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South-South Integration and the SDGs:
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The Development of China' Digital Economy: A Study on China's E-commerce Development and Policy Implications

Abstract

This paper shares policy experience of China in developing its digital economy, with particular focus on the growth of the E-commerce sector. As a case study, the paper traces the growth of Alibaba in China and discusses the policies which helped Alibaba's growth along with the strategies adopted by this digital platform. Building trust between buyers and sellers was one of the biggest challenges faced by Alibaba, which was overcome by building Alipay, which is an innovative payment system. By using data analytics on the data collected on its instant message service used by its buyers and sellers and putting in place data-driven intelligent logistic services, Alibaba was able to outcompete the foreign digital platforms in China. Launch of Alibaba Cloud further helped in storing and processing of its data. The paper also identifies key policies followed by the Government which helped Alibaba's growth. These include putting in place inclusive and prudent regulations, development of strong digital infrastructure to create data resource, development of logistics infrastructure and encouraging entrepreneurship and innovations.

Key words: Growth of Alibaba, Digital Policies, China's Digital Economy

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Introduction

According to the definition by 2016 G20 Hangzhou Summit,1 the digital economy refers to “a broad range of economic activities that include using digitized information and knowledge as the key factor of production, modern information networks as an important activity space, and the effective use of information and communication technology as an important driver of productivity growth and economic structural optimization.” Different from agriculture economy and industrial economy which use land, labor, and capital as the key factors of production, data becomes the key factor of production in digital economy. As stated by 2019 G20 Osaka Declaration on Digital Economy, “digitalization is transforming every aspect of our economies and societies, and data is increasingly becoming an important source of economic growth”.[1] Global digital economy scale has reached 19.2 trillion USD in 2015, accounting for 22.5 per cent of the total GDP, and is expected to reach 24.6 trillion USD in 2020.[2]

1. The Development of China’s Digital Economy

After years of fast development, digital economy has become an important part of China’s economy. According to the 2017 Report on China’s Digital Economy by China Info 100, [3] China’s digital economy reached US$3.4 trillion in 2016, accounting for 30.3 per cent of the total GDP, and became the second largest digital economy in the world, just after the United States. While China’s digital economy was still only 31.4 per cent of the size of the U.S’s digital economy, its annual growth rate was close to 18.9 per cent (see Figure 1), more than three times of the U.S.’s, 6.1 per cent. Moreover, digital economy has contributed to nearly 60 per cent of China’s GDP growth in 2016 and become the new driver of the economic growth in China.

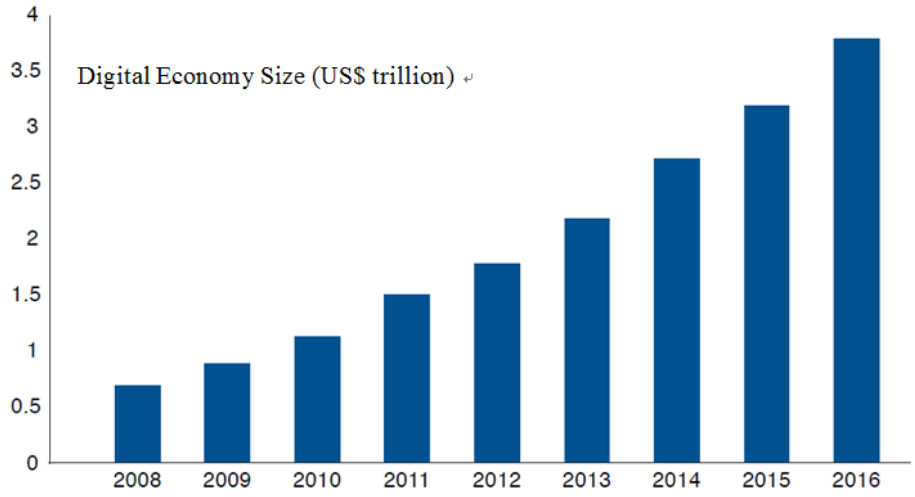
With the growing digital economy, China’s economy is going through the deep digital transformation. According to Digital Transformation of China's Economy: Talent and Employment, a study by Center for Internet Development and Governance at School of Economics and Management of Tsinghua University (Tsinghua CIDG), more than 50 per cent of digital talents in China are already from traditional sectors such as manufacturing, finance and consumer goods, and digital talents in ICT (Information and Communication Technology) industries only account for less than half the overall digital talents (see Figure 2).

[1] https://g20.org/pdf/special_event/en/special_event_01.pdf

[2] Knickrehm M, Berthon B, Daugherty P. Digital disruption: The growth multiplier. Accenture Strategy, Tech. Rep, 2016.

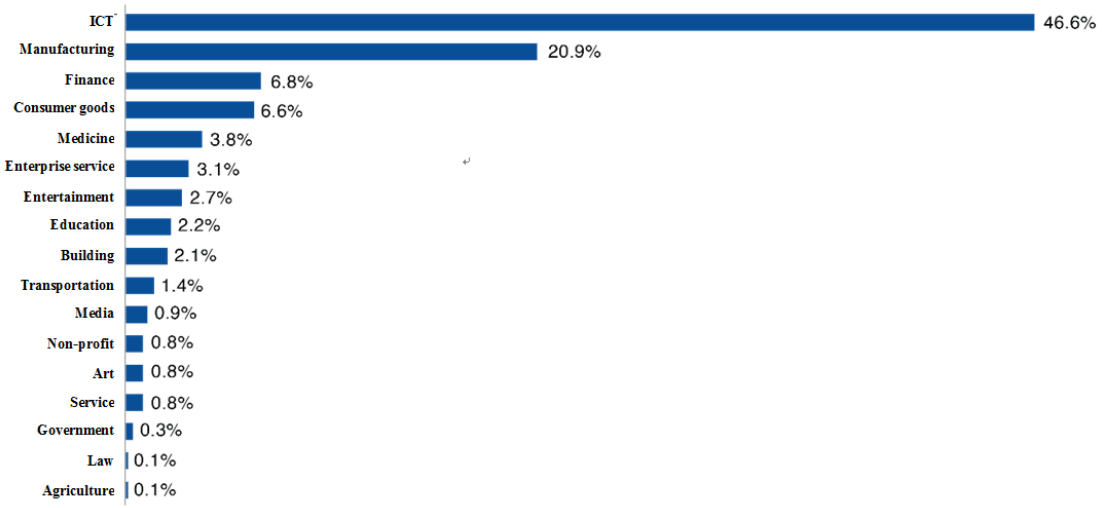
[3] CHINA INFO 100. A Report on China's Digital Economy in 2017：China's Digital Economy on A Turning Point from A Quantitative Change to A Qualitative one. http://www.chinainfo100english.com/201805/440.html.

Figure 1. China's Digital Economy



Source: *ChinaInfo100*

Figure 2. Digital Talent Distribution across Industries in China



Source: Tsinghua CIDG

Geographically, three cities from the traditionally less developed central and western provinces of China, Chengdu, Wuhan and Xi'an, are even among the top 10 cities with the largest number of digital talents in China. Therefore, both from the sector and geographic area perspectives, China's economy is starting a full-fledged digital transformation process.

E-commerce is in the forefront of this digital transformation process. In this paper, we use the development of E-commerce in China as an example to illustrate what are the main drivers behind the spectacular growth of China's digital economy, and what are the policy implications, particularly for other emerging markets.

2. The Development of China's E-commerce Market

According to the annual E-commerce in China reports by China's Ministry of Commerce, online retail sales in China reached over 9.01 trillion RMB (1.3 trillion USD) in 2018, and accounted for 18.4 per cent of the whole retail sales in China and 46.64 per cent of global online retail sales.[4] Meanwhile, the U.S. online retail sales were 5,125 million USD in 2018, accounting for 9.63 per cent of the whole retail sales in the U.S. market. After years of explosive growth, China has become the largest E-commerce market worldwide.

While E-commerce was already booming in Silicon Valley in 1999, it just started in Chinese market with several newly founded local companies. Among them are online B2B global trading marketplace Alibaba and the online C2C auction marketplace EachNet. In the next several years, with the Dot-come bubble burst, many of them went bankruptcy. In 2002, eBay entered China by investing US$30 million in EachNet, which occupied 85 per cent C2C market share in China then. In June 2003, eBay acquired the remaining 67 per cent share of EachNet and rebranded its site as eBay EachNet. Considering the distinction between individuals and small businesses is blurry, Jack Ma, the founder of Alibaba, was concerned that eBay will eventually compete in the B2B market with Alibaba. In 2003, he launched the C2C marketplace Taobao to protect Alibaba from eBay's competition. By 2007, Taobao achieved 84 per cent market share in Chinese C2C market while eBay shut its site in China in 2006. On September 19th, 2014, Alibaba went public in New York Stock Exchange, which made the record of the largest IPO of all time opened on the New York Stock Exchange by then. Single's Day, also known as Double Eleven, which was created by Alibaba in November 11, 2009 as a promotion event, has become the largest shopping day in the world. The gross merchandise volume in 2018's Single's Day reached a staggering $30.8 billion, more than twice the size of Cyber Monday and Black Friday combined.

In the online B2C market, Amazon entered China in 2004 by fully acquiring a leading Chinese online B2C retailer Joyo.com, which was founded in 2000. In the same year of 2004, a small multimedia vendor in Beijing, JD Multimedia, moved its business online. The company soon became the largest direct selling online retailer in China, JD.com, which went public in the NASDAQ in May 2014. It is currently the world's second largest direct sales online retailer behind Amazon and third largest Internet company by revenue, with 305.3 million active customers and 1.7 trillion RMB transaction revenue in 2018. In contrast, after years of struggling, Amazon announced to close its marketplace in China in 2019, while keeping its other business such as AWS cloud service in China.[5]

As an emerging market, why can China become the global leader in E-commerce market over a decade? Why did global giants like eBay and Amazon fail to their local competitors in China? What lessons can other emerging countries learn?

[4] http://dzsws.mofcom.gov.cn/article/ztxx/ndbg/

[5] https://edition.cnn.com/2019/04/18/tech/amazon-closes-china/index.html

3. The Unique Market Environment for E-commerce in Emerging Markets

A unique characteristic of the market environment for the digital economy and thus E-commerce in emerging markets like China is that the digitization process starts while the market is still in the process of industrialization.[6] In contrast, in developed countries the digitization sequentially followed after the industrialization process. With the highly industrialized economy, it is relatively easier and faster for developed countries to start their digitization process than most developing countries. In fact, the percentage of the digital economy among the overall GDP is more than 50 per cent for major developed countries such as the U.S., Germany and the U.K. and is 30.3 per cent for China, 17.8 per cent for India, 20.9 per cent for Brazil and 11 per cent for Indonesia.[7] The main challenge for developing countries to develop digital economy is that they have to take care of their industrialization processes in the same time of digitalization. However, this also presents a historic opportunity for these countries since they can leverage the digitalization to speedily finish their industrialization process, which took developed countries one or two centuries, within two or three decades. [8]

Without going through the industrialization process, most of the traditional sectors such as retailing in emerging countries are highly fragmented with heterogonous players. In contrast, after years of industrialization process, each sector is highly consolidated with a few high-quality giants in developed countries. For instance, the retail sector in the U.S. is dominated by several retail giants such as Walmart, Target, Macy's and Costco. These retail giants are able to leverage the huge economy of scale to efficiently provide a wide range of high-quality products with a low cost. As a result, it is quite difficult for the emerging online retailers to compete with their offline competitors unless they can deliver exceedingly great customer experience. In contrast, the retail market in emerging markets like China is highly fragmented with numerous small inefficient mom and pop stores. It usually takes several layers of middlemen for a product reaching from the manufacturers to the end customers. As a result, the consumers have to pay high prices for even a mediocre-quality product. For E-commerce platforms, if they can efficiently coordinate and provide great matches between the sellers and consumers through Internet and digital technology, they can gain tremendous advantage over traditional offline retailers.

While the unique market environment in emerging markets brings a great opportunity for online retailers, it also creates huge barriers for them. Among them, the biggest obstacle is to build trust in the marketplace. In emerging markets in which the industrialization process is still underway, almost every industry is highly fragmented with numerous firms—many with inferior quality and unknown reputation. Legal systems are not solid enough to enforce trustable market behavior, which makes it very hard for consumers to trust and purchase from sellers. For instance, C2C E-commerce platforms gather numerous fragmented, heterogeneous and unknown sellers that mostly are individual mom and pop stores. In such E-commerce platforms, online buyers tend to have serious uncertainty and trust issue on the product quality or seller reputation. Suppose the E-commerce platform does not design an effective mechanism

[6] Chen, Y, Take the Historic Opportunity to Develop the Digital Economy, People's Daily (June 4), http://paper.people.com.cn/rmrb/html/ 2018-06/04/nw.D110000renmrb_ 20180604_4-16.htm.

[7] CHINA INFO 100. A Report on China's Digital Economy in 2017：China's Digital Economy on A Turning Point from A Quantitative Change to A Qualitative one. http://www.chinainfo100english.com/201805/440.html.

[8] Chen, Y, Take the Historic Opportunity to Develop the Digital Economy, *People's Daily* (June 4), http://paper.people.com.cn/rmrb/html/ 2018-06/04/nw.D110000renmrb_ 20180604_4-16.htm.

to address this issue, it would be very difficult to survive under such market condition. This is exactly how local firms like Alibaba surpassed their global competitors to achieve market success in the E-commerce market.

4. The Case of Alibaba

Founded in June 1999, Alibaba started as an online B2B marketplace to assistant small and medium-size Chinese enterprises to find oversea trading partners, and then gradually expanded to C2C and B2C online retailing markets. Alibaba set up its C2C platform Taobao in 2003. In 2008 and 2010 its B2C platform Taobao Mall and then the independently branded Tmall was founded to sort out small vendors to provide high quality products to consumers. With 617 million active users and 58.2 per cent of the market share in China, Alibaba's sales transaction revenue reached 4.82 trillion RMB, and its net profit was 69.6 billion RMB in 2018. With more than 420 billion USD of market valuation in 2018, Alibaba is among the most valuable companies in the world. Alibaba Group contains the B2B, B2C, and C2C online retailing platforms, establishes its own payment and credit system, builds up its logistics systems with some partners, and provides cloud computing and big data consulting services. It has proposed innovative business models and built a business eco-system to address the previously discussed unique market environment for E-commerce in emerging markets.

4.1 Digital payment as the trust-building mechanism for E-commerce

As one of the earliest E-commerce platforms in China, the biggest challenge Alibaba faces is the serious trust issue between sellers and buyers. For instance, because most of online sellers are individual unknown mom and pop sellers, consumers were lack of trust on whether the products from are high-quality and even authentic. To address such trust issue, in 2004 Alibaba introduced the Alipay, an innovative way of digital payment. Alipay creates an escrow account to eliminate the settlement risk from the online transaction between buyers and sellers. When buyers submitted their payments, the money went to the Alipay escrow account and not directly to the sellers. After the buyers received the products and found the products satisfactory, they asked Alipay to release the money to the sellers. This is different from the direct payment method offered by competing sellers. While eBay owned then largest third-party payment platform Paypal then, the buyers on eBay submitted their payment via Paypal directly to the sellers, which cannot address the trust issue in online transactions. This is one of the major reasons why Alibaba's Taobao won the battle with eBay in China's E-commerce market.

The trust-building function of Alipay in the marketplace applied much beyond the Alibaba platform. More and more online retailers started to adopt Alipay as their payment method. By the end of 2010, the number of Alipay users reached more than 550 million. With the development of mobile internet, Alibaba promoted Alipay mobile payment with its QR code payment method heavily to offline merchants ranging through supermarkets, restaurants to taxis drivers and theme parks. Although NFC payment method in China was developed earlier than QR code payment, QR code payment is a payment option based on users' online account and hardly involves hardware device modification. By March 2019, Alipay accounts for more than 50 per cent market share of China's 47.7 trillion RMB mobile payment market.[9]

[9] http://mp.cnfol.com/48611/article/1561350047-138576080.html

4.2 Data analytics and infrastructure as the key driver of the business

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5. The Driving Policies Behind China's E-Commerce Development

While the innovative business models, proposed by the local entrepreneurs like Jack Ma of Alibaba to address China's unique market environment, are the drivers behind their success, it is various policies from Chinese government that build the ecosystem to foster the emergence and success of such innovative business models. Some of the key driving policies behind China's E-commerce development are as follows.

5.1 Inclusive and Prudent Regulation

While first officially appeared in the 2017 "Government Work Report", "Inclusive and Prudent Regulation" has been adopted in principle by Chinese government on regulating Internet related business and innovation practically from the very beginning of the Internet development. Such regulation principle means that the government waits to see how new business models and innovations develop before making regulations, and gives more freedom and encouragement on innovation. Premier Li Keqiang stated during the State Council's executive meeting, "when E-commerce started to develop in China in the past few years, there were some arguments and even opposition, but we still adhered to inclusive and prudent regulation, and firmly promoted the development

[10] http://mp.cnfol.com/48611/article/1561350047-138576080.html

of new formats and new models", and asked no requirements in licensing, registration or record-filing for first-time imports will apply to retail imports through cross-border E-commerce platforms.[11] He emphasized the positive impact of "Inclusive and Prudent Regulation" on the healthy development of E-commerce and mobile payment in China during the 2017 Summer Davos Forum.[12]

As Alibaba's case shows, digital payment plays a critical role in addressing the trust issue and facilitate online transactions in emerging markets like China. The principle of "Inclusive and Prudent Regulation" played a vital role in the development of digital payments in China. The development of digital payment in China largely went through two stages. From 2004 to 2013, digital payment, largely taking the form of PC-based online payment (e.g., Alipay), mainly serves for online transactions. After 2013, with the popularity of mobile internet, digital payment, taking the form of mobile payment, serves both online and offline shopping, ranging from taxi-hailing, bike-sharing, to restaurant-dining. From the market perspective, the popularity of digital payment in China is partially due to the trust issue and inefficiency of traditional offline banking infrastructure. With its explosive growth, digital payment is gradually encroaching the traditional bank's market. However, Chinese government did not regulate this market until 2010. Before 2010, any non-financial institutions such as online retailers can freely issue the digital payment without any regulations. By 2010, 137 million online users adopted online payment, accounting for 30 per cent online users in China. In 2010, People's Bank of China released the Administrative Measures for the Payment Services Provided by Non-financial Institutions mainly to prevent the illegal trade (such as gambling or money laundry), and required the license for third-party payment service. The new regulation was widely regarded as a policy to promote the healthy development of the digital payment, and 27 companies got the licenses in the first wave of approval.[13] Mobile payment users in China exploded from 7.9 million in 2013 to 583 million in 2018.[14]

5.2 Building the Digital Infrastructure

Alibaba's case shows that data analytics and infrastructure is the key driver of E-commerce business. Chinese government has always been paying special attention to aggressively build digital infrastructure from the very early stage of Internet development. Back in 1999 and 2000, Chinese government restructured the telecom industry by building three major telecom operators to promote market competition, and issued several policies to significantly decrease the telecommunication and Internet access fees to promote the adoption of ICT technology and the development of Internet.

In January 2009, Chinese government issued three 3G licenses with three different standards to three telecoms to officially kick off the mobile internet era for China. In August 2013, the State Council, the central government, officially launched "Broadband China" strategy. It set the immediate goal to achieve 2,100 million household adoptions (40 per cent penetration rate) for the fixed-line broadband, 3,300 million 3G/LTE users (25 per cent penetration rate) by the end of 2013, the short term goal to achieve 2,700 million households (50 per cent penetration rate) for the fixed-line broadband and 4,500 million 3G/LTE user (32.5 per cent penetration rate) by 2015, and the mid-term goal to achieve 4,000 million households (70 per cent penetration rate) for the fixed-line

[11] Source: http://english.www.gov.cn/premier/news/2018/11/23/content_281476402742928.htm.

[12] Source: http://www.xinhuanet.com/money/2017-06/27/c_129641944.htm(in Chinese).

[13] https://www.infoq.cn/article/2011/05/thirdpart-payment

[14] http://cnnic.com.cn/IDR/

broadband and 1.2 billion 3G/LTE user (85 per cent penetration rate) by 2020. In addition to the goals for the internet coverage and penetration rate, it also set different goals to improving user's internet connection quality and speed. For instance, the broadband access speed has to increase from 20 Mbps in 2013 to 50 Mbps in 2020 for urban households and from 4 Mbps in 2013 to 12 Mbps in 2020 for rural residents.[15] In 2015, the State Council issued another follow-up policy to significantly increase the network speed by speeding up the construction of high-speed broadband and 4G networks, and also cut down the network access fees.[16]

As a result, according to the China Internet Network Information Center (CNNIC) reports[17], the number of Internet users increased from 618 million (45.8 per cent penetration rate) in 2013 to 829 million (45.8 per cent penetration rate) in 2018. The number of mobile Internet users rose from 500 million (81 per cent of Internet users) in 2013 to 500 million (98.6 per cent of Internet users) in 2018. The number of rural Internet users increased from 177 million in 2013 to 222 million in 2018. In the same time, the online retail sales jumped from 1.85 trillion RMB to 9.01 trillion.[18] These greatly helped to digitize China's gigantic population and market, accumulate the tremendous data resource, and setup the foundation for the development of the digital economy.

With the fast development of mobile internet, turbocharged by Chinese government's digital infrastructure policies, there is an extremely high mobile internet penetration in China's rural areas. Rural residents have 84.6 per cent of mobile internet penetration rate, 5 per cent higher than urban residents in 2014.[19] Adapting to such unique market environment, a purely mobile E-commerce platform Pinduoduo is founded in September 2015. It offers a wide range of products from daily groceries to home appliances. Different from Alibaba and JD.com, Pinduoduo only launched its mobile channel and mainly targeted at consumers in underdeveloped areas with deep discount products. Consumers from rural area or lower-tier cities account for around 65 percent of Pinduoduo's total user base. By utilizing a "team purchase" model,[20] Pinduoduo encourages users to share Pinduoduo's product information on mobile social networks such as WeChat, manages to acquire users at a very low cost, and also addresses the trust issue through social interactions at social media platform. Pinduoduo fully leverages the advantage of the mobile internet and mainly targets at the rural consumers with a deep discounted price, and become the third-largest ecommerce giant in China in a very short time. In the three years since its inception, Pinduoduo experienced an explosive growth and went public on NASDAQ market on July 26, 2018 with a valuation of $60 billion. According to its financial statement, it had 418.5 million active customers and $ 68.6 billion transaction revenue in 2018.

A recent Tsinghua CIDG study examines how mobile internet will affect E-commerce in China.[21] Based on a large consumer-level mobile app adoption, usage and location dataset in China, the study finds that consumers with lower access to offline retail outlets in China spend more time on mobile shopping apps, use them more frequently

[15] http://www.gov.cn/zwgk/2013-08/17/content_2468348.htm

[16] http://www.gov.cn/zhengce/content/2015-05/20/content_9789.htm

[17] http://cnnic.com.cn/IDR/

[18] http://dzsws.mofcom.gov.cn/article/ztxx/ndbg/

[19] J. Chiang and L. Chen, Mobile and Rural: Dual Engines for Alibaba's Future, Forbes (2014, November 13), < https://www.forbes.com/sites/ceibs/2014/11/10/mobile-and-rural-dual-engines-for-alibabas-future/#212e44fb3b68. >

[20] https://techcrunch.com/2018/07/26/the-incredible-rise-of-pinduoduo/

[21] Xuebin Cui, Ting Zhu & Yubo Chen (2019). Where You Live Matters: The Impact of Local Retail Sparsity on Mobile Shopping App Adoption and Usage, Tsinghua CIDG Working Paper, <https://ssrn.com/abstract=3263871>

and purchase more frequently, suggesting that mobile commerce helps mitigate the shortage of retail outlets in underdeveloped markets such as rural areas. Based on the conclusion of the study above, rural consumers access fewer retailers than urban consumers, so they have the higher incentive to use mobile commerce. Thus, the digital infrastructure strategy on mobile internet will prompt more rural consumers to highly engage with the usage of E-commerce, and contribute to the flourish of E-commerce in China.

5.3 Developing the Logistics Infrastructure

Logistics is the key component of the online shopping experience, and logistics infrastructure is the basic support of E-commerce. In emerging countries such as China, there exists uneven development of logistics infrastructure across different areas, and the overall logistics infrastructure is not efficient. For instance, the logistics costs in the countryside are five times higher than in urban areas in China.[22] In some rural areas, online products cannot even be delivered due to the deficiency of the logistics system. The logistics industry is highly fragmented with numerous service providers with heterogeneous quality. To increase the logistics efficiency, JD.com built its own large-scale state-of-art in-house logistics infrastructure all over China. With 23 smart fulfillment centers, and 550 warehouses totaling 12 million square meters, it covers everything from the warehouse to the last-mile delivery, and can deliver 90 per cent of its direct sale orders within 24 hours anywhere in China.[23] Based on the data of a million users at JD.com, another recent Tsinghua CIDG study finds that offering a self-owned high efficient logistics service can significantly increase consumers' overall purchase from the JD.com and meanwhile enhance the long-term relationship between firm and customers through trust building.[24] This suggests that improving the overall logistics efficiency nationwide is a key driver of online retailing and overall E-commerce development.

Relatedly, an important public policy that boosted the E-commerce flourish in China is the "Internet Plus" action plan. Premier Li Keqiang introduced the new "Internet Plus" action plan at the 12th National People's Congress in March, 2015, "The action plan aims to integrate mobile Internet, cloud computing, big data and the Internet of Things with modern manufacturing, to encourage the healthy development of E-commerce, industrial networks, and Internet banking, and to help Internet companies increase international presence."[25] The "Internet Plus" action plan with specific guidelines from China's State Council was launched in July, 2015. Among them, many are significantly and positively associated with developing the logistics infrastructure for the ecommerce development. For instance, local governments are called to invest more to improve overall logistics connection efficiency and particularly extend the logistics network and lower the logistics transportation cost in rural area. In addition, the government actively encourages and supports the rural E-commerce development, and upgrades the logistics infrastructure that facilitates E-commerce in rural areas. These policies on logistics infrastructure development, complimentary to the digital infrastructure, are very important to promote E-commerce and digital economy in emerging markets like China considering the ongoing industrialization process in these markets.

[22] Mu Cui, China: Why Is Rural E-Commerce Market the Next Gold Mine https://atelier.bnpparibas/en/retail/article/china-rural-e-commerce-market-gold-mine

[23] https://about.jd.com/

[24] Wu,Banggang, Yubo Chen, Prasad Naik (2018), "Why Online Retailers Offer Own Delivery Service?" Tsinghua CIDG Working Paper

[25] http://english.www.gov.cn/policies/latest_releases/2015/07/04/content_281475140165588.htm

5.4 National Mass Entrepreneurship and Innovation Campaign

The flourish of E-commerce market and digital economy in China is also highly dependent on the ecosystem where entrepreneurship and innovation are encouraged and heavily rewarded by the society, which was not there in such a transition market as China.

There exists a strong network effect in the E-commerce market and digital economy in general. Chu and Manchanda (2016) find that the growth in the number of buyers in Taobao is driven primarily by the seller's installed base and product variety with increasing importance of product variety.[26] The more high quality sellers in the marketplace, the more buyers the platform can attract. Therefore, the small and mid-size entrepreneurs in the E-commerce platforms play a very important role to drive the growth of the E-commerce ecosystem. To encourage the emergence of more entrepreneurs, a national mass entrepreneurship and innovation campaign was launched to promote the culture shift. In September 10, 2014, Chinese Premier Li Keqiang first proposed the concept of “mass entrepreneurship and innovation” during his speech at the 2014 World Economic Forum’s Summer Davos Forum. In June 16, 2015, China’s State Council officially launched the policy document on advancing mass entrepreneurship and innovation.[27] And then a range of follow-up policies are implemented by different levels of local governments to provide subsidies and spaces for startups, make it easy to register new companies, pump up government guiding funds to stimulate private venture funds, and reform the capital market to attract innovative companies to go public.

Mass entrepreneurship and innovation campaign essentially serves as a top-down culture shift. With this campaign, the Chinese government provided full-fledged endorsement on entrepreneurs, and cultivated the new culture that advocating entrepreneurship and innovation and tolerating the failure. This culture attracts unprecedented amount of talents from big companies, overseas and college and venture capital funds to build next Alibaba. The total Chinese venture capital funds skyrocketed from around 3 billion USD in 2013 to 12 billion USD in 2014, and 26 billion USD in 2015.[28] This culture shift is a part of the reason why it took Pinduoduo only three years from the start of the company to go public on Nasdaq in 2018 and become a company with 60 billion USD valuation.

6. Conclusion

Based on the successful development of China’s E-commerce market, it is very important for other emerging market countries to fully understand the unique market environment for digital economy in their own markets, and develop a set of policies specifically to build the ecosystem to facilitate innovative business addressing such unique market environment. In emerging markets such as China, a unique market environment feature is that the market has not finished the industrialization process and suddenly the digital transformation starts. To develop the digital economy in general and E-commerce specifically, the firms and the policy makers in emerging markets have to pay attention to the basic market and infrastructure conditions, which are developed

[26] Chu, Junhong and Puneet Manchanda (2016), “Quantifying Cross and Direct Network Effects in Online C2C Platforms,” Marketing Science, 35 (6), 870-893.

[27] http://www.gov.cn/zhengce/content/2015-06/16/content_9855.htm

[28] https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/01/venture-pulse-report-q4-17.pdf

during the industrialization process in the western world and are important necessary requirements for the development of the digital economy. Some of them are the trust between market sellers and buyers, digital and logistics infrastructure and entrepreneurship.

The development of E-commerce in China provides several important policy implications for the policy makers in other emerging markets. First, when developing the digital economy, they should adopt an inclusive and prudent regulation principle, and build a culture to encourage innovation and entrepreneurship. Many business models of the digital economy are unique to the emerging markets, and the regulations from the western world are not necessarily good examples to follow. It is very important for the policy makers to encourage innovation and experimentation by local entrepreneurs. Second, considering the data become the key product factor of the digital economy, the policy makers need to design different policies to build strong digital infrastructure to create the data resource. Finally, the digital economy needs to be built on some necessary supporting infrastructures, which were developed from the industrialization process. For E-commerce, the logistic infrastructure is such basic infrastructure. It is difficult to leapfrog in these areas. The policy makers should provide different policies to facilitate the development of such ecosystem.