Opportunities and challenges for Vietnam's social order in the digital economy

Truong Hong Chuyen

Hong Bang International University, Vietnam

ABSTRACT

The acceleration of information technology has oriented the development of a digital society where a new social order was formed based on data relationships. The research used a systematic literature review and qualitative research methods to explore the characteristics of new social order in an AI-enabled world. The research aims to identify the formation of new social order and its impacts on the socio-economic development in Vietnam. The results contributed to theories of transcendental phenomenology, social construction, and urbanism. The results identified intertwined opportunities and challenges for Vietnamese digital society, including social identity management, smart urban infrastructure management, and data colonialism. Recommendations suggested a transformative strategy based on a collaboration between government, education, and business to develop human capital concerning digital citizenship, culture reinforcement, and social support.

Keywords: *social identity, Vietnamese digital economy, Vietnamese digital society, digital citizenship, human capital development*

1. INTRODUCTION

Since 1960, the proportions of service and manufacturing sectors in the Southeast Asia economy have increased, and the physical capital stock has replaced human capital stock [1]. Artificial intelligence (AI) and machine learning (ML) not only perform arithmetic, lip-reading, and speech transcripts better, faster, and stronger but also control, monitor, and classify operations automatically. Malicious use of AI attacks digital, physical, and political securities [2]. Cyberattacks exploit human vulnerabilities through automated hacking and impersonation. Autonomous weapon systems are directed remotely to attack physical systems. Surveillance, propaganda, and deception gain knowledge about human behavior, mood, and belief from storable data, which causes privacy invasion and social

manipulation. Although technology disruption generally enhances social quality, such as a longer lifespan, political polarization happens due to reduced economic diversity [3].

Human agents play constitutive roles in the ongoing creation, invention, implementation, use, and support of social reality and the digital economy [4]. The size, shape, and scope of the Internet were useful for assessing the societal transformation of internetworked organizations, including email communication, web presence, buyer-supplier transaction network, and real-time virtual integration. As organizations are key players in the emerging digital economy, the socio-technical change processes need to consider the role of the organization in the development of the digital

Corresponding author: MBA. Truong Hong Chuyen
Email: chuyenth@hiu.vn

economy, the social trans-formation across internetworked orga-nizations, and the creation of social values embedded in the digital economy. Especially consumer privacy, trust, reliability, and freedom from sur-veillance are essential values for the socio-technical transformation.

According to the National Digital Trans-formation Program in Vietnam, to 2025 towards 2030, digital society is developed based on three pillars: digital economy, digital government, and digital society [5]. The report on the perception of Vietnamese enterprises revealed a low, confusing and difficult digital transformation process. The hyper-connected digital society operates based on digitized and connected Internet infrastructure and the application of digital technologies across laws, education, social security, and healthcare fields. Society 5.0 distinguishes itself from society 4.0 as an integrated system between cyberspace and physical space, which promotes comfortable, adequate, and high-quality social life and human society. The visionary society 5.0 in Vietnam follows similar characteristics of the digital society model in the Asia-Pacific region regarding digital commerce, digital lifestyle, and digital citizenship. Specifically, digital citizenship enjoys public service and interactions between government, enterprises, and citizens through digital channels. Digital lifestyle was reflected through more online behaviors, including working, playing, studying, consuming, and virtual reality experiences. Digital commerce simplifies operations, payment, and processing and distributing goods through digital channels. Vietnamese digital society is in the process of accelerating digital technology business, national public service portal and public administrative services deployed the latest technology, digital behaviors including

playing, working, studying, and consuming as well as multi-layered social security and welfare systems including communication, education, and social security and welfare. As digital society changes social communication, interactions, and living environment, the implementation of the National Digital Transformation Program in Vietnam to build a digital society by 2030 needs to address the extended social development management to hyper-connected space.

Although much research identified the need for employing optimized technology innovation to increase the effectiveness of socio-economic development, there is yet any research to highlight the technological impacts on the emerging digital society in Vietnam. Therefore, the purpose of this research is to synthesize and analyze relevant research about the formation of new social order in the digital age and its impacts on the socio-economic development in the hyper-connected digital society. Firstly, the research will describe the characteristics of Vietnam's social order in traditional society compared to that in a digital society. Secondly, the research will identify the opportunities and challenges for Vietnam's social order in the digital economy. Finally, the research will recommend a transformative socio-economic deve-lopment strategy in Vietnam.

2. LITERATURE REVIEW
The purpose of the literature review is to explore the definition of social order, the changes in social order in the digital economy, and its impact on socio-economic deve-lopment. Literature review results expect to clarify the relationship between social order and economic development in the AI-enabled world. The results expect to identify a research gap in the socio-economic development in Vietnamese digital society compared to previous research findings.

2.1. The definition of social order

According to the social construction theory, social order is a human product produced from the ongoing process of externalization [6]. The social order formation process occurs simultaneously with the institutionalization process, which is an ultimate product of objectification and externalization processes. During the institutionalization process, customization occurs when patterns of repeated actions are copied. When a person looks at another person in a certain type, typification is formed. The institutional order is formed based on assigned roles and programmed human behaviors in specific scenarios. The legitimacy gives institutionalization subjective credibility and objective presence. As institutional order inheres in history, key elements of the institutional tradition are transferred to the next generation through explanation or justification. The communication methods for the transfer include pre-theory, rudimentary theory, and the most advanced symbolic universe where people find identity and living reason. Therefore, characteristics of conventional social order are shaped by social interactions and human learning based on collective systems of meaningful and relational history [7], which instituted collective socialization as drivers of policy paradigms.

2.2. The characteristics of new social order in the digital economy

Transcendental phenomenology suggested a modern research approach to naturally describe the social world based on phenomena of human experience and emerged identity, without preconceived ideas [8]. Digital transformation enables the automated classification of human identities based on measurable data such as gender, age, nationality, citizenship, and traces of digital behaviors [9]. The modulation of assessment transforms social structure where human identity depends on the technical environment and pre-assumed self-depiction. Digital data analysis and ML deployed in fingerprint, iris, facial recognition, and online identification replace traditional collection methods of worldwide government.

In the digital society, ML is an alternative to collective socialization for institutional dependency [7]. Similar to human learning, ML, which mimics individuals and groups, is hungry for data to attain accuracy and desirable confidence level. Especially, social media enhances the search disposition of ML, which reorganizes human experience and self-understanding. Humans develop an obsession with feeding longitudinal databases and keeping track of performance in social life. Individual identity is a unique combination of digital content to foster the phenomenological profit generation nature of digital infrastructure through target advertisement, developed commercialization, and AI.

According to modern urbanism theory, the modern infrastructure ideal was developed based on the complex and dynamic socio-technical process [10]. The high capacity of transoceanic and transcontinental fiber networks enables surveillance systems and armed guards in worldwide cities. The networked infrastructure allows seamless connection between transport, telecommunications, energy, water, and streets in contemporary cities and urban regions. Since 1850, there have been public and private sector investments in the infrastructure network in Western countries, which expanded to urban spaces across Africa, Latin America, Asia, and Australia. Since the 1960s, the modern urban infrastructure ideal has become the emerging practice of business and government on a global scale. Human society and living environments are shaped by the

largest era of cyberspace and urbanization.

2.3. The opportunities and challenges for the new social order in the digital economy

2.3.1. Social identity management

Although cyberspace encourages social interactions for everyone, the ordinal and nominal classification of ML deteriorates vulnerable communities [7]. Institutional categorization systems which legitimize citizenship based on digital traces exacerbate the inequalities and create new symbolic violence [9]. Specifically, misidentification neglects human subjectivity and adversely affects minorities due to prejudiced representations. On the contrary, data capi-talists benefit from personal data representation and surveillance regimes. Although data affordance increases transparency and accessibility, the statecraft in the digital age is less accountable [11]. Surveillance systems provide state management with better control and efficiency but encounter problems of data justice, property rights in data, and the control over the participation in data collection.

2.3.2. Smart urban infrastructure management

Today's modern infrastructures ideal across developed, developing, and newly industrializing cities encounter political initiatives and policies treating technology and cities in parallel [12]. Although cyberspace shrinks social, economic, cultural, and geographical fragments in the offline world, it facilitates urban polarization concerning poverty connection and geographic restructure. The uneven growth of the Internet affects the physical, technological, social, and economic architecture of cities. A parallel communication system exists between a group of people having access to the Internet and another one being disconnected. Dominant players in the economy typically make infrastructure investments targeted at

socioeconomically affluent groups and areas. Therefore, poor, and marginalized communities are excluded from public service, employment opportunities, and insurance.

2.3.3. Data colonialism

In the twenty-first century, data colonialism takes across space and time, duplicating all social relations on digital platforms to capitalize the human capital infinitely [13]. Since 2019, data colonialism has been acknowledged to have the same characteristics as conventional colonialism regarding the appropriation of resources to form a new society and wealth maximization through the appropriation as well as the use of the ideology to interpret what is happening. Quantitative social enterprises exploit give-and-get relationships to collect data about people, organizations, and things, which is a valuable source of "new oil" [14]. When users enter "a deal with the devil," private and insecure systems continuously and autonomously collect and transmit data. Data colonialism facilitates the exploitation of humans through not only data [13] but also the corporate political economy through transnational information and communication technology (ICT) and urban development's [12].

Consequently, literature review results defined new social order in the digital age as data-based relationships. Firstly, social identity classification systems based on ML and algorithms enhance transparent, accessible, and accountable governance, but there is a challenge in treating social identity as a collection of cultural ideas and the enduring embodiment of human beings having personalities and social preferences and influences in both the online and offline world. Secondly, social relations become economic motives for data capitalists, but there is a challenge for the appropriation of human through data. Thirdly, smart cities are modern

infrastructure ideal in the digital society, but there is a challenge for urban polarization. The results contributed to the theories of transcendental phenomenology, social construction, and urbanism. The results identified the research gap, which is the relationship between the formation of new social order and its impacts on the socio-economic development in Vietnam.

3. METHODOLOGY

The research applied a systematic literature review method to synthesize and analyze relevant research to answer the problem statement of opportunities and challenges for Vietnam's social order in the digital economy. Fundamentals of systematic literature review include selecting relevant studies, analyzing valid scope, method, and results, and synthesizing integrative as well as conducting qualitative research to avoid biased data selection [15]. A theoretical framework for the opportunities and challenges for Vietnam's social order in the digital economy was developed based on systematic literature review results.

The focus group interview took place in March 2022 on Microsoft Teams software which provided the participants with convenience. A group of six people, including specialists and professionals with backgrounds in social

science, business, and education, participated in a group discussion. An interview guide was developed to acquire insights for the understanding of Vietnamese social order in the digital age and its impacts on the socio-economic development in Vietnam. Questions included "What are the characteristics of Vietnam's social order in the digital society?", "Do you think that social identity management, smart urban infrastructure management, and data colonialism are vital characteristics of Vietnamese digital society? Why?", "Do you think that social identity management, smart urban infrastructure management, and data colonization have impacts on the socio-economic development in Vietnam? Why?", "Do you have other ideas to share?".

The qualitative results were recorded on Microsoft Teams software and manually analyzed by the researcher. The results were classified into themes, categories, and quotes. The results were compared with literature review results to confirm the research model. The results contributed to the application of transcendental phenomenology, social construction, and urbanism theories to explain the relationships between the formation of new social order in the digital age and its impacts on socio-economic development in Vietnam.
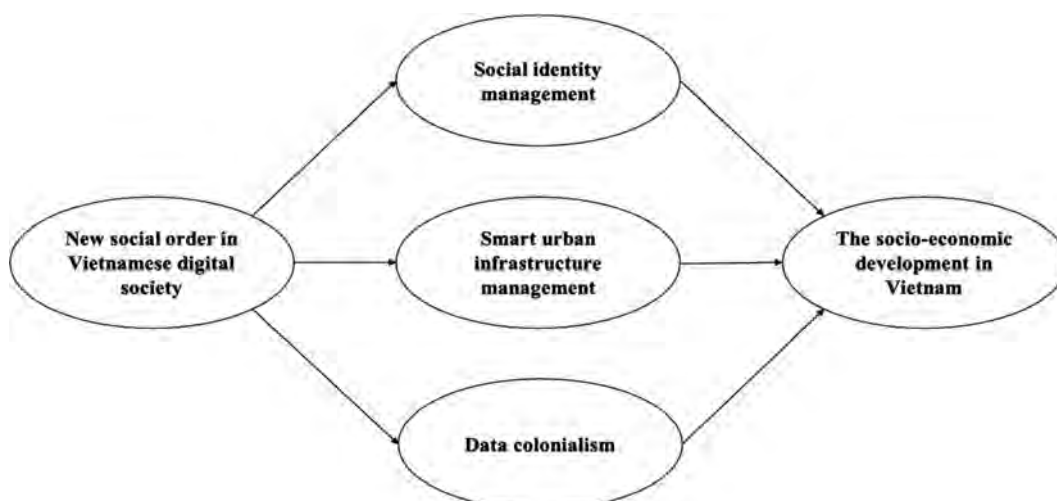

Figure 1. The research model of the opportunities and challenges for Vietnam's social order in the digital economy

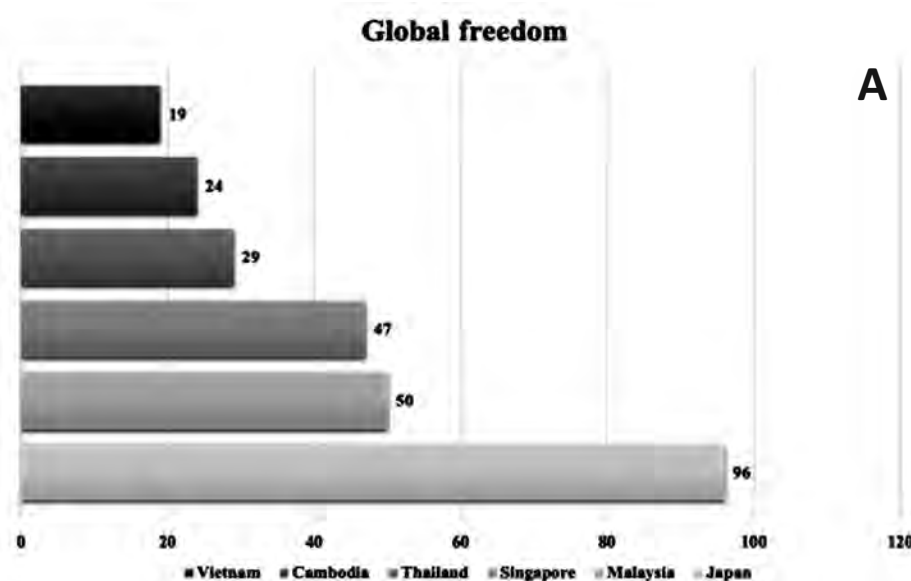## 4. RESULTS AND DISCUSSIONS

4.1. Qualitative results about characteristics of new social order and its influence on the socio-economic development in Vietnam

The qualitative results revealed that all informants recognized the formation of a new social order based on data relationships due to powerful technological development across all aspects of the economy and society. Although most of the informants understood the impacts of AI technology on social identity management and smart urban infrastructure management through "national population database towards e-Government" and "smart cities development projects" in Vietnam, many informants were not acquainted with the data colonialism phenomenon. However, most of the informants preferred private personal life due to "insecure social relations on social media platforms." Valuable insights to the discussion about the opportunities and challenges for Vietnam's social order in the digital economy included "labor productivity," "social responsibility of AI technology," "equitable distribution of social welfare to citizens," and "strong legal framework and policies on data privacy and exploitation."

4.2. Digital citizenship and smart cities development in Vietnam

According to the report of We Are Social and Hootsuite in 2021 [16], the world population is 7.83 billion, 66.6% of them use mobile connections, 53% of them are social media users, and the Internet penetration rate is 59.5%. Vietnamese population is 97.75 million, 37.7% of them live in the urban, 62.3% of them live in the rural, 157.9% of them use mobile connections, 73.7% of them are social media users, and the internet penetration rate is 70.3%. According to the Industry Summit 4.0 organized in Vietnam in 2021 [17], 41 out of 63 provinces and cities in Vietnam had smart city projects and spent 1% to 2% of the provincial investment in building smart city infra-structures meeting the local cultural economy, and resources. According to the report of Freedom House in 2022 [18], Vietnam scored low on both global freedom and Internet freedom compared to other Asian countries, which meant a country with low political rights and civil liberties. The shortcomings included monopoly of political power, restricted freedom of expression, primarily the government's surveillance of private online activities and compliance of social media companies to censor dissidents, and the seizure of lands by violence. Compared to the world, the state of digital in Vietnam blooms at a higher rate, but the freedom of political and civil rights, including the Internet, are among the lowest.
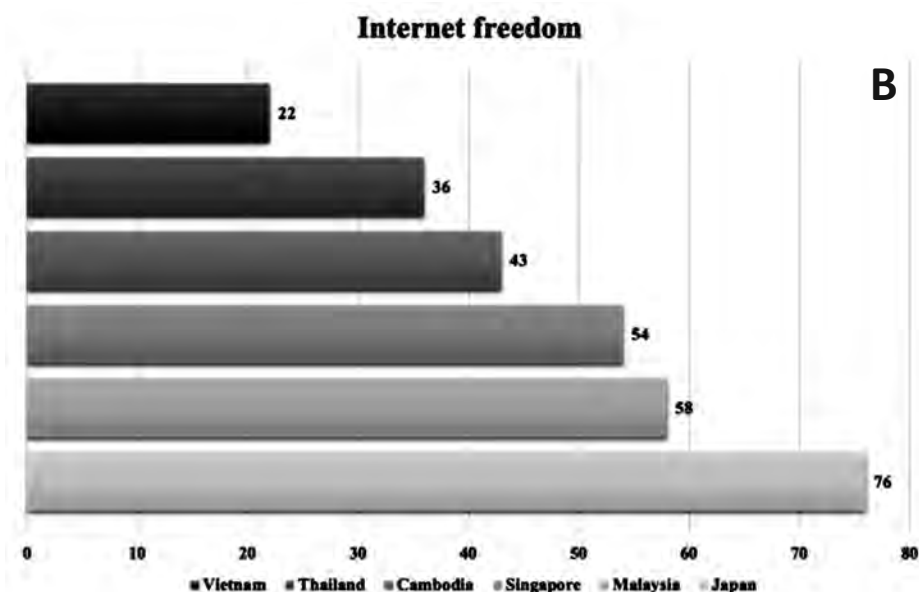

Global freedom

A

| | |
| 19 |
| 24 |
| 29 |
| 47 |
| 50 |
| 96 |

0   20   40   60   80   100   120

■ Vietnam ■ Cambodia ■ Thailand ■ Singapore ■ Malaysia ■ Japan

Internet freedom

Figure 2. Freedom of expression and equality in some Asian countries (A, B) [18]

4.3. Sustained economic growth in Vietnam

In 2019, Vietnam set the target to reach high-income status by 2045, but there are challenges for tackling the chronic rural poverty and increasing off-farm opportunities concerning investment in physical, digital, and human capital, cost of market integration, use of agricultural land, and women empowerment [19]. Although the Vietnamese economy achieved a 6 to 7 percent growth rate and a 5 percent increase in household consumption per capita annually, economic security remains the main concern for Vietnamese who are no longer poor but not yet middle class. The transition to upper-middle and high-income country living standards requires a focus on human capital as a combination of education, skills, and health, which determines labor productivity, sustainable economic growth, and overcomes intergenerational poverty. Economic mobility policy encounters challenges of high-skilled labor and an inadequate social protection system. The Vietnamese labor market is characterized by low wages, high informality, medium skills, and low expansion to high-skill jobs.
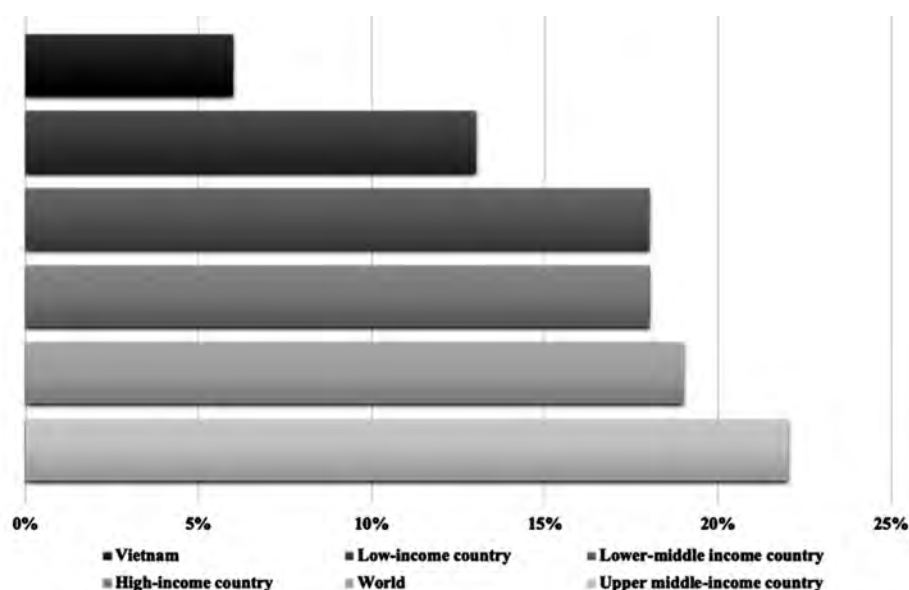

Figure 3. Share of welfare in social assistance of Vietnam compared to neighboring countries [19]

The current social protection system does not protect households against all risks regarding accidents and illness, unemployment, and environmental changes such as climate change, pandemics, and economic shocks. Compared to neighboring countries, Vietnam has a low public investment in social support.

As Vietnam has a high potential to develop digital citizenship and a digital society soon, the government needs to ensure the safety and freedom of digital citizenship and reinforce the culture. To cope with a rapidly aging population and rising middle-class, the government needs to increase public investment in social support to ensure equitable and sustainable economic growth.

5. CONCLUSION AND RECOMMENDATIONS

In conclusion, systematic literature review results and qualitative findings confirmed that the formation of new social order is based on data relationships. Opportunities and challenges for Vietnam's social order in the digital economy included social identity management, smart urban infrastructure management, and data colonialism. As Vietnam is already in the process of building e-government and smart cities, the country has a high potential to develop digital citizenship and a digital society soon. As freedom of expression is controlled restrictively by the government, especially the controversial Internet censorship, it mitigates data colonialism but simultaneously evades personal privacy and civil rights in a digital society. The equality of the social identity classification system and urban polarization need to be addressed carefully in the socio-economic development in Vietnam.

The systematic production of knowledge in society is the heterogeneous accumulation of all reality and the legitimacy of diverse characters and history, while social order in the

logic of Big data is the visionary order and totality under algorithm control [13]. The government must address the mitigation of commercially motivated data extraction or economic and governance interests, which enables human development based on natural social knowledge development, historical diversity, and heterogeneous society [13]. Therefore, the strategy focused on human capital development increases the constitutive role of the human in the social development and digital transformation process and creates social values for the development of the digital economy in Vietnam.

To increase the accountability for the algorithm used to rank and classify digital citizens, open government based on collective governance not only gives the public control over data collection participation but also challenges the existence of tracking systems based on social effects [11]. To ensure equitable urban processes at all geographical scales, the governance efforts need to employ a larger economic, social, and cultural development, including the ICT connection, service, skills, and different spaces of expression [12]. Local authorities need to develop local content and expression, which raises a voice to local governance and the mainstream economy. To prevent the malicious use of AI, technology legislation and regulations should pay attention to cybersecurity matters [2] and foster a culture of responsibility through ethical standards and education [3]. Ethical standards in AI include transparency in system design, traceable accidents, and personal data access control, which educates and empowers technologists to make priorities based on society, application, commerce, and environment. Therefore, a collaboration of government, business, and education are essential to ensure the safety and freedom of

digital citizenship, reinforce the culture and increase social support as a resolution for the socio-economic development in Vietnam to achieve a digital society by 2030 and high-income country by 2045.

Practical implications suggest that the government should improve Internet censorship policy to ensure freedom of expression for digital citizens while strengthening cybersecurity to protect safe and secure cyberspace for hyper-connected citizens, enterprises, and the government. Besides, both the government and local authorities should leverage technological innovation to introduce cultural products and experiences to the world and maintain the unique beauty of traditions and values of Vietnamese society from the ancestry and long history of fighting for national liberation of the country. Last but not least, the government should increase welfare to support the basic needs of citizens as well as education and employment opportunities equitably distributed among ethnic groups with greater attention to recovering the economic loss of households and organizations due to the pandemic. Finally, business and education can play vital roles in sharing responsibilities with the government in human capital development through the practice of ethical technology standards and the training of sustainable career skills, including emotional intelligence, critical thinking, and intercultural communication, as well as lifelong learning skills for students.
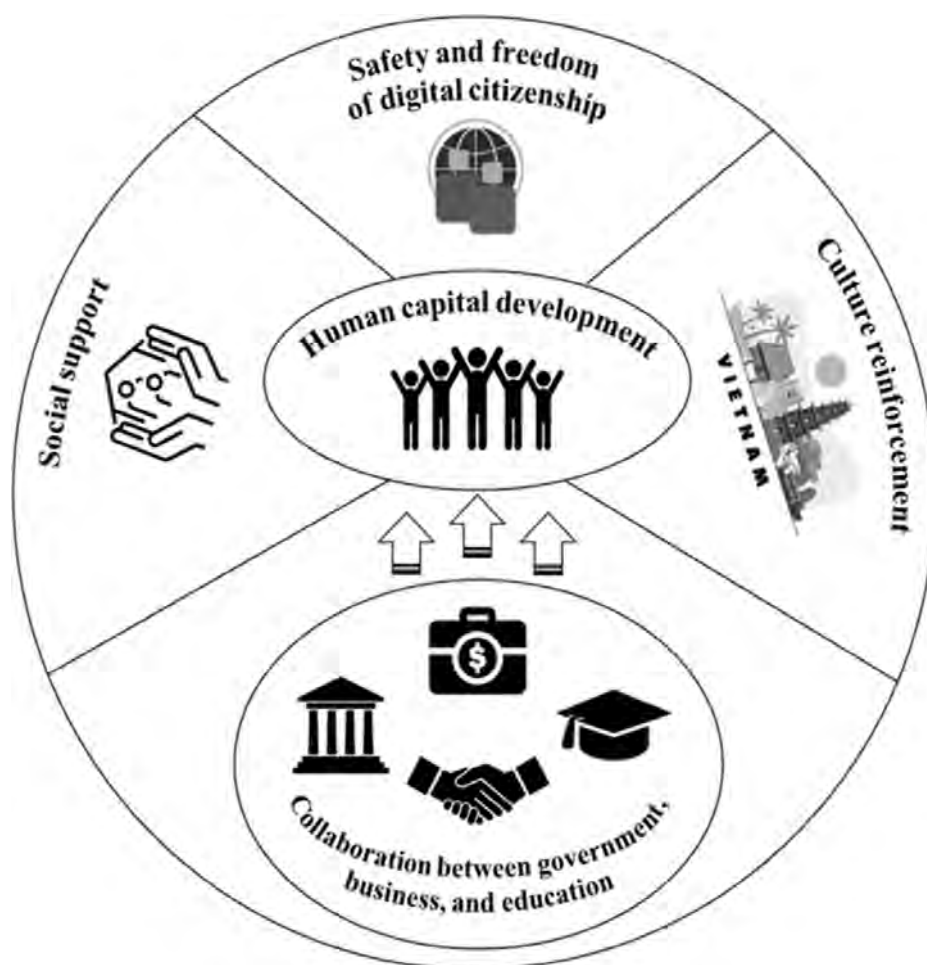

Figure 4. The resolution for the socio-economic development in Vietnam toward a digital society by 2030 and a high-income country by 2045

The research not only contributed to theories of transcendental phenomenology, social construction, and urbanism but also the world knowledge about the practical implications for the socio-economic development in Vietnamese digital society. As people nowadays are living the largest cyberspace and urbanization era ever, human life increasingly depends on a complex and dynamic networked infrastructure, including water, electricity, gas, Internet, and public and private assets and services. However, the invisible nature of the infrastructure presents a threat of disruption [20]. The fuel for the whole digital infrastructure increases energy consumption, which affects sustainable economic growth [21]. Therefore, the direction for future research is to consider the impacts of potential infrastructure disruption and sustainability on the digital economy.

REFERENCES

[1] L. Schlogl and A. Sumner, "Deindustrialization and Tertiarization in the Developing World," *in Disrupted Development and the Future of Inequality in the Age of Automation. Cham: Palgrave Pivot*, 2020, pp. 21-33.

[2] M. Brundage, S. Avin, J. Clark…D. Amodei, "The malicious use of artificial intelligence: Forecasting, prevention, and mitigation," *arXiv preprint arXiv:1802.07228*, 2018.

[3] J. Bryson and A. Winfield (2017), "Standardizing ethical design for artificial intelligence and autonomous systems", *Computer*, vol. 50, no. 5, pp. 116-119, 2017.

[4] W. J. Orlikowski and C. S. Iacono, "The truth is not out there: An enacted view of the digital economy", *Understanding the digital economy: Data, tools, and research*, pp. 352-380, 2000.

[5] H. H. Nguyen and H. V. Tran, "Digital society and society 5.0: Urgent issues for digital social transformation in Vietnam", *Masyarakat, Kebudayaan dan Politik*, vol. 35, no. 1, pp. 78-92, 2022.

[6] T. H. Quang, "Xã hội và con người theo Peter Berger", *Tạp chí Khoa học xã hội TPHCM*, vol. 3, pp. 151, 2011.

[7] M. Fourcade and F. Johns, "Loops, ladders and links: the recursivity of social and machine learning", *Theory and Society*, Vol. 49, No. 5, pp. 803-832, 2020.

[8] T. H. Quang, "Xã hội học theo hướng hiện tượng học: từ Alfred Schütz đến Peter Berger và Thomas Luckmann", *Tạp chí Xã hội học*, vol. 4, pp. 132, 2015.

[9] J. Burrell and M. Fourcade, "The society of algorithms", *Annual Review of Sociology*, vol. 47, pp. 213-237, 2021.

[10] S. Graham and S. Marvin, *Splintering urbanism: networked infrastructures, technological mobilities, and the urban condition*. UK: Routledge, 2002.

[11] M. Fourcade and J. Gordon, "Learning like a state: Statecraft in the digital age", *Journal of Law and Political Economy*, vol. 1, no. 1, 2020.

[12] S. Graham, "Bridging urban digital divides?

Urban polarisation and information and communications technologies (ICTs)", *Urban studies*, vol. 39, no. 1, pp. 33-56, 2002.

[13] N. Couldry and U. A. Mejias, "Data colonialism: Rethinking big data's relation to the contemporary subject", *Television & New Media*, vol. 20, no. 4, pp. 336-349, 2019.

[14] M. Fourcade and D. N. Kluttz, "A Maussian bargain: Accumulation by gift in the digital economy", *Big Data & Society*, vol. 7, no. 1, 2053951719897092, 2020.

[15] Y. Xiao and M. Watson, "Guidance on conducting a systematic literature review", *Journal of Planning Education and Research*, vol. 39, no. 1, pp. 93-112, 2019.

[16] We Are Social and HootSuite, "Digital 2021: Global Overview Report", January 27, 2021. [Online]. Available: https://datareportal.com/reports/digital-2021-global-overview-report.

[Accessed May 8, 2022].

[17] Vietnam Industry Summit 4.0, 2021. [Online]. Available: https://i40summit.vn/2021/en/documents-reports/. [Accessed May 8, 2022].

[18] Freedom House, "Freedom in the World - Vietnam Country Report", 2022. [Online]. Available: https://freedomhouse.org/country/vietnam/freedom-world/2022. [Accessed May 8, 2022].

[19] J. Yang, M. G. Wai-Poi, A. T. B Tran…L. C. Hunter, "From the Last Mile to the Next Mile-Vietnam Poverty and Equity Assessment 2022: Overview", 2022.

[20] S. Graham, *Disrupted cities. When Infrastructure Fails*. UK: Routledge, 2010.

[21] S. Lange, J. Pohl and T. Santarius, "Digitalization and energy consumption. Does ICT reduce energy demand?", *Ecological Economics*, vol. 176, 106760, 2020.

Cơ hội và thách thức đối với trật tự xã hội của Việt Nam trong nền kinh tế kỹ thuật số

Trương Hồng Chuyên

TÓM TẮT

Sự tăng tốc của công nghệ thông tin đã định hướng cho sự phát triển của một xã hội số, nơi một trật tự xã hội mới được hình thành dựa trên các mối quan hệ dữ liệu. Nghiên cứu sử dụng tổng quan tài liệu có hệ thống và các phương pháp nghiên cứu định tính để khám phá các đặc điểm của trật tự xã hội mới trong một thế giới hỗ trợ AI. Nghiên cứu nhằm xác định sự hình thành trật tự xã hội mới và những tác động của nó đến sự phát triển kinh tế - xã hội ở Việt Nam. Các kết quả đã đóng góp vào các lý thuyết về hiện tượng học siêu nghiệm, xây dựng xã hội và chủ nghĩa đô thị. Kết quả đã xác định các cơ hội và thách thức đan xen đối với xã hội số Việt Nam bao gồm quản lý bản sắc xã hội, quản lý cơ sở hạ tầng đô thị thông minh và chủ nghĩa thực dân dữ liệu. Các khuyến nghị đề xuất một chiến lược chuyển đổi dựa trên sự hợp tác giữa chính phủ, giáo dục và doanh

nghiệp để phát triển nguồn nhân lực liên quan đến quyền công dân kỹ thuật số, củng cố văn hóa và hỗ trợ xã hội.