were surveyed and asked to select others who would participate in the research. Data was gathered between October 2020 and July 2021. This study applied cutting-edge technology to communicate with survey participants through email, Facebook, Viber, LinkedIn, Skype, Zalo, and many other over-the-top (OTT) apps.

## **4.3 Data analysis procedure**

Data collection was tested and analyzed using the Statistical Package for the Social Sciences (SPSS) version 25 and Analysis of Moment Structures (AMOS) version 25 due to many dependent variables in the research paradigm (*shown in Figure 3.1*); therefore, this model uses the structural equation modeling (SEM) for testing. The testing process follows many steps for analysis, such as demographic statistics, Cronbach's alpha reliability test, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), SEM, and multigroup invariance analysis (Her et al., 2019; Byrne, 2004 & 2010).

# **5. MAIN RESULTS**

The quantitative approach is conducted in this section with the defined hypotheses following the proposed research framework. The findings based on many testing steps include demographic statistics, the Cronbach's alpha reliability test, EFA, CFA, SEM, and multigroup invariance analysis.

## **5.1 Demographic characteristics**

The result of demographic characteristics revealed that this study focused on areas of the creative companies, including design, creative services, new media, audio-visuals, publishing and printed media. There were 674 respondents in this survey;

Ho Chi Minh City was the highest response rate of 64.2% among the major cities. 12.8% of the survey respondents were owners, 44.7% were chief executives, and 34.7% were middle managers. 75.2% of the males participated, but only 24.8% of the females. More than three times as many participants had bachelor's degrees as had master's degrees, and just 2.8% had Ph.D. degrees.

## **5.2 Reliability results**

After conducting the Cronbach alpha reliability test, the results showed that the blockchain, financial strength, social community, and cost reduction were removed because their corresponding Cronbach alpha coefficients were lower than 0.7 (Hair et al., 2010; Tavakol & Dennick, 2011). Other factors had a value of greater than 0.8, indicating a good level of stability for examining the research framework model.

## **5.3 Exploratory factor analysis**

According to Rule of thumb 2 of Hair et al. (2010), the objective is to examine the Kaiser-Meyer-Olkin (KMO) sampling adequacy measure (MSA) and the Bartlett test of sphericity for exploratory factor analysis. The findings showed that the KMO measure of sampling adequacy (KMO = 0.93) was greater than 0.5, and Bartlett's sphericity test (Chi-square = 24301.84, df = 1326, p-value = 0.000) was statistically significant at the level of  $p < 5\%$  after using primary axis factoring in combination with the Promax rotation technique. Furthermore, there was 16 extracted factors (factor loadings  $> 0.5$ ) account for 69.84% of the total variance explained in the data, and the eigenvalue was greater than 1 (Hair et al., 2010; Mohammed et al., 2016; Henson & Roberts, 2006).

## **5.4 Confirmatory factor analysis**

After completing the previous analysis steps, such as Cronbach's alpha reliability and exploratory factor analysis, this part is confirmatory factor analysis based on the theoretical framework of this study, as shown in Figure 3.1. The measurement model includes sixteen first-order factors (DMA, AI, VR, AR, BD, SI, OM, CP, CUS, COM, CS, SAL, PRO, INN, PD, and DT) (Figure 5.1). The study result of CFA indicated that the goodness of fit indices was within the ranges of ( $\chi^2 = 2829.5$ ,  $p = .000$ ,  $CMIN/DF = 2.452$ ,  $CFI = .929$ ,  $TLI = .919$  and  $RMSEA = .046$ ) (Hair et al., 2010; Fan et al., 2016).

The standard loading analysis exceeded 0.5 to satisfy convergence and discriminant validity requirements. Construct validity results (average variance extracted (AVE) > 0.5, composite reliability (CR) > 0.7, AVE > maximum shared variance (MSV), square root of AVE > inter-constructs correlation) were also supported for all constructs (Hair et al., 2010; Soares & Pinho, 2014; Akter et al., 2016). Deriving from empirical results of CFA and theoretical evidence, this exploration indicates that the measurement model (sixteen correlated first-order factors) is a superior model to analyze SEM in the next step.

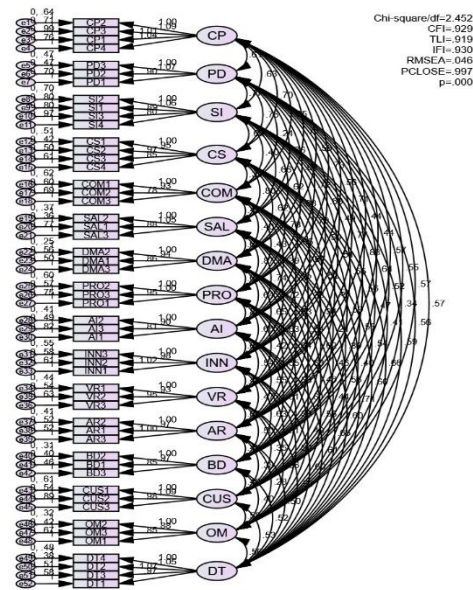


Figure 5.1: Sixteen correlated first-order factors of CFA. Source: Own research.

### 5.5 Structural equation modeling analysis

In the structural equation modeling analysis, all goodness of fit indices were satisfactory and supported the measurement model's validity ( $\chi^2 = 3182.7$ ,  $p = 0.000$ ,  $CMIN/DF = 2.630$ ,  $CFI = 0.917$ ,  $TLI = 0.909$ , and  $RMSEA = 0.049$ ) based on the findings shown in Figure 5.2 (Hair et al., 2010; Fan et al., 2016). Table 5.1 shows that the study hypotheses were statistically significant at levels of 1% and 5%, which were essential findings.

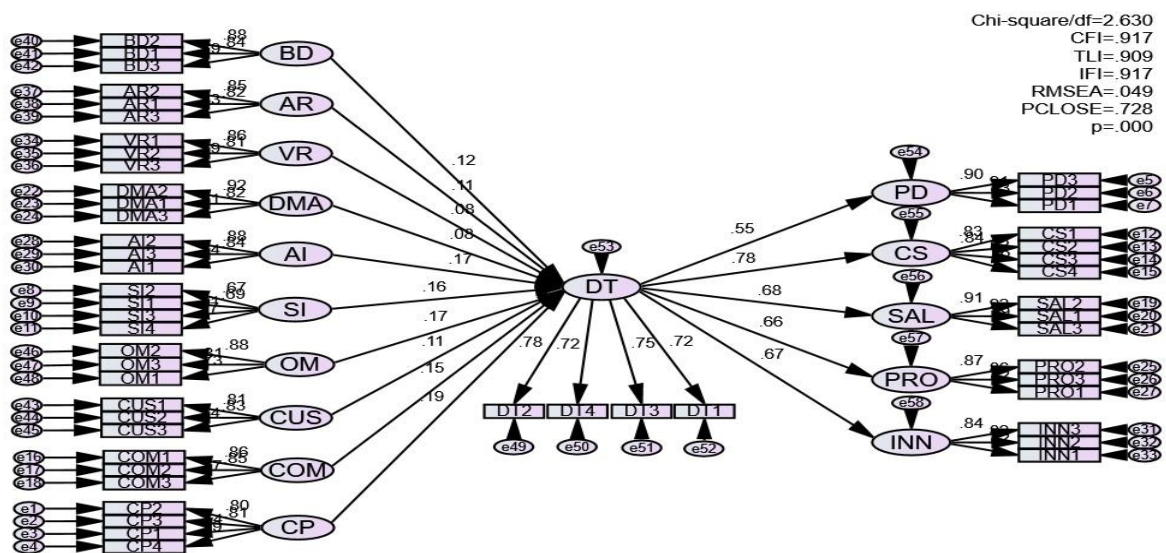


Figure 5.2: The results of Structural Equation Modeling Analysis. Source: Own processing.

As shown in Table 5.1, statistically significant hypotheses were found, such as H1a, H1b, H1c, H1d, H1f, H2a, H2b, H3a, H3b, H3c, H4a, H4b, H4d, H4e, and H4f. Additionally, the R-square of DT was 82.4 percent, indicating that the fluctuation of DT depends on 82.4 percent of independent variables. The R-square of CS, PRO, SAL, PD, and INN are explained similarly.

More specifically, the findings of hypotheses (H1a, H1b, H1c, H1d, and H1f) are in accordance with the research conducted by Chandra and Kumar (2018), which indicated the relative advantage of technology that positively affects the adoption of augmented reality. This research first investigates several other outcomes, including hypotheses (H4a, H4b, H4d, H4e, and H4f). The findings of Venkatesh et al. (2003), who had conducted a study on the effect of social influence on behavior intention in the context of user acceptance of information technology, concluded that there was no statistically significant relationship between the two. However, the result of the testing hypothesis (H2a) does not agree with these findings. The study findings from hypotheses (H3a, H3c) are in line with those of Tripopsakul (2018), who highlighted the importance of competitive pressure and customers concerning the adoption of social media by entrepreneurial students. However, the consequences of hypotheses (H3b, H3c) differ significantly from those introduced by Mckinnie (2016), who found no relationship between competitive pressure and the adoption of cloud computing in their study. Furthermore, the results of the second hypothesis (H2b) validated the findings of Karatepe and Aga (2016), who concluded that the goal of an organization positively impacted employee performance.

Table 5.1 Results of Structural Equation Modeling Analysis

Research hypotheses		SRW	P-value	Results	R-squared	
H1a	BD --> DT	.124	.000***	Supported	DT	.824
H1b	AR --> DT	.108	.002***	Supported	CS	.614
H1c	AI --> DT	.171	.000***	Supported	PRO	.437
H1d	VR --> DT	.077	.022**	Supported	SAL	.461
H1f	DMA --> DT	.077	.022**	Supported	PD	.306
H2a	SI --> DT	.158	.000***	Supported	INN	.447
H2b	OM --> DT	.172	.000***	Supported		
H3a	CUS --> DT	.110	.001***	Supported		
H3b	COM --> DT	.151	.000***	Supported		
H3c	CP --> DT	.188	.000***	Supported		
H4a	DT --> CS	.783	.000***	Supported		
H4b	DT --> PRO	.661	.000***	Supported		
H4d	DT --> SAL	.679	.000***	Supported		
H4e	DT --> PD	.553	.000***	Supported		
H4f	DT --> INN	.669	.000***	Supported		



Source: Own research. Notes: Significance is statistical at 10% (\*), 5% (\*\*), 1% (\*\*\*). SRW: Standardized regression weights, R-squared: Squared multiple correlations.

## 5.6 Multigroup invariance analysis

The size of businesses and the type of creative industries they operate in are the two main foci of the control variables used in the multigroup invariance study. Byrne (2004 & 2010) provides the foundation for multigroup invariance analysis by outlining two methods for doing comparison tests of invariance across groups: the conventional  $\chi^2$  difference method and the practical CFI difference method. As a result, we compute the probability of  $\Delta\chi^2$ , the  $\chi^2$  difference ( $\Delta\chi^2$ ), and the degree of freedom difference ( $\Delta df$ ) for the multigroup invariance and non-invariance test.

In this analysis, the company size was separated and combined into four subgroups (group 1 (1-50), group 2 (51-100), group 3 (101-500), and group 4 (501- more) for multigroup invariance analysis. Similar to the fields of the creative industry, they merged into three groups (group 1 (publishing and printed media), group 2 (audio-visuals), and group 3 (design and new media)) for multigroup invariance analysis. The findings indicated a statistically significant difference at the p-value of 1% for the creative industry fields ( $\Delta\chi^2 = 91.76$ ,  $\Delta df = 30$ , p-value = 0.000% < 5%) and company size ( $\Delta\chi^2 = 82.22$ ,  $\Delta df = 45$ , p-value = 0.013% < 5%). As a result, the  $\chi^2$  difference has a statistical significance, meaning there was a difference in loadings across groups and multigroup non-invariance (Byrne, 2004 & 2010; Her et al., 2019). In other words, there are differences in study findings among groups.

## 6. DISCUSSION

The findings showed that four factors (blockchain, financial strength, social community, and cost reduction) did not meet the Cronbach alpha reliability. Furthermore, the measurement model evaluated the research hypotheses (H1a, H1b, H1c, H1d, H1f, H2a, H2b, H3a, H3b, H3c, H4a, H4b, H4d, H4e, and H4f) as indicated in Figure 5.1. The measurement model matched the confirmatory factor analysis results and met the valid requirements for the SEM analysis.

According to data analysis (Table 5.1), big data capture and analytics, augmented reality, artificial intelligence, virtual reality, digital marketing, and online advertising positively impacted the adoption of digital transformation. Big data capture and analytics, augmented reality, and artificial intelligence was statistically significant at 1%, while virtual reality, digital marketing, and online advertising were moderately significant at 5%. These results showed that the specified hypotheses (H1a, H1b, H1c, H1d, and H1f) are accepted. Social influence and corporate mission also influenced the adoption of digital

transformation. The stated hypotheses (H2a and H2b) were statistically significant with a 1% p-value. The environmental context includes the consumer, the competitor, and the competitive pressure. These findings revealed a positive relationship with the adoption of digital transformation with a 1% p-value; therefore, H3a, H3b, and H3c are accepted. Furthermore, customer engagement, profitability, sales growth, productivity, and innovation were statistically significant with a 1% p-value. Thus, the defined hypotheses (H4a, H4b, H4d, H4e, and H4f) are not rejected. However, when divided into various groups using two control factors (company size and creative industry areas), the groups are non-invariant, meaning there are disparities in findings across groups.

Well-applied technologies like big data capture and analytics (H1a) and artificial intelligence (H1c) provide creative companies several benefits, such as gathering customer data, providing insights, and analyzing the market. Artificial intelligence also makes computers smarter (Oztemel & Gursev, 2020). Big data empowers digital marketers and online advertisers to charge the lowest pricing (H1f) (Jobs et al., 2016). Based on the findings of this study, it is clear that both augmented reality (H1b) and virtual reality (H1d) are integral parts of the digital ecosystem, as they lead to more satisfying and productive interactions between businesses and their customers (Pangilinan, Lukas & Mohan, 2019). This research supported two hypotheses on the organizational context: social influence (H2a) and organizational mission (H2b) are critical to the digital transformation of creative companies. The rise of ICT and social networks has dramatically impacted people's lives, Smailovic et al. (2018) define social influence as how individuals feel, think, and act. This finding is consistent with creative goods or services in creative industries, which focus on providing the correct content or advertising to the right user and viewer and which attempt to attract readily accessible and digestible clients (Kim & Chandler, 2018). This study also recognizes that a company's mission is vital to the success of technologically advanced companies. Customer (H3a), competitor (H3b), and competitive pressure (H3c) also play a significant role in the embrace of digital transformation. According to the above analysis, many creative enterprises have moved to mobile apps, social networks, live chat, and bot chat. These create a better customer experience and boost their interactions with the company's target demographic (Gil-Gomez et al., 2020). Creative companies must use cutting-edge scientific and technical approaches, increase the productivity of their employees, and apply proper management practices to thrive. Tripopsakul (2018) shows that young business owners can compete with cheaper costs by using social media in company management and consumer communication. This study found that digital transformation positively correlates with company performance in Vietnam's creative industries. These include customer engagement (H4a),

profitability (H4b), sales growth (H4d), productivity (H4e), and innovation (H4f). These results agree with Goerzig and Bauernhansl (2018), who showed that digital transformation enhances high-tech processes, commodities, and services while increasing profitability, market share, productivity, and expenses (Huang et al., 2020). However, digital transformation requires technical expertise (Şerban, 2017) and close client contact to enhance satisfaction (Kunz et al., 2017).

In the next part of the study, which determined the dissimilarity of the group from control variables, the sample was divided into numerous groups, and multigroup invariance analysis was used in the model. The results demonstrated that the groups are not invariant, which means that the study findings change between groups. These findings are different from the study by Chandra and Kumar (2018), which found no association between business size and the use of augmented reality in online commerce. Similarly, the size of the company does not appear to have a statistically significant role in the adoption of Electronic Data Interchange (EDI); however, the opposite was shown to be true in the acceptance of ERP and e-Commerce systems (Gangwar et al., 2014).

## 7. RECOMMENDATIONS

This thesis successfully applied the TOE framework approach to identify factors affecting the adoption of digital transformation and detect the relationship between digital transformation adoption and factors of company performance. Therefore, within the scope of the dissertation, this thesis suggests some recommendations for creative companies and creative industries to implement digital transformation more successfully in Vietnam as follows.

First, this framework may help senior management in creative organizations evaluate which digital technologies are on the leading edge of creative industry trends to adopt to satisfy client expectations and management operations while retaining competitive sustainability.

**Recommendation 1:** Digital transformation strategy of creative organizations must be based on cutting-edge technological aspects such as the acquisition and analysis of large amounts of data, augmented reality, artificial intelligence, virtual reality, digital marketing, and online advertising.

Second, organizational and environmental elements are crucial for digital transformation in Vietnam for creative companies. Digital platforms and social networks have significantly influenced customers' routines and behaviors for using products and services. It also provides competitive pressure and helps rivals produce more innovative goods and services. Innovative organizations must

examine consumer behavior patterns and industry trends to succeed in digital transformation based on their goal.

**Recommendation 2:** The digital transformation strategy in creative companies needs to focus on relevant aspects such as social impact, organizational mission, client, competitor, and competitive pressure.

Third, the empirical examination indicated that technological elements are practical except for the blockchain. At the time of the study, blockchain was not recognized and did not affect digital transformation in Vietnam's creative industries. Blockchain is widely used in the creative economy for digital assets such as intellectual property certificates and user identification.

**Recommendation 3:** In addition to the technical factors of practical significance for adopting digital transformation in this study, creative companies should also pay attention to the blockchain factor for developing digital transformation.

Fourth, the implementation of digital transformation projects is challenging and expensive. Short-term business goals are complicated. This study found that financial strength is not a crucial determinant in adopting digital transformation, proving that financial constraints do not affect innovative companies in Vietnam.

**Recommendation 4:** The financial strength of creative companies should be carefully taken care of at the top management level. Digital transformation projects must have a plan with the proper budget to conduct them in the long term.

Fifth, digital transformation saves time, increases productivity, allows remote work, improves consumer engagement, and speeds up information flow via social networks. Innovative products can be published on social networks to increase the interaction between publishers and viewers. However, the social community is not crucial in adopting digital transformation in this study.

**Recommendation 5:** Creative companies need to take advantage of the strengths of social communities to interact, publish, and share innovative products with users following demographic characteristics.

Sixth, digital transformation requires time and considerable investment expenditures in the long run, making short-term profitability unlikely. The study found that the cost reduction element is not a crucial factor in company performance for creative enterprises, although digital transformation can improve work processes and decrease unnecessary processes.

**Recommendation 6:** Digital transformation of creative companies needs to consider the cost reduction factor, which is also a key factor in the company performance measure of enterprises resulting from the high-tech investment.

## **8. CONTRIBUTION TO SCIENCE AND PRACTICE**

This study aims to identify factors based on the TOE framework that affect the adoption of digital transformation in creative companies in Vietnam, as well as the influence of the adoption of digital transformation on factors of company performance.

### **8.1 Theoretical contribution**

From the analysis described above, the theoretical knowledge is contributed to this study as follows: First, this study contributes to knowledge by expanding an improved understanding of digital transformation, digital technologies, and the context of technology, organization, and environment. Second, most earlier studies in creative industries did not focus on digital transformation, so this study addresses a research gap by exploring the adoption of digital transformation in creative industries. Third, this research provides an expansion of the literature on the TOE framework; therefore, the findings also highlighted that ten key factors influence the adoption of digital transformation and five vital factors of company performance are affected by digital transformation; two control variables pointed out that there is a difference in the study result between groups. Fourth, this study provides the methodological basis for investigating digital transformation in creative industries, the specific field of creative industries, other technologies, industries, and different geographies.

### **8.2 Practical implication**

This study has valuable benefits for the management level of creative companies in the creative industries, and the research outcome is practical for creative companies. The findings are a practical implication: First, an in-depth understanding of the growth of the creative industries in Vietnam relates to technological, organizational, and environmental aspects, the achieved advantages, and the driving forces of development. Second, the result of the study can help policymakers understand creative companies in the business environment to open relevant policies for high-technology investment in the creative industries. Third, this study has practical consequences for scientific communities, readers, researchers, creative firms, and creative industries to understand how digital transformation affects corporate performance in Vietnam's creative industries. Fourth, the result of the study provides useful insights to help the top management of creative companies re-evaluate their corporation and make

the right decision for innovation and investment in digital technologies to achieve high firm performance.

### **8.3 Research limitation**

This study fits the context of the creative industries in Vietnam. However, it still has several limitations that can be resolved and are a chance for future research as follows: The scope of this empirical investigation focused on only one developing country, Vietnam, instead of other underdeveloped countries. This study examined selected factors that influence the proposed research model; however, upcoming studies should reveal additional factors that would improve the research framework. The survey focused only on the majority of two cities, Hanoi City and Ho Chi Minh City, where many creative companies operate, and a minority of other provinces in Vietnam. This research depends on the subjective views of top management in implementing digital transformation in Vietnamese creative companies.

## **9. CONCLUSION**

This dissertation examines an empirical study of the adoption of digital transformation and its influence on the performance of creative companies in Vietnam using the TOE framework and SEM analysis. Quantitative research was conducted to examine the suggested theoretical framework using the SEM approach to answer research questions, objectives, and hypotheses. As a result, big data capture and analytics, augmented reality, artificial intelligence, virtual reality, digital marketing and advertising online, social influence, organizational mission, customer, competitor, and competitive pressure positively affected the adoption of digital transformation in creative companies in Vietnam. The adoption of digital transformation significantly affected customer engagement, profitability, sales growth, productivity, and innovation. However, multigroup analysis based on control variables (company size, creative industry fields) revealed a difference between the analyzed groups, which means the results of research hypotheses are affected by those variables. From the results analyzed above, the importance of high technologies has been applied in Vietnam's creative industries except for blockchain technology. In addition, the influence of society, the pressure of competitors, the organization's mission, and the customers contribute to implementing digital transformation. Therefore, it has brought many useful values to companies for deciding on the suitable investment, in which products and services are innovated to meet customer demands, enhance customer experiences from the digital platform applications, and gain more revenue and profit.

However, there are still many limitations, although this dissertation has been implemented with many attempts. This investigation focuses on Vietnam's creative industries. Only selected factors are studied in the research framework. The conceptual framework in Figure 3.1 can be used as a vital research framework orientation for subsequent studies, so future research should be carried out: First, the data analysis of the control variables illustrated the different results between groups in creative industries compared to all of them, so the upcoming studies of the specific field in creative industries should be conducted. Second, the following studies should be implemented in other specific technologies, industries, or different geographies.

## BIBLIOGRAPHY

- [1] AHMED, I. Technology organization environment framework in cloud computing. *Telkomnika*, 2020, vol. 18, no. 2, pp. 716-725.
- [2] AKTER, S., WAMBA, S. F., GUNASEKARAN, A., DUBEY, R. and CHILDE, S. J. How to improve firm performance using big data analytics capability and business strategy alignment? *International Journal of Production Economics*, 2016, vol. 182, pp. 113–131.
- [3] ANANTRASIRICHAI, N. and BULL, D. Artificial intelligence in the creative industries: a review. *Artificial Intelligence Review*, 2022, vol. 55, no.1, pp. 589–656.
- [4] ARCOS, L. C. The blockchain technology on the music industry. *Brazilian Journal of Operations & Production Management*, 2018, vol. 15, no. 3, pp. 439–443.
- [5] AWA, H. O., OJIABO, O. U. and EMECHETA, B. C. Integrating TAM, TPB and TOE frameworks and expanding their characteristic constructs for e-commerce adoption by SMEs. *Journal of Science and Technology Policy Management*, 2015, vol. 6, no. 1. pp. 76–94.
- [6] BAKER, J. *The Technology–Organization–Environment Framework*. In book: Information Systems Theory. Chapter: 12. Publisher: University of Hamburg, Hamburg, Germany, 2011.
- [7] BAYO-MORIONES, A., BILLÓN, M. and LERA-LÓPEZ, F. Perceived performance effects of ICT in manufacturing SMEs. *Industrial Management and Data Systems*, 2013, vol. 113, no. 1, pp. 117–135.
- [8] BRITISH COUNCIL. The Role of Cultural and Creative Hubs of Vietnam. *British Council in Vietnam*, 2018, pp. 1–26.

- [9] BYRNE, B. M. Testing for Multigroup Invariance Using AMOS Graphics: A Road Less Traveled. *Structural Equation Modeling*, 2004, vol. 11, no. 2, pp. 272–300.
- [10] BYRNE, B. M. *Structural Equational Modeling with AMOS: Basic Conceptes, Applications, and Programming* (2nd ed.). Routledge/Taylor & Francis Group, 2010.
- [11] CAPOBIANCO, A. and NYESO, A. Challenges for Competition Law Enforcement and Policy in the Digital Economy. *Journal of European Competition Law and Practice*, 2018, vol. 9, no. 1, pp. 19–27.
- [12] CHANDRA, S. and KUMAR, K. N. Exploring factors influencing organization adoption of augmented reality in E-commerce: Empirical analysis using technology-organization-environment model. *Journal of Electronic Commerce Research*, 2018, vol. 19, no. 3, pp. 237–265.
- [13] CHE ARSHAD, N. and IRIJANTO, T. T. (2022). The creative industries effects on economic performance in the time of pandemic. *International Journal of Ethics and Systems*, vol. ahead-of-print, no. ahead-of-print.
- [14] COHEN, L., MANION, L. and MORRISON, K. *Research Methods in Education* (sixth). Routledge/Taylor & Francis Group, 2007.
- [15] DAVIS, F. D. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 1989, vol. 13, no. 3. pp. 319–339.
- [16] DECISION No. 1755/QĐ-TTg. Phê duyệt chiến lược phát triển các ngành công nghiệp văn hóa Việt Nam đến năm 2020, tầm nhìn đến năm 2030 (Approving the development strategy of Vietnamese cultural industry by 2020 and with a vision to 2030) [online] @2016 [cit. 2019-11-15]. Available from: <https://thuvienphapluat.vn/van-ban/van-hoa-xa-hoi/Decision-1755-QĐ-TTg-development-strategy-of-vietnamese-cultural-industry-2020-2030-323923.aspx>
- [17] DONG, C. V. and TRUONG, H. Q. The determinants of creative goods exports: evidence from Vietnam. *Journal of Cultural Economics*, 2020, vol. 44, no. 2, pp. 281–308.
- [18] DRONYUK, I., MOISEIENKO, I. and ML GREGUŠ, J. Analysis of Creative Industries Activities in European Union Countries. *Procedia Computer Science*, 2019, vol. 160, pp. 479–484.
- [19] EROKHINA, T. B., MITKO, O. A. and TROILIN, V. V. Digital Marketing and Digital Logistics in Consumer Communication. *European Research Studies Journal*, 2018, vol. 21, no. 2, pp. 861–867.



- [20] FAHMI, F. Z., KOSTER, S., and VAN DIJK, J. The location of creative industries in a developing country: The case of Indonesia. *Cities*, 2016, vol. 59, pp. 66–79.
- [21] FAN, Y., CHEN, J., SHIRKEY, G., JOHN, R., WU, S. R., PARK, H. and SHAO, C. Applications of structural equation modeling (SEM) in ecological studies: an updated review. *Ecological Processes*, 2016, vol. 5, no. 1, pp. 1–12.
- [22] GANGWAR, H., DATE, H. and RAOOT, A. D. Review on IT adoption: Insights from recent technologies. *Journal of Enterprise Information Management*, 2014, vol. 27, no. 4. pp. 488–502.
- [23] GIL-GOMEZ, H., GUEROLE-NAVARRO, V., OLTRA-BADENES, R. and LOZANO-QUILIS, J. A. Customer relationship management: digital transformation and sustainable business model innovation. *Economic Research-Ekonomska Istraživanja*, 2020, vol. 33, no. 1. pp. 2733–2750.
- [24] GOERZIG, D. and BAUERNHANSL, T. Enterprise Architectures for the Digital Transformation in Small and Medium-sized Enterprises. *Procedia CIRP*, 2018, vol. 67, pp. 540–545.
- [25] GSO, Động thái và thực trạng kinh tế xã hội Việt Nam 5 năm 2016-2020 (Movements and socio-economic situation of Vietnam during 5 years 2016-2020), [online] @2021a [cit. 2022-4-10]. Available from: <https://www.gso.gov.vn/du-lieu-va-so-lieu-thong-ke/2021/06/dong-thai-va-thuc-trang-kinh-te-xa-hoi-viet-nam-5-nam-2016-2020/>
- [26] GUO, L. and XU, L. The effects of digital transformation on firm performance: Evidence from China’s manufacturing sector. *Sustainability (Switzerland)*, 2021, vol. 13, no. 22, pp. 1–18.
- [27] HAIR, J. F., BLACK, J. W. C., BABIN, B. J., and ANDERSON, R. E. Multivariate Data Analysis. In *Pearson Prentice Hall* (Vol. 7), 2010.
- [28] HENSON, R. K. and ROBERTS, J. K. Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement*, 2006, vol. 66, no. 3, pp. 393–416.
- [29] HOA, N. Q. Relationship between Cultural Industry and Economic Growth in Vietnam. *Proceedings of 14th International Conference on Humanities and Social Sciences 2018 (IC-HUSO 2018) 22nd-23rd*, 2018, vol. 2018, no. November. pp. 804–812.

- [30] HUANG, C. K., WANG, T. and HUANG, T. Y. Initial Evidence on the Impact of Big Data Implementation on Firm Performance. *Information Systems Frontiers*, 2020, no. 22, pp. 475–487.
- [31] HUNG, N. M. Vietnam: Challenges and Opportunities for Publishers. *Publishing Research Quarterly*, 2016, vol. 32, no. 3, pp. 266–271.
- [32] HWANG B. N., HUANG, C. Y. and WU, C. H. A TOE approach to establish a green supply chain adoption decision model in the semiconductor industry. *Sustainability (Switzerland)*, 2016, vol. 8, no. 168. pp. 1-30.
- [33] IMRAN, M., HAMEED, W. U. and HAQUE, A. U. Influence of Industry 4.0 on the production and service sectors in Pakistan: Evidence from textile and logistics industries. *Social Sciences*, 2018, vol. 7, no. 12. pp. 0–21.
- [34] JOBS, C., GILFOIL, D. and AUKERS, S. How marketing organizations can benefit from big data advertising analytics. *Academy of Marketing Studies Journal*, 2016, Vol. 20, No. 1, pp. 18–36.
- [35] JONES, N., BORGMAN, R. and ULUSOY, E. Impact of social media on small businesses. *Journal of Small Business and Enterprise Development*, 2015, vol. 22, no. 4, pp. 611-632.
- [36] KALTUM, U., WIDODO, A. and YANUARDI, A. W. Local TV goes to global market through digital transformation. *Academy of Strategic Management Journal*, 2016, vol. 15, pp. 221-229.
- [37] KARATEPE, O. M. and AGA, M. The effects of organization mission fulfillment and perceived organizational support on job performance: The mediating role of work engagement. *International Journal of Bank Marketing*, 2016, vol. 34, no. 3. pp. 368–387.
- [38] KIM, Y. and CHANDLER, J. D. How social community and social publishing influence new product launch: The case of Twitter during the Playstation 4 and Xbox one launches. *Journal of Marketing Theory and Practice*, 2018, vol. 26, no. 1–2. pp. 144–157.
- [39] KUNZ, W., AKSOY, L., BART, Y., HEINONEN, K., KABADAYI, S., VILLAROEL ORDINES, F., SIGALA, M., DIAZ, D. and THEODOULIDIS, B. Customer Engagement in a Big Data World. *Journal of Services Marketing*, 2017, vol. 31, no. 2, pp. 161-171.
- [40] LI, W. Y. The Application of Augmented Reality in Mobile Learning based on Cloud Computing. *Applied Mechanics and Materials*, 2013, vol. 422, pp. 172–175.
- [41] LIN, D., LEE, C. K. M., LAU, H. and YANG, Y. Strategic response to Industry 4.0: an empirical investigation on the Chinese automotive industry.

- Industrial Management and Data Systems*, 2018, vol. 118, no. 3. pp. 589–605.
- [42] LOAN, T. T. Cultural Heritage in Vietnam With the Requirements of Sustainable Development. *International Relations and Diplomacy*, 2019, vol. 7, no. 4. pp. 172–187.
- [43] LOI, N. T., HOA, T. T. V., DUNG, T. M., HOA, N. Q. and HOA, H., V. A study on relationship between cultural industry and economic growth in Vietnam. *Management Science Letters*, 2019, vol. 9, no. 6. pp. 787–794.
- [44] LY, T. U. The mapping of creative hubs in Vietnam. *British Council in Vietnam*, 2014, vol. 1, pp. 1–30.
- [45] LY, T. U., AN, N. T. and QUYEN, P. U. Mapping creative hubs in Vietnam. *British Council in Vietnam*, 2018, vol. 2, pp. 1–42.
- [46] MANGEMATIN, V., SAPSED, J. and SCHÜBLER, E. Disassembly and reassembly: An introduction to the Special Issue on digital technology and creative industries. *Technological Forecasting and Social Change*, 2014, vol. 83, no. 1, pp. 1–9.
- [47] MARGETIS, G., APOSTOLAKIS, K. C., NTOA, S., PAPAGIANNAKIS, G. and STEPHANIDIS, C. X-reality museums: Unifying the virtual and real world towards realistic virtual museums. *Applied Sciences*, 2021, vol. 11, no. 1, pp. 1-16.
- [48] MARTINAITYTĖ, E and KREGŽDAITĖ, R. The factors of creative industries development in nowadays stage. *Economics and Sociology*, 2015, vol. 8, no.1 pp. 55–70.
- [49] MCKINNIE, M. *Cloud Computing: TOE Adoption Factors By Service Model In Manufacturing*, 2016. Business Administration Dissertations. Georgia State University, Robinson College of Business, Programs in Business Administration.
- [50] MOHAMMED, F., IBRAHIM, O. and ITHNIN, N. Factors influencing cloud computing adoption for e-government implementation in developing countries: Instrument development. *Journal of Systems and Information Technology*, 2016, vol. 18, no. 3, pp. 297–327.
- [51] NGOC, P. M. Sources of Vietnam’s economic growth. *Progress in Development Studies*, 2008, vol, 8, no. 3, pp. 209–230.
- [52] MERGEL, I. Social media adoption and resulting tactics in the U.S. federal government. *Government Information Quarterly*, 2013, vol. 30, no. 2, pp. 123–130.

- [53] MURSCHEZ, P. C. and SCHLÜTZ, D. Big data and television broadcasting. A critical reflection on big data's surge to become a new techno-economic paradigm and its impacts on the concept of the «Addressable Audience». *Fonseca, Journal of Communication*, 2018, no. 17, pp. 23–38.
- [54] NWANKPA, J. K. and DATTA, P. Balancing exploration and exploitation of IT resources: The influence of Digital Business Intensity on perceived organizational performance. *European Journal of Information Systems*, 2017, vol. 26, no. 5. pp. 469–488.
- [55] NWANKPA, J. K. and ROUMANI, Y. IT capability and digital transformation: A firm performance perspective. *International Conference on Information Systems ICIS 2016*, 2016, pp. 1–16.
- [56] OYEKUNLE, O. A. A. and SIRAYI, M. The role of creative industries as a driver for a sustainable economy: a case of South Africa. *Creative Industries Journal*, 2018, vol. 11, no. 3, pp. 225–244.
- [57] OZTEMEL, E. and GURSEV, S. Literature review of Industry 4.0 and related technologies. *Journal of Intelligent Manufacturing*, 2020, vol. 31, no. 1, pp. 127–182.
- [58] PANGILINAN, E., LUKAS, S. and MOHAN, V. *Creating Augmented and Virtual Realities*. O'Reilly Media, 2019.
- [59] PATELI, A., MYLONAS, N. and SPYROU, A. Organizational adoption of social media in the hospitality industry: An integrated approach based on DIT and TOE frameworks. *Sustainability*, 2020, vol. 12, no. 17, 7132.
- [60] PATH, K. The Origins and Evolution of Vietnam's Doi Moi Foreign Policy of 1986. *TRaNS: Trans -Regional and -National Studies of Southeast Asia*, 2020, vol. 8, pp. 171–185.
- [61] RODRIGUEZ, M., AJJAN, H. and PETERSON, R. M. Social media in large sales forces: An empirical study of the impact of sales process capability and relationship performance. *Journal of Marketing Theory and Practice*, 2016, vol. 24, no. 3. pp. 365–379.
- [62] SANTOS, J. B. and BRITO, L. A. L. Toward a subjective measurement model for firm performance. *BAR - Brazilian Administration Review*, 2012, vol. 9(Special Issue), pp. 95–117.
- [63] SCHUMACHER, A., EROL, S. and SIHN, W. A maturity model for assessing Industry 4.0 readiness and maturity of manufacturing enterprises. *Procedia CIRP*, 2016, vol. 52, pp. 161–166.

- [64] ŞERBAN, R.-A. The Impact of Big Data, Sustainability, and Digitalization on Company Performance. *Studies in Business and Economics*, 2017, vol. 12, no. 3, pp. 181–189.
- [65] SHANKAR, V. How Artificial Intelligence (AI) is Reshaping Retailing. *Journal of Retailing*, 2018, vol. 94, no. 4. pp. vi–xi.
- [66] SMAILOVIC, V., PODOBNIK, V. and LOVREK, I. A Methodology for Evaluating Algorithms That Calculate Social Influence in Complex Social Networks. *Complexity*, 2018, vol. 2018, pp. 1-20.
- [67] SOARES, A. M. and PINHO, J. C. Advertising in online social networks: the role of perceived enjoyment and social influence. *Journal of Research in Interactive Marketing*, 2014, vol. 8, no. 3. pp. 245–263.
- [68] SOLBERG, E., TRAAVIK, L. E. M. and WONG, S. I. Digital Mindsets: Recognizing and Leveraging Individual Beliefs for Digital Transformation. *California Management Review*, 2020, vol. 62, no. 4, pp. 105–124.
- [69] SON, B. H. Country Profile: Viet Nam. *WorldCP-Asia International Database of Cultural Policies*, 2013, vol. 1, pp. 1–96.
- [70] TAVAKOL, M. and DENNICK, R. Making sense of Cronbach’s alpha. *International Journal of Medical Education*, 2011, vol. 2, pp. 53–55.
- [71] TENG, X., WU, Z. and YANG, F. Research on the Relationship between Digital Transformation and Performance of SMEs. *Sustainability*, 2022, vol. 14, no. 6012, pp. 1–17.
- [72] THE ECONOMIST. *Creative Industries: Trade challenges and opportunities post pandemic*. The Economist, 2021.
- [73] TORNATZKY, L. G. and FLEISCHER, M. *The processes of technological innovation*. Lexington books, Lexington, MA, 1990.
- [74] TRIPOPSAKUL, S. Social media adoption as a business platform: An integrated tam-toe framework. *Polish Journal of Management Studies*, 2018, vol. 18, no. 2. pp. 350–362.
- [75] UNCTAD. *Creative Economy Report 2008. The Challenge of Assessing the Creative Economy: towards Informed Policy-making*. United Nations, 2008.
- [76] UNCTAD. *Creative Economy Outlook: Trends in international trade in creative industries 2002–2015. Country Profiles: 2005–2014*. United Nations, 2018.
- [77] VENKATESH, V., MORRIS, M. G., DAVIS, G. B. and DAVIS, F. D. User acceptance of information technology: Toward a unified view. *MIS*

*Quarterly: Management Information Systems*, 2003, vol. 27, no. 3. pp. 425–478.

- [78] VERHOEF, P. C., BROEKHUIZEN, T., BART, Y., BHATTACHARYA, A., QI DONG, J., FABIAN, N. and HAENLEIN, M. Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 2021, vol. 122, pp. 889–901.
- [79] WATSON, P. B., SEATON, P., SIMS, D., JAMIESON, I., MOUNTIER, J., WHITTLE, R. and SAARIKOSKI, M. Exploratory Factor Analysis of the Clinical Learning Environment, Supervision and Nurse Teacher Scale (CLES1T). *Journal of Nursing Measurement*, 2014, vol. 22, no. 1. pp. 164–180.
- [80] WEF. Agile Governance for Creative Economy 4.0. *World Economic Forum*, 2019, pp. 1–16.
- [81] WERE, G. Thirty years of Doi Moi in the museum: Changing representations of development in late-socialist Vietnam. *Asian Education and Development Studies*, 2019, vol. 8, no. 4, pp. 463–473.
- [82] ZHANG, H., WANG, J. and LIU, D. Experiences of Creative Industries Development in Developed Countries and Enlightenments. *Asian Social Science*, 2011, vol. 7, no. 8, pp. 237–240.
- [83] ZHU, F., LI, Q., YANG, S. and BALEZENTIS, T. How ICT and R&D affect productivity? Firm level evidence for China. *Economic Research-Ekonomska Istraživanja*, 2021, vol. 34, no. 1, pp. 3468–3486.

## **LIST OF PUBLICATIONS**

- [1] TRIEU, Tran Van Hai. Digital Transformation and Business Process Management in Creative Industries: The Case of Film Production Process. *Proceedings of the 22nd International Conference MEKON 2020*. Ostrava: VSB – Technical University of Ostrava, Faculty of Economics. 2020, pp. 195-205. ISBN 978-80-248-4410-7.
- [2] TRIEU, Tran Van Hai. Digital Transformation in Advertising: The case of Programmatic Advertising. *DOKBAT 2020 - 16th Annual International Bata Conference for Ph.D. Students and Young Researchers (Vol. 16)*. Zlín: Tomas Bata University in Zlín, Faculty of Management and Economics. 2020, pp. 519-528. ISBN 978-80-7454-935-9.
- [3] TRIEU, Tran Van Hai and PAVELKOVÁ, Drahomíra. The Relationship between Market Share Price of Companies in Creative Industry of Vietnam and (ROA, ROE, ROIC, and EPS). *International conference on business and*

*finance 2020*. University of Economics Ho Chi Minh City, Institute of business research. 2020.

- [4] TRIEU, Tran Van Hai and PAVELKOVÁ, Drahomíra. Digital Transformation and its influence on performance of creative industry companies. *The 6th International Conference on Finance and Economics*. Ho Chi Minh City: Ton Duc Thang University. 2020, pp. 85-98. ISSN 2695-1215.
- [5] TRAN, Trieu Van Hai; PAVELKOVÁ, Drahomíra and HOMOLKA, Lubor (2022). Solow model with technological progress: An empirical study of economic growth in Vietnam through ARDL approach. *Quality - Access to Success*. 2022, Vol. 23, No. 186, pp. 194–202. ISSN 1582-2559.
- [6] TRAN, Trieu Van Hai. Effect of Gender and Regions on Determinants of Digital Transformation Adoption in Creative Services. *Quality - Access to Success*. 2022, Vol. 23, No. 186, pp. 30–36. ISSN 1582-2559.
- [7] TRIEU, Tran Van Hai and PAVELKOVÁ, Drahomíra. Different of Education Level and Job Position in Digital Transformation Adoption in Vietnam's Creative Industries. *Journal of Eastern European and Central Asian Research*. 2022, Vol. 9, No. 3, pp. 409-421. ISSN 2328-8272 (print), ISSN 2328-8280 (online).

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**01.2015–present: Part-time Lecturer (Topica Edtech Group (Vietnam))**

- To teach courses, such as strategic management, human resource management, project management, marketing management, and psychology in business administration.

**07.2017–12.2019: Senior Operation Manager (Dzones Hub – DatvietVAC Group Holding (Vietnam))**

- To deploy PR, social media, events, and write scripts for content creation, research for over-the-top projects with big data, blockchain, video social network, virtual reality studio, and business processes development according to the organization's RACI matrix.

**01.2017–06.2017: Market Researcher (Agriculture and rural development department in Ho Chi Minh City (Vietnam))**

- To research the agriculture market and design and build the database system for Ho Chi Minh City's agriculture market.

**10.2013–06.2016: Head of Telecommunication Centre, Project Manager (Ho Chi Minh City Television Station, HTV TMS Co. LTD (Vietnam))**

- To build and deploy the mobile TV car project and the G-PON internet project in digital Pay TV, project appraisal, construction, management of procurement procedures, and manage all activities of the telecommunication service center.

**12.2003 – 10.2013: System Engineer, Project Manager (Ho Chi Minh City Television Station (Vietnam))**

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