Guest Editorial Preface

Special Issue on Building Multinationals’ New Competitive Advantages in a Digital Era

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The COVID-19 pandemic is accelerating the rise of or the shift to the digital technologies, digital business and digital economy in a global wideness. We are entering a digital era in which every industry and daily life are affected by digital technologies. Under COVID-19, the world has, by necessity, gone into isolation. Social distancing is currently the most effective way to slow the spread of the virus until a vaccine can be found to protect the population. Digitization has stepped in to bridge the gaps left by mandated shutdowns and social distancing measures. Without digital tools and technologies, we would have no way to work, shop, go to school, and more.

Digital technologies include artificial intelligence (AI), cloud computing, the Internet of Things (IOT), machine learning, biotechnology, social media, three-dimensional (3D) printing, augmented and virtual reality, and broadband Internet. These are transforming the way we live, work, consume and produce goods and services and how businesses operate by facilitating tasks that rely intensively on connectivity, information usage, prediction and collaboration (Tapscott, 1999; D’Souza and Williams, 2017; Tang, et al. 2020). In addition, the emergence of digital technologies as well as disruptive business models such as platform economy and sharing economy have begun to fundamentally reshape the nature and structure of the global economy. In the digital era, multinational enterprises’ (MNEs) location choice, entry modes, knowledge transfer, organizational design have been greatly affected (Nambisan et al., 2019; Ma et al. 2020).

The competitive landscape of MNEs has undergone tremendous changes. As the key driver of a new economic form, digital economy, after the agricultural economy, industrial economy, and service economy, digital technology’s essential characteristic is considered to substantially reduce the cost of data storage, calculation and transmission (Goldfarb & Tucker, 2019). As a consequence, the biggest feature of the digital economy at the global level is to promote the inclusive growth of the global economy. It is to help disadvantaged groups and developing countries integrate into the global economy and obtain development opportunities.

More remarkably, in the era of digital economy, the emergence of digital platforms, such as Alibaba, Facebook and LinkedIn, offers low-cost means for International new ventures to connect with foreign customers and replace some functions offered by export intermediaries, which in turn, facilitates their internationalization (Lund et al., 2016) and accelerated the birth of more multinational enterprises in emerging economies (eMNEs).

However, the impact of digital technology and digital economy on multinational enterprises and global value chains (GVC) has not received enough attention and research. Several issues are extremely prominent. For example, whether and how digital technology will change the global organization...
model of MNEs? Whether and how it will affect the governance and organization modes of GVCs? Whether and how it will bring about digital divide or digital welfare? And whether and how it is conducive to the convergence of regional economic growth? In addition, what are the determinants for the development of cross-border e-commerce or digital trade as an emerging trade model? Answers to these questions are important for understanding the coming era of deep integration of digitalization and industrialization.

Overall, the selected papers examine how to utilize digital technology to upgrade manufacturing industries in different stages of industrial development. Specifically, the papers address when and how to introduce advanced digital technology such as Digital Twin, 3D-printing, Virtual Reality (VR) and Augmented Reality (AR) for the digital transformation. And also upgrading in the context that digital servitization plays a significant moderating role between R&D inputs and GVC status. The authors argue what are relevant supporting policies for cross-border e-commerce development. To optimize and improve the export trade structure and increase the domestic value-added rate of exports, the papers investigate how the governments of developing countries use digital technology. And moreover, how to adjust the focus of digital development to promote the transformation of the economy from high-speed growth to high-quality growth. Let’s brief the selected papers specifically.

The paper “Does Technological Diversification and R&D Internationalization of eMNCs Promote Enterprise Innovation: An Empirical Study on China’s Public Listed Companies” examines the impact of technological diversification on the innovation performance of MNCs and the moderating effect of overseas R&D networks on the relationship between technological diversification and innovation performance. The data used are from the MNCs listed in Shanghai and Shenzhen from 2009 to 2019. In this paper, two questions are investigated. The first is the effect mechanism of technology diversification on the innovation performance of eMNCs. The second is how eMNCs’ overseas R&D networks affect the relationship between technological diversification and innovation performance.

This study finds that technological diversification of MNCs has a significant positive impact on the technological innovation performance and there is an inverse U-shaped relationship between the unrelated technological diversification and the innovation performance of MNCs. Further, overseas R&D networks have a significant moderating effect on the relationship between technological diversification and innovation performance. In addition, the moderating role of overseas R&D networks is significantly different due to the heterogeneity of institutional development levels among regions. Compared with the regions with undeveloped institutions, the technological diversification of MNCs with developed institutions has a more significant impact on innovation performance, and the moderating effect of overseas R&D networks is also significant.

In the paper “Digital Divide or Digital Welfare? The Role of Internet in Shaping Sustainable Employability of Chinese Adults,” the authors investigate the effect of the Internet on sustainable employability among Chinese aged 16-60 using the 2010-2018 China Family Panel Studies dataset. They construct a basic analysis framework based on a reliable and valid instrument with a five-dimensional conceptualization of sustainable employability and perform a systematic evaluation of sustainable employability. This involves measuring change over time for individuals within the population. Then they apply a panel double-hurdle method with 41,840 observations from China to predict the economic impact of the Internet use on the labor market. The results show that the Internet can significantly enhance an individual’s competitiveness in the labor market. This association also exists within specific groups classified by age, workplace, and enterprise ownership.

Further results show that the mid-aged and older adults, freelancers, and those living in disadvantaged regions can benefit more on employability brought about by the Internet. This phenomenon was defined as the information welfare of the Internet, which has narrowed the digital gap caused by the uneven development of technology among different social groups. Besides, the positive coefficient associated with the Internet use is driven by higher skill requirements in specific workplaces. Occupations requiring computer operation emphasizes the importance of continuing education and training, thereby contributing to the Internet users’ performance in the relevant domains.
of work. In general, findings in this paper provide a novel perspective to understand how modern information technology shapes adults’ sustainable employability.

The paper “R&D Inputs and Global Value Chain Status” analyzes the action mechanism of R&D inputs on GVC status from two aspects of industrial value-added and embedding position. It further confirms the moderating effect of digital servitization following the production activity decomposition framework. The paper uses the 2016 Release of World Input-Output Tables. Two hypotheses are proposed: A nonlinear relationship exists between R&D inputs and GVC status and the digital servitization plays a significant moderating role between R&D inputs and GVC status. The paper finds that the input of applied research has inverted U-shaped influence on the industrial value-added, while it has U-shaped influence on embedding position.

Furthermore, the input of basic research has U-shaped influence on the industrial value-added, while it has inverted U-shaped influence on embedding position. In addition, the moderating effect of digital servitization between R&D inputs and GVC status is significant. In the short term, the digital servitization can not only magnify the promotion effect of the applied research inputs on GVC status, but also shorten the lag period of basic research inputs on GVC status. In the long run, the digital servitization can not only weaken the marginalization trend of the applied research inputs on GVC status, but also enhance the positive feedback effect of basic research inputs on GVC status.

In the paper “What Determines the Pattern of China’s Cross-Border E-Commence in the World,” an extended gravity model framework is constructed to study the determinants of aggregate cross-border volume using a unique data set on cross-border express deliveries. Traditional international trade literature focuses on offline trade flows. However, with the development of ICT, the development of international trade has gone beyond the traditional scope, and new types of transactions have become an area worthy of widespread attention. This paper aims to observe the elasticity of other gravity-model determinants by introducing an indicator for the Internet development, for instance, the parameter variations of distance, GDP per capita, and so forth. It compares the macro and micro mechanisms of country heterogeneity for cross-border purchasing behaviors, especially the distribution of consumer choice and the volume of each purchase.

The study finds that the determinants of traditional bulk trade significantly impact the volume of cross-border e-commerce trade. In addition to the traditional determinants in the literature, the paper provides evidence of the impact of Internet popularity on e-commerce trade volume. The impact of these determinants on micro-level consumer choice is investigated as well. By distinguishing the different effects of package value and item unit price, the paper finds significant differences in the impacts of the determinants of aggregate volume and consumer-level behavior.

The paper “How Digital Economy Affects China’s Domestic Value-Added Rate of Exports” conducts an empirical analysis of the impact of digital economy development on the export domestic value-added rate of China’s manufacturing industry and its mechanism using the input-output data of WIOD from 2002 to 2014. In the theoretical part, two hypotheses are proposed on the channels by which the development of the digital economy influences the domestic value-added of exports. The first one is that the development of the digital economy promotes growth in the domestic value-added rate of Chinese manufacturing exports. The second one is that technological progress and cost reductions are two important channels through which the digital economy promotes growth in the domestic value-added of manufacturing exports. Digital inputs include digital skills, digital equipment (hardware, software and communications equipment), and digital intermediates and services for production, of each sector are used to measure the digital economy.

Specifically, digital inputs are measured as the intermediate inputs of the domestic communications industry (computer programming services, consulting services and other related information service activities provided to manufacturing sectors). The results show that digital economic inputs have significantly increased the domestic value-added rate of manufacturing industry exports, which is conducive to increasing the real trade profit of the manufacturing industry. The inputs from the digital economy have mainly increased the domestic value-added rate of intermediate-product exports. In
other words, the development of the digital economy helps promote the optimization and upgrading of the export structure of the manufacturing industry. In addition, digital inputs have a significant positive effect on the capital-intensive and knowledge-intensive manufacturing industries. Finally, technological progress and cost reduction are vital mechanisms by which the digital economy promotes the domestic value-added rate of exports.

In the paper “Does Cross-Border E-Commerce Contribute to Growth Convergence: An Analysis Based on Chinese Provincial Panel Data,” an extended heterogeneous firm trade model was constructed. The paper examines the impact of cross-border e-commerce on the convergence of regional economic growth and provincial export growth using the panel data from 31 provinces in China from 2015 to 2018. Theoretical analysis finds that cross-border e-commerce (CBEC) lowers the capability threshold of export and increases the aggregate regional export value. The extent to which CBEC influences regional export depends on the regional capacity level. In the empirical section, the combined data from China Statistical Yearbook, the statistical yearbooks of provinces, and the statistics of Alibaba International Station was used. The intensity of CBEC applications in each province was measured by the number of CBEC export merchants and the number of CBEC comprehensive pilot zones.

The study finds that CBEC promotes economic convergence in China. The results are robust when indicators of the degree of private economic development and inter-provincial trade potential are added as control variables into the baseline model, the average annual growth rate of real per capita output during three years is used and the system generalized method of moments (GMM) method and instrumental variable method are used. It further finds that CBEC has no significant difference in promoting economic growth in eastern and mid-western provinces, but weakens the trend of economic convergence of eastern provinces. The mechanisms of CBEC on economic growth are further explored by examining the impact of CBEC on exports. CBEC promotes the narrowing of differences in inter-provincial international trade and the convergence of labor input and the divergence of human capital, with no significant effect on the growth of physical capital. As for total factor productivity, CBEC promotes the followers to catch up with the productivity of the economically leading regions and promotes the convergence of technological efficiency and pure technology growth.

In summary, this special issue is providing a number of studies with innovative ideas, implementation methodology and policy implications to upcoming researchers, policymakers and business practitioners in the digital era. Research topics cover important dimensions in the era of digital economy. This includes the impact of technological diversification on the innovation performance of eMNCs and the moderating effect of overseas R&D networks on the relationship between technological diversification and innovation performance. It also includes the role of Internet in shaping sustainable employability of Chinese adults and the effect of R&D inputs on GVC status.

In addition, the topics involves with the determinants of cross-border e-commerce and the effect of digital economy on domestic value-added rate of exports, as well as whether cross-border e-commerce contributes to the growth convergence. The selected articles are well targeted towards providing high-quality, best and latest research on digital economy. They are written by eminent professors and researchers from well-known research institutions. The researchers consider the fact that their research could influence on business internationalization, multinational enterprises, GVCs, and common people in their everyday life.

We hope that the selected papers could benefit for business users and the studies should have an impact on the society. Especially, the special issue papers include policy implications for the topics, such as how developing countries can use the opportunity of digital technology knowledge transfer and globalization to enhance their firm innovation capabilities. The studies could help eMNCs expand their internationalization vision from...
the internationalization of production and sales links to the high-end link of the GVC, in context of the process of internationalization of R&D. The selected papers strengthen the construction of institutional environment and take relevant measures to provide necessary support for MNCs’ technological diversification and R&D internationalization for governments. Moreover, modern information technology shapes adults’ sustainable employability. Governments, societies, and internet users would need to shape a more inclusive and sustainable future for individuals.

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REFERENCES


