

An Analysis of How Urban Communities Intersect with Digitalization in Chinese and Korean Megacities

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Abstract. Online services in East Asia represent a latent market waiting to be tapped in an increasingly tech-savvy region of the world. Asian megacities, especially those in South Korea and China, are prime targets for the development of a digital economy. However, adopting an online to offline service platform requires that companies observe the current and future developments of megacities, plus second and third tier cities as well. This research evaluates the presence and performances of digitalized commerce in China and South Korea. Areas of development include the need for both hardware and software development – especially through innovative apps to further link increases in digitalization to economic profits in numerous sectors. The goal of this study is to offer a comprehensive and thorough evaluation of how online operations may develop in the near future while also identifying optimum conditions for launching O2O services. Corollaries between the various stages of digitalization between Chinese and Korean megacities indicate that each nation’s economy stands to make massive economic gains and digitalization advancements, albeit through different means.

Keywords: electronic commerce, East Asia, urbanization, digitalization

1. Introduction

One of the greatest boosts to the global economy since the new millennium has been the advent and advancement of digitalized economies; that is, the empowerment and execution of trading goods and services through online platforms and devices. In the world’s economy, despite bearish outlooks around the world – particularly relative to questioning the stability of the Chinese economy – e-commerce and digitalized consumption has come to represent a major factor in the increasing dominance and hegemony of East Asian markets. This is especially true for South Korea and Chinese megacities, but also for their nations as a whole. Indeed, in a presentation for the United Nations Commission on Science and Technology for Development, Dr. Raúl Katz observed that a ten point increase in the digitalization of a nation yielded an average 0.74% increase in the same nation’s GDP in 2012 [1]. According to the market research firm, eMarketer, e-commerce is expected to pass \$3.5 trillion by 2020, accounting for 7.3 percent of global retail sales in 2015, but perhaps yielding 12.4 percent by 2019 [2]. Among the services which fall under digitalization’s expansive umbrella, this paper seeks to elucidate and explore the rise of Online-to-offline (O2O) services in East Asian megacities relative to their urbanization ratings before calculating an optimum balance of digitalized development and urbanization. This paper will also discuss the unique situation in East Asian communities – which have demonstrated themselves as some of the world’s most eagerly willing to embrace digitalization’s presence in their consumer culture, but also among the most densely populated urban areas in the developed and developing world [3]. Urbanization rates will be paired with a nation’s DEI to perceive when the greatest increase in GDP is achieved; subsequently discussing whether reciprocity can be observed and, if possible, how the eventual plateauing or decline in one element impacts the other along with GDP growth [4].

2. How is Urbanization Determined?

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Urbanization itself is a difficult term to pin down with a specific definition, as the rate is often referenced broadly to discuss rural-to-urban transitions based on a population's activity, yet this needs to be clarified further in order to understand exactly what is being evaluated [5]. Montgomery *et al.* points out that urbanity can be more acutely observed in terms of observing the shift from scattered agricultural residences into a more urban-based population [6]. As such, the definition of urbanization within this essay is the net migration of individuals from a country's rural communities into urban areas. Global trends indicate that there has been a gradual decline in positive urbanization rates while the highest percentages have been in Africa and Asia – excluding Japan – since 1950. Western Europe and North America are more urbanized at present; as a result, their urbanization growth rate will be considerably lower – even if the net shift is still larger than those in Asia and Africa. As this global shift continues, the UN's ESA cites the equitable and sustainable benefits of urban living as one of the key challenges facing countries around the world [7]. Fortunately, as we turn to observe the digitalization and urbanization of East Asia's megacities, both China and South Korea represent examples that other developing and developed nations can use as templates for their own forward progress.

For the past twenty years, the Chinese economy has received consistently increasing amounts of foreign direct investment, but that includes the 40 percent contribution made by Hong Kong – a reciprocal reinvestment agreement between the two parties which helps maintain preferential trade conditions [8]. Even with that 40 percent, however, China's outbound investments began exceeding the impound amount in 2013. At this point, China's goal to challenge and counter Western economic hegemony manifests with a two-pronged initiative: the Asian Infrastructure Investment Bank and the New Silk Road [9]. Investing and revitalizing the regions infrastructure are both precursors to allowing China to spearhead the opportunity to expand its digital economy, but also to branch out into developing Central Asian markets. According to Stanford University's Karen C. Seto, over 25 percent of the world's largest 500 urban areas are located within China. In 2002, China's urban population was at 36 percent, but that is estimated to climb to 70 percent by 2050. As for China's digitalization, the Tufts University's Fletcher School observed an 8.39 percent aggregate increase from 2008 to 2013, a 7.91 percent advantage over the United States still dominant digitalized economy. This places China in a position to swiftly overtake the U.S. from the standpoint of digital innovations and technical development.

China is looking to support its citizens as they transition into or begin developing urban communities [10]. This alone presents a period of high investment from private and government sectors, but also will yield an even higher level of digitalized ubiquity as urban environments are revamped or newly constructed [11]. Boston Consultant Group cites that even among urban communities: “an estimated 47 percent of the total population has access to a PC, mobile phone, or both [12].” Yet, even with a primarily rural community outside the reach of extensive Internet penetration, BCG points out that there are approximately 140 million users outside city limits. Additionally, smaller sized Chinese cities boast over 60 percent of their populaces having possession of digital devices and services. Extrapolating these observations leads to three key points. The first is that China is, perhaps more than almost any other region, in an excellent position to support both urbanization and digitalization. As Internet penetration and the ubiquity of digital devices expands, so too will digital marketing and O2O services surge in frequency. The second point is found after analyzing the UN's urbanization survey and PwC's identified positive corollary between increasing a nation's DEI and its GDP. The more expansive digitalization becomes, the more confident consumers feel since they have access to virtually limitless feedback and information to make savvy decisions. The third and final point for China is that some of the DEI elements are already significantly ahead of where similar economies are situated: specifically user skill level and ubiquity. For both of these elements, China enjoys the benefit of having very little difference between its rural and urban user skill levels.

3. How do Urbanization and Digitalization Intersect?

Population density and urbanization may help with the ubiquity of digital devices, but they tend to represent very little impact on Internet penetration after a country progresses into hosting a developing economy. This is especially relevant for Chinese and Korean megacities like Guangzhou, Hong Kong, and Seoul, according to financial analyst groups PricewaterhouseCoopers and McKinsey & Company. McKinsey

observes that Chinese consumers, regardless of their housing circumstances in various tiers of urbanity or rural residences, are increasingly present as digital consumers. The reason, they posit, is because East Asian megacities are more willing to embrace digitalization as part of their lives than any other region of the world – with the exception of ASEAN cities in the future, should ubiquity and reliability be prioritized in the next few years. In fact, McKinsey observes that rural consumers display nearly equal drive to participate as digital consumers, but also identify themselves as “digital gurus” more readily than their urban counterparts [13]. Among China’s rural digital device users, 64 percent said that they were online shoppers, 65 percent said they considered themselves online gurus, and 43 percent said they saw being the first to try new products and services as an admirable or desirable experience. The percentages for the same three categories among megacities and lower tiered urban environments sat at 72 percent online shopping, 55 percent guru status, and 26-28 percent being eager to try goods and services first. Aside from being more present online – likely due to digital devices in urban environments outstripping the utility and accessibility of rural areas – urban digital consumers were significantly less keen to be the first and identify themselves as experts. In this regard, population density may actually play a role because it is more likely for an urban resident to see new goods and services far sooner than rural residents. However, as urbanization continues and the increasing population becomes exposed to the higher levels of wealth to be expected in more urban environments, both ubiquity and skill level will plateau. This is true among all urbanizing countries that must develop their infrastructure and their economies; but is interesting to observe among China and South Korea, as the swiftness and seemingly inexhaustible drive to develop has resulted in renown for the two countries.

South Korea, by contrast, has a very interesting parabola of development in both digitalization and urbanization when contrasted with China’s abundant urban environments – megacities. Two key elements contribute to the meteoric rise of Seoul as the primary hub of business and urbanization in South Korea. Firstly, South Korean urbanization was overwhelmingly focused on the capital – which has existed as a major nexus of government and business affairs in Korea for centuries. During decades of rapid urbanization, rural laborers began flooding into Seoul – which absorbed over 60 percent of all rural-to-urban transitions during the 1960s. Capital-intensive growth reprioritized the focal points of urban growth to the major cities, providing a key difference between the urbanization development of China and South Korea. While China is inevitably pressed to foster the growth of smaller cities due to its geographic scale, South Korea’s modest size – approximately the same size as the U.S. state of Indiana – allows it the option to intensively focus on the development of a singular hub of urban development. By the late 1980s, industrialization and urbanization was soaring at over 80 percent of employment in Korea’s economy according to Seoul National University and the Korea Research Institute for Human Settlements [14]. As Korea’s economy expanded, smaller cities sprang up at key ports, benefiting from lower transportation and delivery costs. Seoul and other large cities like Daegu and Busan were well positioned for jumping onto the digitalization bandwagon when the U.S. and Japan launched their Information Superhighway Plans – or their equivalents – during the 1990s. For Korea, this was the Informatization Promotion Fund that provided stable funding for Korea’s heavy investment into communications technology [15]. So dawned the advent of Korea’s ascent to the pantheon of the most digitalized economies in the world, which later served as a template for China’s focus on specific economic sectors; including steelwork, agriculture, and digital devices and services.

This is where the importance of O2O comes into play: the distribution and supply policies of offline stores is far easier to mitigate when e-consumers order directly from a website or application. Furthermore, the self-cannibalism assumed to be attached to offline retailers shifting to meet online platforms head-on is misplaced. The greatest challenge faced by O2O services in urban areas and megacities is expected to be delivery issues or warehousing due to the sheer volume of transactions [16]. This applies to both Korea and China, albeit with some clear differences for each country. In Korea, with a relatively small geographic area to cover, the issue is population density causing inaccuracy. As for China, the issue is improving the infrastructure to link various cities and regions with suppliers, further emphasizing the need for road and railway improvements in the near future – which is already a major focus for the government as they look to increase their influence in the region and beyond.

4. How can China and South Korea Maximize their Economic Benefits?

The Fung Business Intelligence Centre discusses the significance of O2O in the development of China's economy, citing that the central government pinpointed e-commerce and O2O services as one of the nation's ten most important sectors for development [17]. With China's internet penetration moderately low, yet still vast in terms of the number of digital consumers, the FBIC group concludes that an increased level of digitalization – ubiquity, access, and the seamless use of O2O services to net customers either off or online – will result in major upticks in the nation's GDP. Infrastructural development will help China's economy facilitate smoother transitions between online shopping and either delivery or visiting the brick and mortar stores itself. Along with the importance of making delivery of O2O goods and services more manageable and swift, the continued urbanization of China's smaller cities will help increase internet penetration across the nation. Service providers and networks devices themselves will react to the rise in multiple urban population centers, especially among newly developed "smart cities." Since digitalization's ubiquity element is reasonably secure as China moves to achieve its goals of urbanization and revamping its infrastructure, the priority – according to FBIC – needs to be offering the highest quality devices and support services possible. As cities and their users continue to develop, so too will the need for innovative and new technologies. This is partially achieved through O2O delivery services and retail platforms. After achieving strong network coverage, developing quality devices and software, and maintaining a smooth synchronization between the offline and online goods and services, the Chinese e-commerce sector's productivity and revenue can positively impact every level of government, business, public life, and even international trade. From 2005 to 2013, OECD countries increased their number of adult users collectively from fewer than 60 percent to 80 percent. Among younger generations, that number increases to a staggering 95 percent. These overwhelming percentages indicate the potential for OECD countries to develop their ICT job industries and further support much needed developments and innovations in this sector.

5. What is the Optimum Point of Digitalization and Urbanization for China and South Korea?

Even with the swift development of these countries, the key point which this paper identifies as the most optimal window of opportunity for profiting from digitalization and urbanization is the development of second and third tier cities – those which host over five or one million denizens, respectively, but less than ten million. The reason for this identification has to do with streamlining O2O services as a component of smart city planning.

The intersection point between urbanization and digitalization in China has the major advantage of a massive surge in the number of smartphone users as well as an overwhelming population engaging in rural-to-urban transitions. With this incipient mass of smartphone users numbering in the tens of millions, the inevitable digitalization and urbanization are manifesting in rising "smart cities" which integrate digital devices and urban planning into a city's layout. The profits to be made by China for digitalization alone are staggering, representing over two trillion USD of the nation's GDP by 2025 [18]. But if this figure is augmented by a 30 percent increase in urban populations, of which 80 percent are expected to participate actively as e-consumers, it will result in 25 percent of China's incremental GDP growth by 2050.

On the other hand, Korea has a much more challenging road ahead as it seeks to retain its reign over the android phone market. Digital ubiquity and penetration are already plateauing among urban users and consumers, so the South Korean government and private sector need to collaborate and focus their attention on supporting the development of smaller cities into more appealing urban hubs. Still, Koreans themselves tend to view Seoul as their Rome; the land which represents its hope and triumphs. In an effort to support budding innovations for digital devices and applications, corporations are establishing incubation firms, which hope to capitalize on lucrative online concepts. Whether the government prioritizes the development of its smaller cities to stimulate urbanization outside it's singular megacity will undoubtedly prove to be a watershed moment for Korea, as its economy does not enjoy the magnitude of those in the U.S. or China; which can afford and recover from investing heavily in a sector which does not yield expected profits.

6. Conclusion

In seeking to lead their nations to the helm of global commerce, China and South Korea have both navigated difficult waters to position themselves at the forefront of the international community's digitalized champions. Future gains and successes will stem from each country's ability to identify and prioritize feasible strategies to support very different forms of growth. For China, continuing to invest in infrastructure and integrating devices within new cities to provide higher ubiquity and penetration will propel the nation's digital economy to the point where it represents a quarter of national GDP. South Korea, on the other hand, is gambling its economic stability in the hopes that innovating digital devices and services will represent the new keystone of a powerful South Korean economy. Digitalization and urbanization must be collectively evaluated in order to determine when a country is positioned appropriately to start launching more focused efforts at enhancing the online sectors of an economy. As can be seen when looking at South Korean and Chinese megacities and forecasts for their development, strategies vary extensively as they are tailored to fit a nation's needs and strengths.

As China and South Korea continue pressing ahead with both urbanization and digitalization, one of the strongest ways for the two countries to ensure that their digital economies are maximizing their profits focuses on establishing new facilities and services to ensure that their O2O platforms are innovative and accessible. Digitalization parallels urbanization, just as urbanization shows a parallel to the number of digital users and e-consumers in communities around the world. Knowing that as a population approaches a digitalization plateau of roughly 85 percent, we can extrapolate that over 80 percent of these users will swiftly adopt online shopping and services. These plateaus impact both digital ubiquity and e-commerce participation and are the reasons why economies which emphasize the importance of digital devices and O2O services need to focus on finding innovative technologies and methods for engaging more users and consumers [19]. Both South Korea and China have so far adapted well to facing this challenge by pairing innovative technology and software development with giant suppliers in a mutually beneficial partnership – one providing a smooth O2O service platform such as an online storefront, ordering and delivery processing, or other online means of expanding the market penetration and usability of services among e-consumers.

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