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FACEBOOK: FACING OFF AGAINST TENCENT

Pony Ma, the current Tencent CEO, adapted the idea of an ICQ instant messaging tool to code an OICQ (“open ICQ”) messenger for the Chinese market. OICQ was then renamed QQ because of a trademark infringement lawsuit.¹ Five years later, Mark Zuckerberg, Facebook CEO, cooperated in developing an online university social network. No one at that time could have imagined what impact these two CEOs would have on the world just a decade later. The duo dominated the world of social media but ran their companies on very different business models.

In early September 2016, Tencent joined the list of the world’s Top 10 public corporations by market capitalization. It was the most valuable company in Asia, ahead of Samsung, Alibaba and China Mobile.² Although its market capitalization was a dynamic value, hitting number 10 was a great achievement for an upstart from Shenzhen, the Silicon Valley of China³.

At the same time, Facebook had reached an MAU (monthly active users) figure of 1.712 million, with revenues of over US\$11 billion [see **Exhibit 1**]. Mark Zuckerberg was meticulously executing his vision of connecting every person on the planet. Facebook became the world’s top social platform and the company had ambition plans to expand into other domains. However, its main source of revenue was from advertising and the company had failed to launch any significant new services or products for a while.

As success in the new economy was increasingly dependent on a company’s ability to develop creative business models and technology platforms, rather than simply deploy superior technologies, which of these companies was better positioned to sustain its growth while accelerating momentum to capture a bigger share of the pie? Could Tencent take the West by surprise and expand its platform globally? Would other Silicon Valley giants have reason to fear the newcomers emerging from behind the Great Firewall of China?

Facebook and Tencent

Tencent Holdings Ltd was a Chinese provider of internet, mobile and communication services. Tencent operated in domains such as online media, social networks, interactive entertainment, gaming, e-commerce, mobile Internet, corporate development, virtual reality, and technology

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and engineering.¹ Tencent was Asia's biggest internet company and owned the largest messaging app in China, WeChat,² which was a substitute for Facebook, WhatsApp and Twitter with dynamically expanding functionality. Other significant Tencent platforms included QQ (QQ Instant Messenger), QQ.com, QQ Games, Qzone and Tenpay, many of which ran on Tencent-patented technologies.³ Although Tencent began as a "copycat" reinventing successful overseas applications in the context of the Chinese market, it later transformed itself into the epitome of Chinese innovation. Tencent was founded in 1998 by Pony Ma, who in 2016 was the third richest man in China, after Wang Jianlin of Wanda and Jack Ma of Alibaba. Tencent was listed on the Hong Kong Stock Exchange (SEHK 700) on June 16, 2004.⁴

Facebook Inc. was a social networking platform on which people could share their thoughts, photos and videos, including live stream and 360 videos, play games, create online stores and promote their businesses. Additionally, Facebook Inc. offered Instagram, WhatsApp, Messenger and the brand-new Oculus Rift, a virtual reality headset. Facebook was co-founded in 2004 by Mark Zuckerberg, who then dropped out of Harvard to become the sixth richest person in the world in 2016.⁵ Facebook was listed on the New York Stock Exchange on May 17, 2012, and it was the largest U.S. technology IPO at the time for a newly listed public company.⁶

Tencent mainly operated in China, with some users in other countries after WeChat International was launched, whereas Facebook was present everywhere but China, Iran and North Korea [see **Exhibit 1**].

Revenue Streams at a Glance

"Facebook's business model is to amass as much first-party and third-party data on you as possible, and slowly dole out access to it."⁷ Users spent hours creating and interacting with Facebook content. This gave the company infinite opportunity to generate income from advertising. Advertising was the main source of revenue, reaching 97% at the end of Q1 2016, 82% of which came from mobile applications and websites.⁸ [See **Exhibit 2.**] Interestingly, in previous years, analysts predicted Facebook would fail due to an implied inability to monetize mobile platforms.⁹ The remaining tiny 3% of revenue came from game payments, Workplace, a private social media network for companies, and sales of virtual reality (VR) products. Contrary to common opinion, Facebook did not sell user data to make money.¹⁰

¹ Forbes (May 2016) "The World's Biggest Companies, #48 Tencent Holdings," <http://www.forbes.com/companies/tencent-holdings/> (accessed 20 October 2016).

² MIT Technology Review (21 June 2016) "50 Smartest Companies 2016," <https://www.technologyreview.com/lists/companies/2016/intro/#illumina> (accessed 20 October 2016).

³ TenCent (n.d.) "About TenCent," <http://www.tencent.com/en-us/at/abouttencent.shtml> (accessed 20 October 2016).

⁴ Ibid.

⁵ Savchuk, K. (25 May 2016) "Mark Zuckerberg's Net Worth Soars 18 Billion In A Year, Now Richest Person In California," *Forbes*, <http://www.forbes.com/sites/katiasavchuk/2016/05/25/mark-zuckerberg-makes-18-billion-in-a-year-now-richest-person-in-california-facebook-billionaire/#334230a3479c> (accessed 20 October 2016).

⁶ Zucchi, K. (12 January 2015) "Top Ten Largest IPOs of All Time," Investopedia, <http://www.investopedia.com/articles/investing/011215/top-10-largest-global-ipos-all-time.asp> (accessed 20 October 2016).

⁷ Dewey, C. (19 August 2016) "98 Personal Data Points that Facebook Uses to Target Ads to You," *Washington Post*, <https://www.washingtonpost.com/news/the-intersect/wp/2016/08/19/98-personal-data-points-that-facebook-uses-to-target-ads-to-you/>, (accessed 25 Oct 2016).

⁸ Ashish, A. (12 October 2016) "Facebook's Business Model: How Facebook Makes Money," <http://www.feedough.com/facebook-business-model-makes-money/> (accessed 25 Oct 2016).

⁹ Trefis Team (27 July 2012) "Facebook Struggles With Monetizing Its Mobile users," *Forbes*, <http://www.forbes.com/sites/greatspeculations/2012/07/27/facebook-struggles-with-monetizing-its-mobile-users/#658f855c39a8> (accessed 25 Oct 2016).

¹⁰ Unicornomy (22 February 2016) "How Does Facebook Make Money?" <http://unicornomy.com/how-does-facebook-make-money/> (accessed 25 Oct 2016).

In comparison, Tencent derived income from multiple sources but did not pursue advertising until 2014. Gaming was Tencent's primary income generator, but advertising revenues grew rapidly, especially from WeChat Moments (similar to the Facebook Timeline), the Tencent News mobile app and WeChat official accounts. Other revenue came from the QQ and WeChat membership system, which offers premium features, and a range of e-commerce services and licensing [see **Exhibit 3**].

Both companies relied on the "eyeball" model, in which users are given something in exchange for their time and "eyeballs."¹¹ The hidden genius of such an approach was that it utilized so-called "crowdsourcing." Essentially, Facebook and WeChat customers "worked" for free by generating the primary content, which in relative values saved Facebook the cost of employing 1.4 billion content creators,¹² marketers and data providers. That concept was framed in Facebook's mission statement, which stated, "To give people the power to share and make the world more open and connected."¹³

Growth Through Acquisitions

To connect to more people, both companies employed an acquisition strategy. This approach ensured the elimination of other potential disruptors before they could steal too much of their "eyeball" time. For example, Facebook bought WhatsApp at US\$22 billion, intercepting all its users and data. However, some disruptors such as Snapchat were resistant and preferred independence to earning billions in stock options and cash.¹⁴ The companies' acquisition strategy also allowed them to grow profits and proceed with steady expansion into other markets. Instagram, with its 30 million users (which Facebook acquired for US\$715 million in 2012,¹⁵) engaged 400 million users and was about to produce profits of three times its cost four years later.¹⁶ Although Facebook paid US\$22 billion for WhatsApp, it had not yet generated significant profits, as it was free to use and carried no advertising. But Facebook had strategic plans for this acquisition.

The acquisition process also served as a method for finding highly sought-after talent. A good example was Facebook's acquisition of Masquerade. "Masquerade has built a fantastic app, MSQRD, with world-class imaging technology for video. We're excited to welcome Masquerade to our team and continue enhancing the Facebook video experience,"¹⁷ said Facebook's spokesperson after the Belarus-based app was acquired and the team moved to Facebook's London office. In acquiring MSQRD, Facebook did not just buy extra filters that users could play with to enhance their videos. The added value came with the MSQRD team, who had a proven track record in developing and deploying a successful app.¹⁸ Likewise, a

¹¹ Shoar, S. A. (26 May 2016) "Business Model Examples – Newbies Guide to Various Business Models," *Unicornomy*, <http://unicornomy.com/business-model-examples/> (accessed 25 Oct 2016).

¹² Osterwalder, A. (9 April 2015) "How Facebook's, Ikea's, WhatsApp's and Uber's Business Models Get Others To Do Their Work And Make Billions," <http://blog.strategyzer.com/posts/2015/4/9/facebook-whatsapp-uber-business-model> (accessed 25 Oct 2016).

¹³ Goklani, S. (16 April 2016) "What is Facebook's Business Model?" *Linked In Pulse*, <https://www.linkedin.com/pulse/what-facebooks-business-model-sunny-goklani-eit-bmc> (accessed 25 Oct 2016).

¹⁴ *Ibid.*

¹⁵ Luckersen, V. (19 April 2016) "Here's Proof That Instagram Was One Of The Smartest Acquisitions Ever," *Time*, <http://time.com/4299297/instagram-facebook-revenue/> (accessed 25 October, 2016).

¹⁶ Shah, S. (19 April 2016) "Instagram Is Set to Turn a Huge Profit for Facebook This Year," *Digital Trends*, <http://www.digitaltrends.com/business/instagram-huge-profit-projection-2016>, (accessed 28 October 2016)

¹⁷ Savers, P. (9 March 2016) "Facebook's Acquisition of a Video-selfie Startup Masquerade is All About Live Video," *Venture Beat*, <http://venturebeat.com/2016/03/09/facebooks-acquisition-of-video-selfie-startup-masquerade-is-all-about-live-video/> (accessed 28 October 2016).

¹⁸ *Ibid.*

musical selfie app, Eyegroove, disappeared after it was bought by Facebook mainly to “bring in new talent.”¹⁹

Like Facebook, Tencent exercised an acquisition strategy and, in doing so, also leveraged the geographical location of the newly acquired companies. Investing money in overseas start-ups and companies gave Tencent an opportunity to extend its global reach. In exchange, Tencent shared its expertise and user base to help foreign entities enter the Chinese market. Among others, Tencent acquired international game makers Supercell (maker of Clash of Clans), Riot Games (maker of League of Legends) and invested in multiple companies, including international and local start-ups as well as more established players.²⁰ Both Facebook and Tencent also quickly learned to invest in non-software-based businesses that could help them with issues such as research and development, hardware development, data processing, logistics and server infrastructure.

IT as a Driver of Innovation

In the last hundred years, technology visibly changed the way business was conducted and how lives were lived. On a personal level, many tasks moved from the real world to the screen: hailing a taxi, shopping, banking, learning and even the most human of activities, chatting. For businesses, this paradigm shift brought a number of challenges in terms of costs, infrastructure, demand on R&D and the necessity of restructuring.

Examples of IT as an innovation driver in China were ubiquitous. As an illustration, China watched the 2016 Rio Olympics online: CCTV, China’s state broadcaster, resold the broadcasting rights to Tencent and Alibaba for US\$15 million.²¹ That would not have been possible without advanced cloud, streaming and client infrastructure. Another example was TAS (Tencent Automotive Services), which allowed users to listen and reply on the QQ messaging platform using voice commands while driving.²² Alibaba, Tencent and Baidu signed a memorandum of understanding (MOU) with Audi and Volkswagen to partner on the development of an internet vehicle platform and intelligent urban transport. A venture like that required large-scale IT infrastructure connecting all parties, which China could provide. As the Audi China President remarked: “China has become a lead market for digital technologies.”²³ At the same time, China might have taken the lead in financial technology (aka Fintech), changing not only the way banks operated, but also altering deeply rooted Chinese traditions, such as “red envelope gifting” (the age-old tradition of gifting money in a red envelope on specific occasions). By altering the value chain, Tencent’s digital “red envelope” may well have put traditional envelope manufacturers out of business [see **Exhibit 4**]. Again, such digital payments were only possible because Tencent’s WeChat’s advanced IT was in place.

By 2016, IT-driven changes were omnipresent in China. The coming era of the IoT (Internet of Things) and VR had yet to bring about new value-chain disruptions and business models.

¹⁹ Sanchez, D. A. (10 August 2016) “Eyegroove Closes Doors After Facebook Acquisition,” *Digital Music News*, <http://www.digitalmusicnews.com/2016/08/10/eyegroove-closes-doors-after-facebook-acquisition/> (accessed 28 October 2016).

²⁰ Xiang, T. (23 October 2013) “Tencent Has Invested USD 2 bn in Overseas Markets. Here’s the List,” *TechNode*, <http://technode.com/2013/10/23/tencent-has-invested-2-bn-dollars-in-overseas-markets-here-is-the-list/> (accessed 28 October 2016).

²¹ Lee, E. (9 August 2016) “China Is Watching The Olympics With Internet Companies Instead of State TV,” *Tech Node*, <http://technode.com/2016/08/09/tencent-alibaba-rio-olympics/> (accessed 28 October 2016).

²² Telematics Wire (25 November 2015) “Baidu CarLife and Tencent Connected Car App Will Be Featured in Volkswagen Models by 2017,” <http://telematicswire.net/baidu-carlife-and-tencent-connected-car-app-will-feature-in-volkswagen-models-by-2017/> (accessed 28 October 2016).

²³ Volkswagen (11 September 2016) “Audi Strengthens Partnership with Chinese Tech Giants,” http://www.volkswagenag.com/content/vwcorp/info_center/en/news/2016/09/Audi_strengthens_partnerships_with_Chinese_tech_giants.html?ShowPrint=true (accessed 28 October 2016).

Fintech

Disruptive innovation in banking and payments is overwhelmingly coming from China. Established global banks had better watch out or they may soon not have a future.

- Haydn Shaughnessy²⁴

Tencent and Alibaba sized estimated US\$22 billion in potential transaction fees from China's banks, as well as the invaluable transaction data that came with that money. The amount was estimated to reach US\$61 billion by 2020 and, with big data as a new currency, the loss for Chinese banks would be much higher than the estimated dollar value.²⁵ Tencent still lagged Alibaba when it came to earnings. To catch up, the company designed an acquisition strategy aiming to buy in to as many e-commerce start-ups as possible. That ensured more transactions were processed through the Tencent payment system, as vendors and users were connected through the WeChat platform. That platform's users spent money on goods and services, transferred money to friends and family, invested in financial products and took out loans.²⁶

Facebook was also trying to build its own platform. Users in the U.S. had been able to make person-to-person payments since 2015. Facebook also integrated Uber into Messenger with the PayPal-owned Braintree payment gate and enabled payments through its 30,000 chatbots in September 2016.²⁷ Integrating payments into chatbots marked the beginning of conversational commerce and may have been a tipping point. On that occasion, Facebook and PayPal deepened their relationship, as they started beta-testing the new Facebook and Messenger-integrated PayPal system in the U.S..²⁸ Chatbots were semi-intelligent responsive tools that interacted with the audience on messaging apps. Brands could use them to automate rapport-building and sales execution. The technology was based on AI and machine learning, and enabled quasi-natural interactions based on user profiling and requests. For example, a flight booking chatbot would know a Facebook user's favorite airline (machine learning allowed for building profiles based on previous behavior mined from sources such as timeline entries and chat conversations) and the specific date of the trip based on the user's request.

Payments and commissions were not the only way to make money in Fintech. Both companies were striving to develop a credit-rating system based on user profiles that were derived from detailed digital footprints people left on social media, chat apps, GPS locations, on-line shopping websites and even from simple actions such as "likes" or "shares." However, in February 2016, Facebook had to officially suspend its credit-rating and reporting pilot program. The decision was driven by U.S. regulatory issues and public concerns. Meanwhile, in January 2015, the Chinese government encouraged eight selected non-banking entities to take on the credit-rating issue. In general, Chinese banks favored lending to large companies due to the risk associated with limited information on private individuals and small to medium-sized enterprises. Chinese WeChat users engaged with the app ecosystem on all levels (including

²⁴ Fintech News Singapore (10 May 2016) "Chinese Internet Giants Alibaba, Baidu, Tencent Lead Fintech Revolution," <http://fintechnews.sg/2327/fintech/chinese-internet-giants-alibaba-baidu-tencent-lead-fintech-revolution/> (accessed 1 November 2016).

²⁵ Kapron, Z. (6 March 2016), "China's Banks Lost \$22B to Alibaba and Tencent in 2015, But That's Not Their Biggest Problem," *Forbes*, <http://www.forbes.com/sites/zennonkapron/2016/03/06/china-banks-lost-22b-to-alibaba-and-tencent-in-2015-but-thats-not-their-biggest-problem/#68fe58242845> (accessed 1 November 2016).

²⁶ Cendrowski, S. (22 July 2015) "Tencent Turns Venture Capitalism to Conquer China's Digital Wallet," *Fortune*, <http://fortune.com/2015/07/22/tencent-chinese-e-commerce/> (accessed 1 November 2016).

²⁷ Constine, J. (12 September 2016) "Facebook Messenger Now Allows Payments in its 30,000 Chat Bots," *Tech Crunch*, <https://techcrunch.com/2016/09/12/messenger-bot-payments/> (accessed 1 November 2016).

²⁸ Ready, B. (26 October 2016) "PayPal Enhances Payment Experience For Facebook and Messenger," <https://www.paypal.com/stories/us/paypal-enhances-payment-experience-for-facebook-and-messenger> (accessed 1 November 2016).

financial transactions), which was sufficient to formulate a “good-enough” credit score. What would not work for Facebook in the U.S., due to regulatory and privacy issues, provided a competitive advantage to Tencent, among others, who could then take the lead in the industry, leaving Facebook far behind.²⁹

Privacy Only Exists in Your Mind

Photos, comments, likes, preferences, chat conversation records and financial-transaction data were more than enough to develop algorithms able to draw detailed profiles of individuals or groups. This was called “de-anonymization.” In other words, data that consumers originally thought were anonymous could increasingly be made non-anonymous when coupled with other data. Facebook user profiles could be used not only for advertising, but also for credit score ratings, surveillance (such as the Facebook tracking system), crime control, crowd control and even propaganda.

“It’s the paradox of modern life,” laughed Peter Eckersley, the chief computer scientist at the Electronic Frontier Foundation. “We’re strongly incentivized, by the culture around us, to use this technology. It’s incredibly useful — and an incredibly giant structural problem for our privacy.”³⁰

Those who were opposed to Facebook’s or Tencent’s data collection practices had a simple choice: not to use their services. Or that is what they thought. Little did people know that Facebook was tracking users’ behaviors when they were not logged in to the service, and could also track “users” who had no profile on any of Facebook’s platforms. This was possible with the use of the technology behind Facebook pixels, combined with data received from Experian, Ackxiom and Epsilon — the leading data collectors and brokers who developed user profiles over the years.³¹ Anyone who thought that their medical data was confidential was likely wrong; and if someone had political preferences that they wanted to keep to themselves, Facebook could predict those even if one ignored all Facebook political posts.³² In the face of strict U.S. privacy regulations, access to data was smoothly circumvented by Facebook’s predictive algorithms. In China, the privacy laws were constructed in favor of Tencent, which gave it more space for experimenting with profiling and predictive algorithms.

WeChat vs. WhatsApp

Both Tencent’s WeChat and Facebook’s WhatsApp had green logos and began as chat apps, but that was largely where their similarities ended. WhatsApp features remained limited to chat, voice calls and sending media. It also had an encryption upgrade that assured messages could not be intercepted by third parties, although Facebook still had access to the chat records and made wide use of them. Conversely, Tencent developed WeChat into a mobile platform rather than a simple product. The features it offered far exceeded users’ expectations of what they would get from a chat app. “It was possible to hail a taxi, order food delivery, buy movie tickets, play games, check in for flights, transfer money to friends, access fitness tracker data, book a doctor’s appointment, get a bank statement, pay the water bill, find geo-targeted coupons,

²⁹ Kapron, Z. (17 March 2016) “Measuring Credit: How Baidu, Alibaba and Tencent May Succeed Where Tencent Failed,” *Forbes*, <http://www.forbes.com/sites/zennonkapron/2016/03/17/measuring-credit-how-baidu-alibaba-and-tencent-may-succeed-where-facebook-failed/#1fda497c2670> (accessed 1 November 2016).

³⁰ Dewey, C. (19 August 2016) “98 Personal Data Points That Facebook Uses to Target Ads to You,” *Washington Post*, <https://www.washingtonpost.com/news/the-intersect/wp/2016/08/19/98-personal-data-points-that-facebook-uses-to-target-ads-to-you/> (accessed November 2016).

³¹ Ibid

³² Maheshwari, V. (24 August 2016) “Facebook Tries to Predict Your Political Views,” *Mobile Updates*, <http://www.themobileupdates.com/news/facebook-tries-to-predict-your-political-views/> (accessed 2 November 2016).

recognize music, search for a book in the local library, meet strangers milling around in proximity, follow celebrity news, read magazine articles, donate to charity”³³ or share moments, as with the Facebook Timeline, among other features [see **Exhibit 5**]. Unlike most Western apps, which served a single purpose, WeChat was a platform that offered a plethora of uses and featured literally millions of authorized apps that were granted access to WeChat APIs, and were added to users’ contact lists the same way that friends were added. The WeChat wallet — directly connected to a credit card — allowed easy payments on the online platform and in the real world at shops, events, restaurants and other locations, usually with the use of a QR (“quick response”) code. WeChat started as a texting app and evolved to an e-commerce ecosystem in which social media was just a feature. On Facebook, one could learn about a Starbucks promotion; on WeChat, the promotion could be followed by purchases processed directly through WeChat Wallet. Accordingly, some suggested Facebook should follow WeChat’s strategic road map and move toward a platform-over-product strategy.

Crash Candies Far Behind Tencent Gaming

Tencent was the largest digital gaming company in the world [see **Exhibit 6**] and owned Riot Games, nearly 25% of Activision Blizzard and 40% of Epic Games. Tencent also had various partnerships with other game developers for both PC and mobile platforms. Tencent published 10 of the top 30 games in China and was the top mobile-games publisher in the greater China region.³⁴ With its US\$8.6 billion purchase of Supercell in June 2016, it brought the leading mobile game, Clash of Clans, into its portfolio [see **Exhibit 7**]. That move ensured it greater potential to expand into North America and Europe. Analysts predicted it would conquer a 13 percent (US\$13 billion) market share that year.³⁵ Analysts also estimated a US\$11.1 billion yearly growth in gaming on iOS and Android in China. However, Tencent’s earning potential went far beyond China. It made around US\$1.3 billion outside China in 2015, with the potential of soon tripling those revenues. Tencent’s strategy for expansion in the West focused on gaming, not social media.³⁶

Meanwhile, Facebook had few gaming offers. It provided Crash Candies, Farmville and Mafia Wars. Those brought little revenue and a lot of trouble related to privacy breaches, as some games sent Facebook user identity numbers (UIDs) to third parties. The 2010 Farmville privacy fiasco was especially damaging to Facebook. Despite this, Facebook was planning to launch the “Instant Games” toolset to bring more games to Facebook Messenger. There were expectations that those games would be more successful than the Messenger’s chatbots.³⁷ There was also VR lurking around the corner—but could that reposition Facebook in the gaming market and increase its future revenues in the sector?

³³ Connie Chan, C. (6 August 2015) “When One App Rules Them All: The Case of WeChat and Mobile in China,” <http://a16z.com/2015/08/06/wechat-china-mobile-first/> (accessed 4 November 2016).

³⁴ ZhugEX (22 June 2016) “Tencent & Supercell – What Does It Mean?” <https://zhugeex.com/2016/06/tencent-supercell-what-does-it-mean/> (accessed 4 November 2016).

³⁵ Baker, C. (26 June 2016) “Analysts Weigh in on Tencent’s 8.6 Billion Purchase of Supercell,” *Gamasutra*, http://www.gamasutra.com/view/news/275474/Analysts_weigh_in_on_Tencents_86_billion_purchase_of_Supercell.php (accessed 4 November 2016).

³⁶ Grubb, J. (26 June 2016) “Tencent’s Reach Is Unmatched in the Gaming Market,” *Venturebeat*, <http://venturebeat.com/2016/06/26/tencent-will-unlock-more-of-chinas-value-and-weave-itself-into-global-gaming-with-supercell/> (accessed 4 November 2016).

³⁷ Seppala, T. J. (5 November 2016) “It Sounds Like Facebook Messenger Will Soon Have More Games,” <https://www.engadget.com/2016/11/04/it-sounds-like-facebook-messenger-will-soon-have-more-games/> (accessed 5 November 2016).

VR Race

I remember in middle school I would just sit in my math class with my notebook and write code. I didn't even have a computer in middle school. I'd just, like, go home and write it. And I sketched out how I thought that eventually the operating system and the experience should be 3D, and basically more of a VR thing.

-Mark Zuckerberg³⁸

In 2014, when acquiring Oculus, Zuckerberg wrote on his timeline: “Imagine sharing not just moments with your friends online, but entire experiences and adventures.”³⁹ Two years later, in October 2016, he demonstrated how social networks would look in VR [see **Exhibit 8** and **Exhibit 9**]. This was clearly a prototype with no date set for launch. For Facebook, VR was at an early stage and required further investment in technology, processes and content. Facebook, however, was on the way to redefining the VR industry from creating experiences for people, such as movies and games, to people creating experiences.

Meanwhile, Tencent's VR vision seemed slightly clearer. It deployed its own hardware, which included an android-powered miStation notebook with its own headset. Tencent also kept its eyes on AR (Augmented Reality). Unlike VR that immersed users into new worlds, AR allowed them to experience reality as it was, supplemented with additional layers of information/content. Google Glasses and Microsoft HoloLens offered the best AR hardware prototypes thus far. Tencent, together with Lenovo (whose latest phone supported Google Tango, the AR breakthrough technology), invested in Silicon Valley start-up Meta, which developed the AR headset (similar to Microsoft's HoloLens).⁴⁰ This move suggested Tencent understood VR was a concept parallel to AR, as incorporated into PokemonGO, and was getting ready to monetize both solutions [see **Exhibit 10**]. Tencent also set up Tencent Pictures and had on board Original Force, a computer-generated content company tied to Pulse Evolution Corp, famous for producing Michael Jackson and Tupac hologram concerts.⁴¹ In China, Tencent VR was better than Baidu and Alibaba. In Q3 2017, it was to integrate content, such as games, movies, ads and social media, into the VR community.⁴²

Facebook and Tencent were strong platforms with millions of users. In the field of VR, they were faced with competition from HTC Vive, Samsung, Sony, Google, Microsoft and Alibaba. Estimates expected the market to grow to US\$120 billion by 2020, but varied depending on the source.⁴³

³⁸ Urstadt, B and Frier, S. (27 July 2016) “Welcome to Zuckerworld: Facebook's Really Big Plans for Virtual Reality,” *BloombergBusinessweek*, <https://www.bloomberg.com/features/2016-facebook-virtual-reality/> (accessed 6 November 2016).

³⁹ Mark Zuckerberg, Facebook, <https://www.facebook.com/zuck/posts/10101319050523971>, (accessed 5 November 2016)

⁴⁰ Boyle, E. (13 June 2016) “China's Tencent and Lenovo Buy into American AR Startup,” <https://www.vrfocus.com/2016/06/chinas-tencent-and-lenovo-buy-into-american-ar-startup/> (accessed 5 November 2016).

⁴¹ Chen, L. Y. (16 May 2016), “China's Virtual Reality Market Will Be Worth \$ 8.5 Billion and Everyone Wants a Piece,” *Bloomberg*, <http://www.bloomberg.com/news/features/2016-05-15/china-s-virtual-reality-market-will-be-worth-8-5-billion-and-everyone-wants-a-piece> (accessed 5 November 2016).

⁴² SZPhoton (2016) “Tencent Will Release Their Consumer VR Devices in 2016,” <http://szphoton.com/resources/news/tencent-will-release-consumer-vr-devices-2016/> (accessed 5 November 2016).

⁴³ Digi-Capital (January 2016) “Augmented/Virtual Reality Revenue Forecast Revised to Hit \$120 Billion by 2020,” <http://www.digi-capital.com/news/2016/01/augmentedvirtual-reality-revenue-forecast-revised-to-hit-120-billion-by-2020/> (accessed 5 November 2016).

From Copy Culture to Accelerated Innovation

Mark Zuckerberg posted “I’m excited to announce that we’ve agreed to acquire Oculus VR, the leader in virtual reality technology” on his Facebook timeline on March 26, 2014. One sarcastic Facebook user quickly commented, “I’m excited to announce we can’t innovate but we can buy other companies.” Meaningless comments were thrown back and forth, but some were worth noticing, including the following: “The how is less important than the what in this case. As long as they [Facebook] are able to bring a technology to maturity on the mass market, it seems hardly relevant whether it was homegrown or not.”⁴⁴

There were many similar examples of copying throughout the tech industry. Snapchat, another innovative company, acquired Lookserly to enhance selfie filters, and in response, Facebook purchased MSQRD to boost its filters as well. Facebook actually tried to acquire Snapchat for US\$3 billion, but after the deal fell through it simply copied its features.⁴⁵ Nor were other American tech giants innocent. In developing Windows™, Microsoft was accused of copying from Apple, but in fact both were stealing ideas from each other over the course of many years. It is important to note that the “copy culture” did not start in Silicon Valley or China. It is a common human tendency. Even Shakespeare purloined the story of Anthony and Cleopatra from Plutarch’s *Lives of the Noble Greeks and Romans* or to be exact from Thomas North’s English translation. Shakespeare then enhanced the original text [see **Exhibit 11**].⁴⁶

On the one hand, one might argue that Tencent built QQ by copying ICQ, that Baidu was a copy of Google search, Alibaba was a Chinese version of Amazon, Sina Weibo mimicked Twitter, Youku was a substitute of YouTube, and so on [see **Exhibit 12**]. On the other hand, perhaps the meaning of innovation had evolved to represent concepts more complex than mere products. Uber and Airbnb came about as a result of combinatorial innovation⁴⁷ [see **Exhibit 13**] and recently PokemonGO proved how disruptive such a combinatorial approach could be. Chinese companies applied the combinatorial approach both to their products and business models. They also developed an industry-independent model of accelerated innovation that ensured a faster, cost-effective product development cycle and successful large-scale deployment. One of the key aspects of accelerated innovation was simultaneous engineering.⁴⁸ Breaking out of sequential processes, Tencent developed a new calendar integrated to QQ messenger in just 2.5 months, when the global standard would have been six months.⁴⁹ Acceleration also came from quick response to user feedback immediately after MVPs (minimum viable products) were launched, which also saved pre-launch marketing research costs and time. And the results? Mobile payments were introduced by WeChat in 2013 and announced by Facebook in 2015. WeChat users could open a store in 2014; on Facebook the functionality arrived in 2015. This might have been an instance of Facebook’s “WeChat-ification”⁵⁰ or perhaps it unveiled a slow-motion trend that the Silicon Valley companies were trapped in, due to their ignorance of or failure to employ accelerated innovation. Certainly,

⁴⁴ Zuckerberg, M. (26 March 2014), Facebook Timeline, <https://www.facebook.com/zuck/posts/10101319050523971>, (accessed 5 November 2016)

⁴⁵ Lunden, I. (9 March 2016) “Facebook Acquires Video Filter App MSQRD to Square Up to Snapchat,” *Tech Crunch*, <https://techcrunch.com/2016/03/09/facebook-acquires-video-filter-app-msqrd-to-square-up-to-snapchat/>, (accessed 28 October 2016).

⁴⁶ Forsyth, M. (2013), *The Elements of Eloquence*, Icon Books: London, p. 8.

⁴⁷ Crockett, A. (5 May 2016) “Combinatorial Innovation Isn’t Just for Startups, It’s Also for Pitchbooks,” *FixThePitch*, <http://fixthepitch.pellucid.com/combinatorial-innovation-isnt-just-for-startups-its-also-for-pitchbooks/>, (accessed 8 November 2016)

⁴⁸ Williamson, P.J. and Yin, E. (23 April 2014) “Accelerated Innovation: The New Challenge from China,” *MIT Sloan Review*, <http://sloanreview.mit.edu/article/accelerated-innovation-the-new-challenge-from-china/>, (accessed 6 November 2016).

⁴⁹ Hermione (1 December 2015) “Tencent’s Growth Through Accelerated Innovation Processes,” <https://rctom.hbs.org/submission/tencents-growth-through-accelerated-innovation-processes/>, (7 November 2016).

⁵⁰ Crouch, E. (13 April 2016), “Facebook’s WeChatification,” *TechInAsia*, <https://www.techinasia.com/facebook-messenger-wechat-fintech-features> (accessed 7 November 2016).

China's innovation was faster than ever. This was also partially due to technological leapfrogging. For example, Chinese users made the leap from desktop to mobile, skipping the laptop phase. They also leapt from cash to digital payments, skipping much of the credit card culture. China invented accelerated innovation and progressed towards innovation commercialization [see **Exhibit 14**]. The West seemed to have no choice but to follow suit.

Tencent Going Global

Tencent had been building a global empire on three levels: 1) content (such as gaming, movies, animation), 2) chat, and 3) payments. It acquired or had stakes in global game companies and overseas chat platforms such as Kako (South Korea), Snapchat (U.S.), Hike (India) and KIK (Canada), with whom it built partnerships. Unlike Facebook (which had a presence everywhere but in China, North Korea and Iran), Tencent was in China and expanded internationally through alliances.⁵¹ As of February 2016, WeChat Pay International offered payments in ten currencies: RMB, AUR, CAD, EUR, GBP, HKD, JPY, KRW, NZD and USD. It encouraged overseas vendors not only to plug into the payment system to better serve Chinese tourists [see **Exhibit 15**] and overseas Chinese residents, but also to set up WeChat accounts and WeChat shops. For the Chinese, Tencent was the preferred payment option abroad, as they usually had limited coverage or no access at all to their Chinese credit cards. Another incentive for the vendor came with the feature that turned a buyer into an instant follower, as “follow” was conveniently built into the “buy” button.⁵² So far, there were no visible signs that Tencent intended to slow its global conquest. By contrast, Facebook still needed to break through the Great Firewall isolating China from the West. To be allowed into China, Facebook needed government approval, which required a censoring mechanism acceptable to Chinese authorities that would ensure Chinese users could not post, view or share materials deemed harmful to Chinese society.

Internet Isolationism – A Boon to Creativity and the Economy

There's this strange belief that you can't build a mobile app if you don't know the "truth" about what happened in Tiananmen Square.

– Kaiser Kuo, former head of international communications at Baidu⁵³

Some suggested that the absence of Facebook, Google, YouTube and other major international online services was a catalyst for Chinese online business. Had it not been for the Great Firewall, China would be stuck with Facebook China, Google China, YouTube China, Twitter China, and so on. Instead, they had B.A.T. (Baidu, Alibaba and Tencent), along with a number of local online businesses [see **Exhibit 16**] as well as millions of users and transactions.⁵⁴ Blocking or hindering foreign competition not only allowed local companies to flourish, but also ensured that transactions and taxes on the services and goods provided stayed in China, which contributed to the local economy rather than sending profits offshore to American giants. Yet business matters were not the sole driver for setting up the Great Firewall of China. Monitoring and blocking sensitive content and preserving national security were parts of the agenda, which may have compromised freedom of speech, collaboration and education in exchange for safety

⁵¹ Gupta, H. (9 September 2016) “China's Tencent Wants a Piece of Facebook's Pie: Here Is How It's Getting There,” <https://www.techinasia.com/talk/chinas-tencent-facebook-pie-getting-there> (accessed 7 November 2016).

⁵² Wei, D. (06 April 2016) “WeChat Pay is Going Global,” *OgilvyDo*, <http://www.ogilvydo.com/topics/mobile/wechat-pay-is-going-global/>, (accessed 7 November 2016)

⁵³ Rauhala, E. (1 August 2016) “Start-Ups Find A Way”, *South China Morning Post*,

⁵⁴ Wall Street Journal (28 January 2015) “China Owns ‘Great Firewall,’ Credits Censorship With Tech Success,” <http://blogs.wsj.com/chinarealtime/2015/01/28/china-owns-great-firewall-credits-censorship-with-tech-success/> (accessed 7 November 2016).

and prosperity.⁵⁵ In late November 2016, the Chinese government strengthened internet security laws and required personal data collected in China to be kept in China. James Zimmerman, chairman of the American Chamber of Commerce in China, commented that it was a step backwards for innovation in China and would not do much to improve security.⁵⁶

Doing Internet Business in China

Google chose to shut down its operations in China in 2006, as it refused to practice self-censorship under Chinese laws.⁵⁷ Facebook similarly chose to shut down in 2009 in light of “the state’s programme of blocking websites that have been unwilling to co-operate with rules on censorship and surveillance.”⁵⁸ In April 2016, the U.S. government called Chinese internet censorship a trade restriction. It was true that a number of internet services were blocked. However, some companies that followed the rules were doing well, Apple and LinkedIn among them.⁵⁹ ⁶⁰ Although Uber was a company that followed the rules, it still failed. Why would Uber fail if no sensitive content was involved in hailing and riding a taxi? Tencent was in partnership with Didi Chuxing, the Chinese version of Uber, and both taxi hailing and payment were integrated into WeChat. After losing billions, Uber China decided to merge with Didi Chuxing in the summer of 2016. Likewise, Airbnb faced competition from its Chinese counterparts Tujia and Mayi. It also had to deal with cultural and regulatory issues:⁶¹

Building relationships with government and other institutions is critical in China; it takes more partners to get anything done there than anywhere else in the world. Smart companies work to understand the party and state agency organization charts, and the underlying power structures, in every province and city. The trick is in knowing which officials to approach for what and where their interests lie, so that mutually beneficial deals can be put together.⁶²

Mark Zuckerberg learned to speak Chinese in order to give public speeches in China. He ran across Tiananmen Square with local Internauts (i.e., internet users). On March 19, 2016, he met with Liu Yunshan, China’s propaganda chief, and Jack Ma of Alibaba.⁶³ On November 23, 2016, it was revealed that Facebook had developed a censorship tool to filter content for users at certain locations, on which the Chinese government and Facebook offered little comment.⁶⁴ Those actions had not yet propelled Facebook through the Great Fire Wall. No one knew what the future would bring.

⁵⁵ Tong, Z. (n. d.) “3 Main Reasons Why The Chinese Government Blocks Popular Social Websites,” *Tech XAV*, <http://techxav.com/3-main-reasons-why-the-chinese-government-blocks-popular-social-websites/>, (accessed 7 November 2016)

⁵⁶ am, S. (7 November 2016) “China’s ‘Draconian’ New Cybersecurity Law Slammed by Rights Groups and Businesses,” CNN, <http://money.cnn.com/2016/11/07/technology/china-cybersecurity-law/index.html> (accessed 1 December 2016).

⁵⁷ Crowcroft, O. (9 May 2016) “Behind the Great Firewall, China is Winning its War Against Internet Freedom,” *International Business Times*, <http://www.ibtimes.co.uk/behind-great-firewall-china-winning-its-war-against-Internet-freedom-1558550> (accessed 9 November 2016).

⁵⁸ Titcomb, J. (13 August 2016) “Silicon Valley Comes Up Against the Great Firewall of China,” *The Telegraph*, <http://www.telegraph.co.uk/technology/2016/08/13/silicon-valley-comes-up-against-the-great-firewall-of-china/> (accessed 9 November 2016).

⁵⁹ Ibid.

⁶⁰ Crowcroft, O. (9 May 2016) “Behind the Great Firewall, China is Winning its War Against Internet Freedom,” *International Business Times*, <http://www.ibtimes.co.uk/behind-great-firewall-china-winning-its-war-against-Internet-freedom-1558550>, (accessed 9 November 2016)

⁶¹ Custer, C. (11 July 2016), “Why Airbnb Is Struggling in China,” *TechInAsia*, <https://www.techinasia.com/airbnb-struggling-china>, (accessed 9 November 2016)

⁶² Hout, T. and Michael, D. (September 2014) “A Chinese Approach To Management,” *Harvard Business Review*, <https://hbr.org/2014/09/a-chinese-approach-to-management>, (accessed 9 November 2016)

⁶³ Allen, K. (22 March 2016) China Zuckenbergs: Web Users Mock Facebook Founder Visit,” BBC News, <http://www.bbc.com/news/world-asia-china-35875968>, (accessed on 9 November 2016)

⁶⁴ Pam, S. (23 November, 2016) “Facebook Could Pay Heavy Price if it Censors News to Please China,” CNN Tech, <http://money.cnn.com/2016/11/23/technology/facebook-china-censorship-tool/>, (accessed 25 November 2016)

Plans for the Future

Over the next three years we are focused on continuing to build our community and help people share more of what matters to them. The next five years are about building our newer products into full ecosystems with developers and businesses. And over the next ten years we are working to build new technologies to help everyone connect in new ways.

- Mark Zuckerberg at the FB Earnings Conference Call or Presentation,

July 27, 2016.⁶⁵

In 2016, Facebook was merely warming up. It had solid expansion plans that included video, conquering LinkedIn and competing with Google search (Facebook had 2 billion searches vs. Google with 3.5 billion). Aspiring to connect the whole world, Facebook was also expanding its technology to reach areas with limited or no internet connection — a mission that was separately run as Internet.org. With Oculus, VR and AR technology, Facebook was well on the way to connect and then immerse the world within itself.⁶⁶ Leveraging user-generated content, Facebook continued to monetize on advertising, empowered by machine learning (which was capable of processing data not only from text, but from photos and videos, thanks to the new image-recognition engines).

Tencent remained confident with its content, chat and payments income streams, but also started expanding its interests into other industries. It set up Future Mobility to develop and manufacture self-driving cars. This was a partnership with Hon Hai Precision Industry Co Ltd (Foxconn) and China Harmony New Energy Auto Holding Ltd. In the process, Tencent acquired many electric or self-driving car specialists from Alphabet, Daimler, Tesla Motors, BMW AG and Nissan Motors.⁶⁷ In the online domain, credit-ratings technology and VR were the main future focus. Meanwhile, IoT and smart devices were to be beta-tested in the new US\$599 million headquarters in Shenzhen, where the devices would communicate with people through WeChat and learn employee habits, likes and routines. The eco design, with features such as servers heating the swimming pool, would save Rmb 6.85 million (around US\$ 1 million) a year. The new headquarters would be ready by June 2017.⁶⁸

“Nokia Connecting People” became a famous advertising slogan displayed on Nokia phones for years. Similarly, Zuckerberg’s plan was to “help everyone connect in new ways,” which sounded familiar [see **Exhibit 17**]. Was this a good strategy for Facebook to follow? In March 2016, in his last speech, Nokia’s CEO said “We didn’t do anything wrong, but somehow we lost.”⁶⁹ So it was with companies that played the game of pushing platforms with network effects, where the winner took all. In contrast to Nokia, Tencent went a step further. With their “connection strategy” [see **Exhibit 18**], it did not want to connect only people. It wanted to connect everyone and everything.

⁶⁵ Yahoo Finance (July 2016) Edited Transcript of FB Earnings Conference Call or Presentation 27 July 2016, <http://finance.yahoo.com/news/edited-transcript-fb-earnings-conference-045143878.html> (accessed 9 November 2016).

⁶⁶ Ord, R. (28 August 2016) “Facebook’s Future: Video, Search, Messaging and VR,” *WebProNews*, <http://www.webpronews.com/facebook-future-video-search-messaging-vr-2016-07/> accessed (9 November 2016).

⁶⁷ The Star (4 May 2016), “Tencent Venture Poaches Google Talent as Chinese Tech Firms Pile into Autos,” <http://www.thestar.com.my/tech/tech-news/2016/05/04/tencent-venture-poaches-google-talent-as-chinese-tech-firms-pile-into-autos/>, (accessed 9 November 2016)

⁶⁸ Fennel, R. and Chen, L. Y. (30 August 2016) “China’s Biggest Internet Company Wants to Use Its HQ As a Giant Testing Lab,” *Bloomberg Technology*, <https://www.bloomberg.com/news/articles/2016-08-30/tencent-china-s-biggest-Internet-company-wants-to-use-its-headquarters-as-a-testing-lab> (accessed 9 November 2016).

⁶⁹ The Cinnaboy (5 March 2016) “We Didn’t Do Anything Wrong But Somehow We Lost” Last Speech by Nokia’s CEO, *The Coverage*, <https://thecoverage.my/entertainment/stories/we-didnt-do-anything-wrong-but-somehow-we-lost-last-speech-by-nokias-ceo/> (accessed 10 November 2016).

Conclusion

I often talk about how when we develop new products we think about it in three phases. First, building a consumer use case; then, second, making it so that people can organically interact with businesses; and then third, on top of that, once there's a large volume of people interacting with businesses, give businesses tools to reach more people and pay. And that's ultimately the business opportunity.⁷⁰

- Mark Zuckerberg

Mark Zuckerberg knew what he wanted and how he wanted it, but there were a few challenges that threatened Facebook's status quo. Its core revenues were still reliant on advertising, user-base growth, user loyalty and engagement. Moreover, advertising, its main revenue channel, clashed with privacy issues of which users were becoming more conscious and sensitive. This posed the threat that users would limit their engagement with the platform. Ultimately, Facebook had not come up with anything new for a while. Facebook Wallet failed, its Internet.org initiative struggled, e-commerce and e-payments had not caught up yet, and VR was merely a prototype.⁷¹ Was Facebook's business model sustainable? Was it able to keep up with the accelerated pace of innovation imposed by its Chinese counterpart?

Tencent enjoyed multiple revenue streams and did not have to worry about privacy issues in China, while the Chinese accelerated innovation approach offered it competitive advantages. Yet there were challenges that Tencent had to face on the domestic and global fronts. At home, advertising revenue growth slowed down. Some of the investments it made, such as in the e-commerce giant JD.com,⁷² turned out to be loss-makers. The Bank of Thailand pointed at WeChat Payment as risky to local vendors and the Indian government suggested it was a "security threat."⁷³ Tencent was wildly successful at home, but its international expansion required large investments and the strategies needed to tackle many regulatory issues and a myriad of government relations were complex. Even the Supercell deal, although highly successful, could turn into a disaster if it failed to launch a new mobile game in the near future. Finally, as Donald Trump had just become the 45th President of the United States, no one knew what effects and restrictions this change would bring in terms of trade agreements, and to what extent international expansion of Chinese companies might be shifted or thwarted. Donald Trump ran partly on a nationalistic political platform of accusing China of being a currency manipulator that protected its markets, and saying that he would do something about it—even suggesting that large tariffs be slapped on China. What he would and could do remained an open question, causing an unstable outlook for global high-tech industries.

The two companies started off as social media entities and then enhanced their business models. Tencent built its empire by relying on the gaming industry, whereas Facebook focused on advertising revenues. Despite their initial similarity, they had arrived at a moment where the resemblance ceased to exist and their business models diverted. Tencent was diversifying its revenue streams and Facebook seemed focused on advertising profits. With cultural,

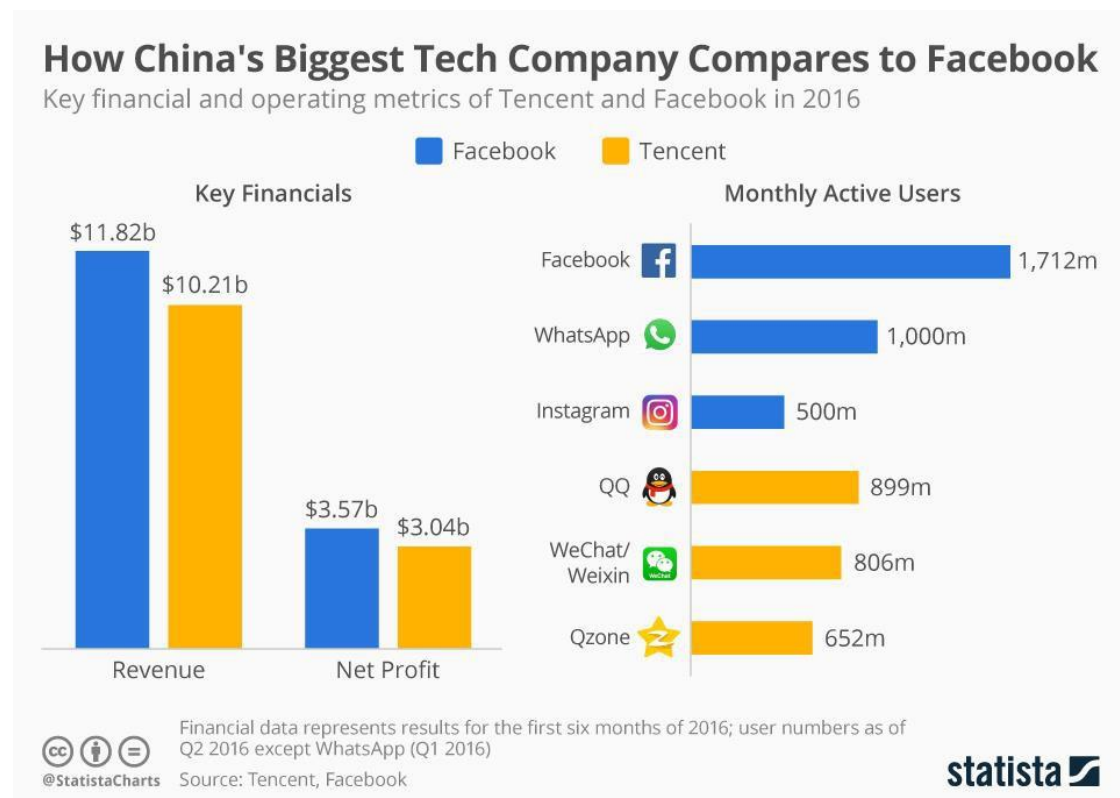
⁷⁰ Davies, J. (28 July 2016) "Facebook Bids Ourselves Up as a Conversation Platform – Watch Out Twitter," Telcoms.com, <http://telecoms.com/474470/facebook-bids-itself-up-as-a-conversation-platform-watch-out-twitter/>. (accessed 9 November 2016).

⁷¹ Huang, L. (30 September 2016), "Is Facebook's Business Model Sustainable?" FocusedStockTrader.com, <http://www.focusedstocktrader.com/blog/BOSVIEW/Is-Facebook-Business-Model-Sustainable/>. (accessed 10 November 2016).

⁷² Beilfuss, L. (1 March 2016), "JD.com Loss Widens," *The Wall Street Journal*, <http://www.wsj.com/articles/jd-com-loss-widens-1456847298> (accessed 10 November 2016).

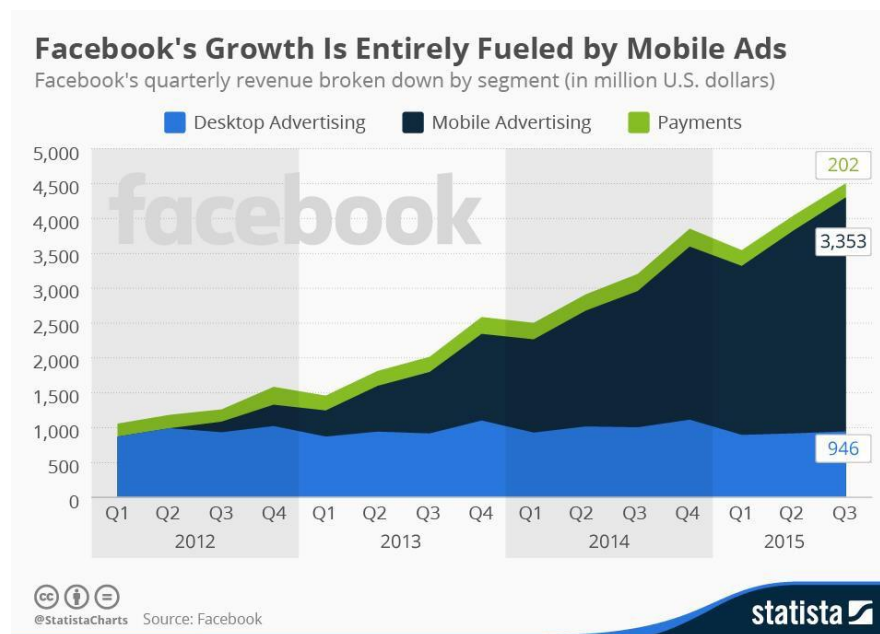
⁷³ Elliot, D. (17 April 2014) "Tencent the Secretive, Chinese Tech Giant That Can Rival Facebook and Amazon," Fastcompany.com, <https://www.fastcompany.com/3029119/most-innovative-companies/tencent-the-secretive-chinese-tech-giant-that-can-rival-facebook-a> (accessed November 10).

geopolitical and regulatory challenges, what could each of the two companies do to win the business-model race?

EXHIBIT 1: TENCENT VS. FACEBOOK

Source: <https://www.statista.com/chart/5549/tencent-vs-facebook/>

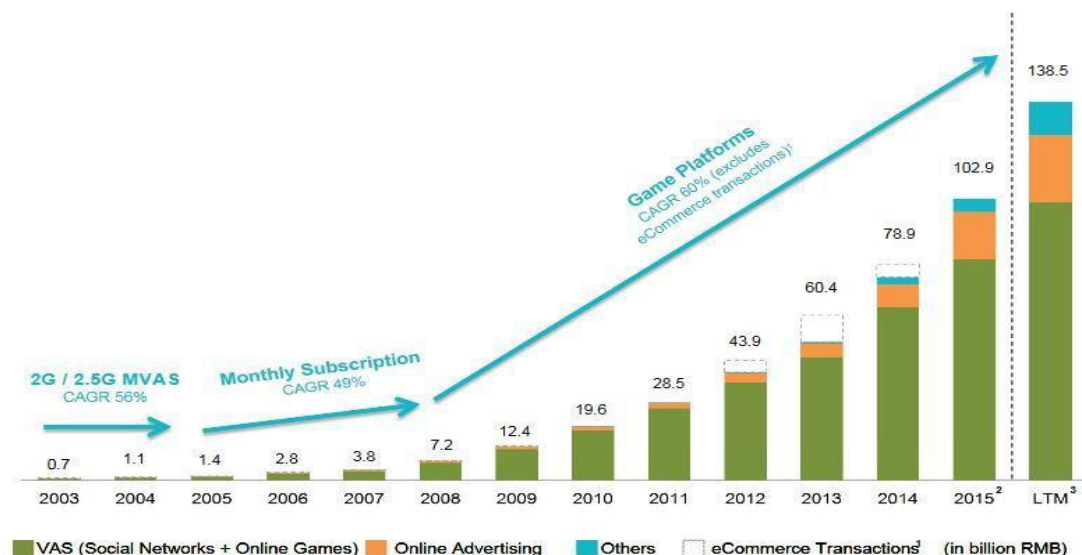
EXHIBIT 2: FACEBOOK'S ADS REVENUE BY SEGMENTS



Source: <https://www.statista.com/chart/2496/facebook-revenue-by-segment/>

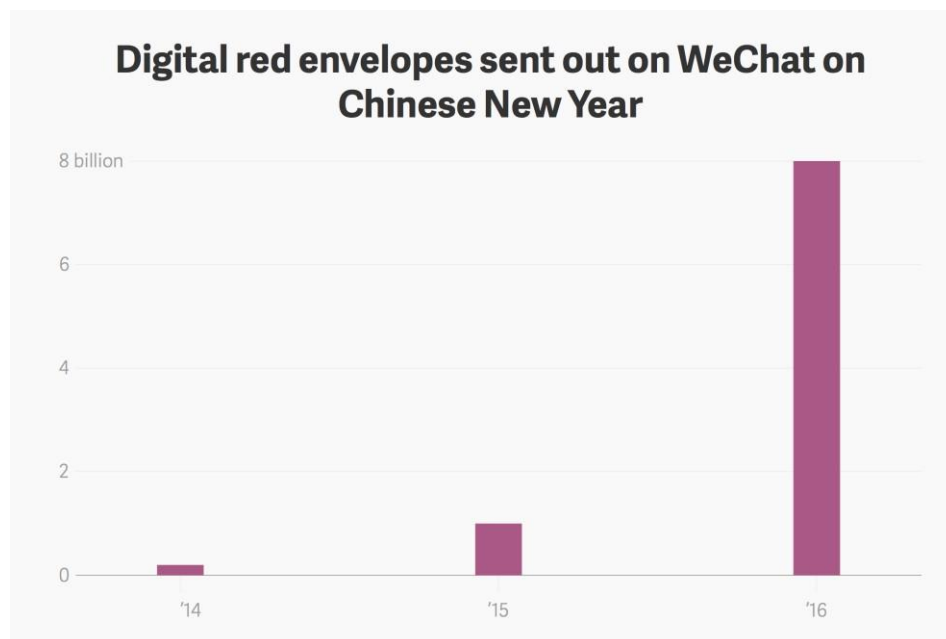
EXHIBIT 3: TENCENT FINANCIAL PERFORMANCE IN RMB

Resilient Growth & Diversified Revenue Streams



¹ Effective from Mar 10 2014, we have divested our B2C and C2C eCommerce marketplaces and deconsolidated such revenues.
² Other revenues for 1Q2015 include revenue from eCommerce transactions.
³ Last twelve months' revenues as of September 30, 2016

Source: <http://www.tencent.com/zh-cn/content/ir/fs/attachments/InvestorPresentation2.pdf>

EXHIBIT 4: DIGITAL RED ENVELOPES 2014 - 2016

Source: <https://www.theatlantic.com/charts/V1ZvcOXcg>

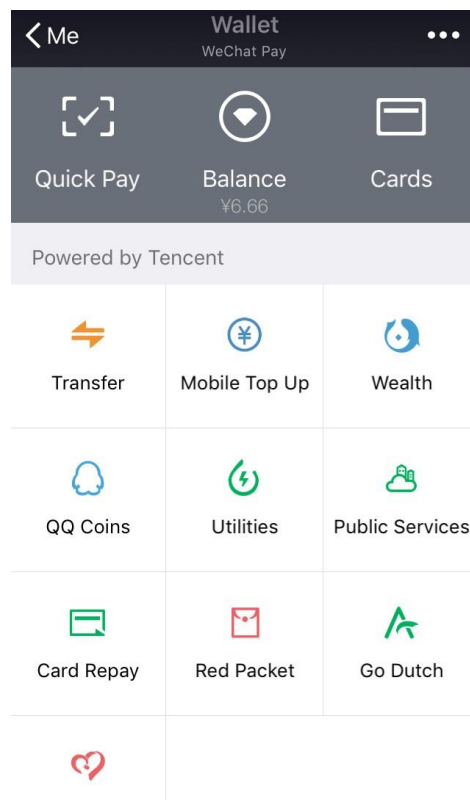
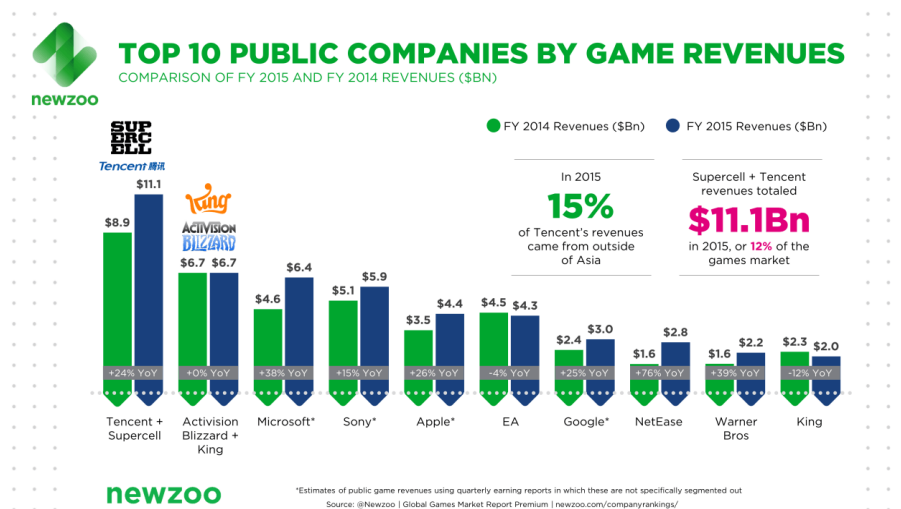
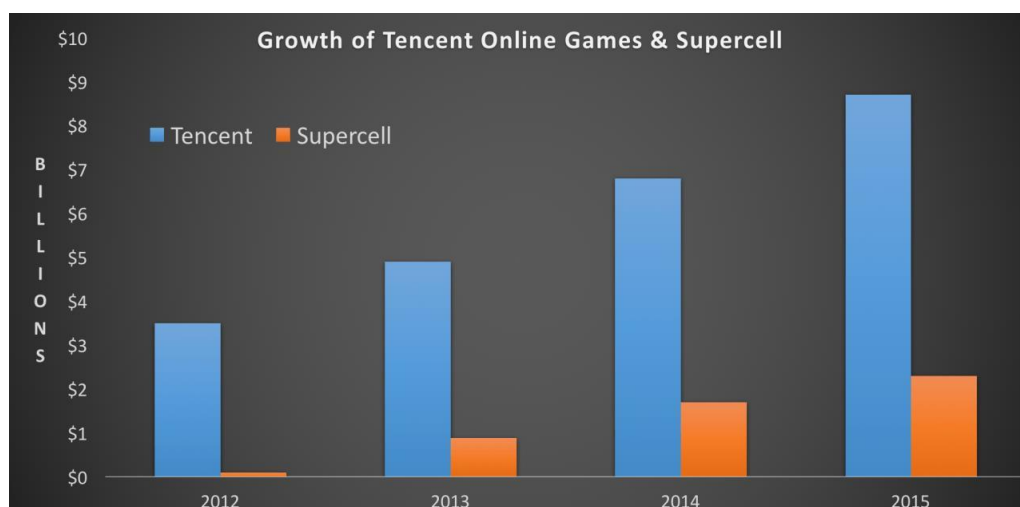
EXHIBIT 5: SOME WECHAT FEATURES

EXHIBIT 6: TOP 10 PUBLIC COMPANIES BY GAME REVENUES

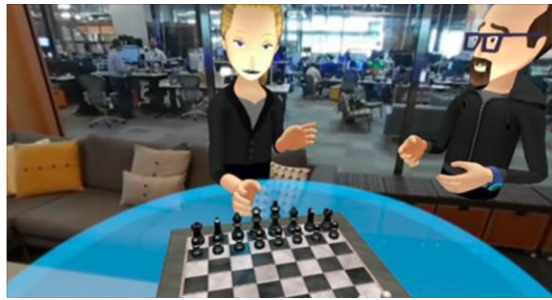


Source: <https://zhugeex.com/2016/06/tencent-supercell-what-does-it-mean/>

EXHIBIT 7: GROWTH OF TENCENT ONLINE GAMES AND SUPERCELL



Source: <https://zhugeex.com/2016/06/tencent-supercell-what-does-it-mean/>

EXHIBIT 8: FACEBOOK'S VIRTUAL REALITY DEMO 2016

Source: <https://www.facebook.com/search/top/?q=mark%20vr>

EXHIBIT 9: FACEBOOK'S VIRTUAL REALITY DEMO 2016

Source: https://www.wired.com/2016/10/oculus-facebook-social-vr/?mbid=social_fb

EXHIBIT 10: AUGMENTED/VIRTUAL REALITY REVENUE FORECAST BY 2020

Source: <http://www.digi-capital.com/news/2016/01/augmentedvirtual-reality-revenue-forecast-revised-to-hit-120-billion-by-2020/>

EXHIBIT 11: COPY CULTURE DURING SHAKESPEARE'S TIME

Thomas North:

... she disdained to set forward otherwise but to take her barge in the river Cydnus, the poop whereof was of gold, the sails of purple, and the oars of silver, which kept stroke in rowing after the sound of the music of flutes, howboys, cithernes viols, and such other instruments as they played up in the barge.

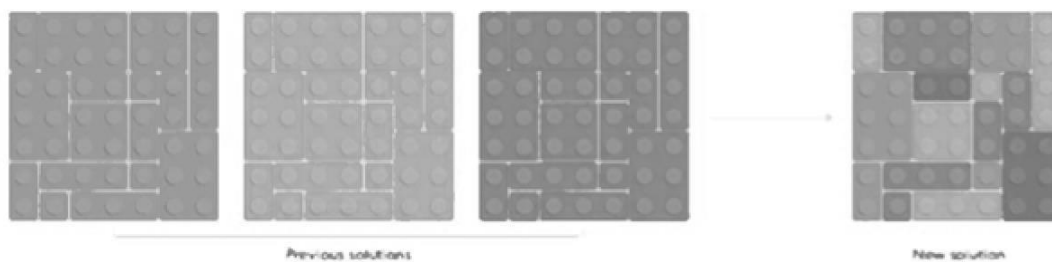
Shakespeare:

The barge she sat in like a burnished throne,
Burned on the water: the poop was beaten gold;
Purple the sails and so perfumed that
The winds were lovesick with them; the oars were silver,
Which to the tune of flutes kept stroke, and made
The water which they beat to follow faster,
As amorous of their strokes.

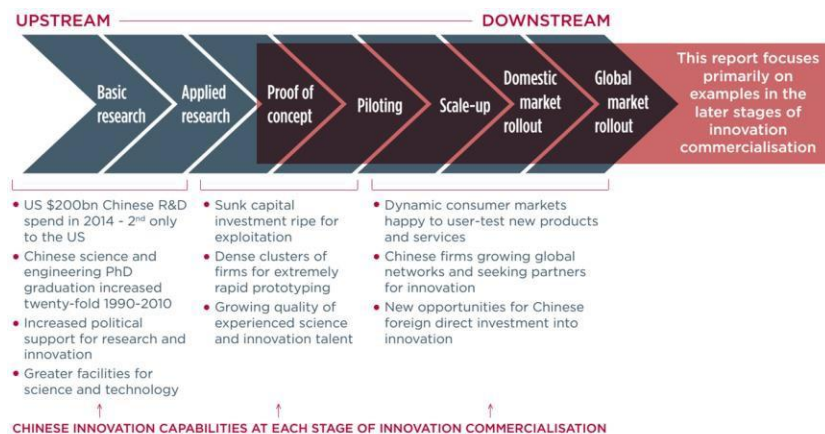
Source: Mark Forsyth, (2013), *The Elements of Eloquence*, p.8, ISBN:978-184831-621-8

EXHIBIT 12: CHINA / WEST ONLINE COUNTERPARTS

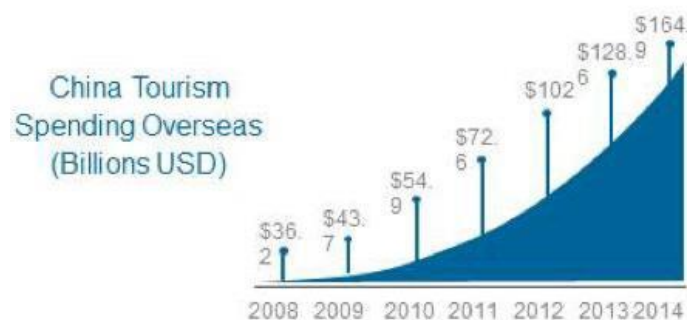
Source: <https://infogr.am/avtx6byphthj38k7od29dwizu2>

EXHIBIT 13: COMBINATORIAL INNOVATION

Source: <http://fixthepitch.pellucid.com/combinatorial-innovation-isnt-just-for-startups-its-also-for-pitchbooks/>

EXHIBIT 14: INNOVATION COMMERCIALIZATION

Source: Reid, B, Williamson, P, and Bound, K (2015) *Harnessing China's Commercialisation Engine: Collaborating with China to help UK innovation scale-up and succeed in the global market*, London: Nesta, <http://www.nesta.org.uk/publications/harnessing-chinas-commercialisation-engine>, [open access], p13

EXHIBIT 15: CHINA TOURISM SPENDING OVERSEAS

Source: <http://www.ogilvydo.com/topics/mobile/wechat-pay-is-going-global/>

EXHIBIT 16: TOP 10 CHINESE INTERNET COMPANIES 2015

Figure 6 Funding raised by the Top 10 Chinese Internet companies during 2015

Company name	Type of business	Funds raised, USD millions
Didi Chuxing	Taxi-hailing firm	3,600
Meltuan	Group buying website	700
Ctrip	Online travel agency	500
Qunar	Travel information provider	500
Shanghai Solute Technology	Mobile gaming	499
Soufun	Real estate Internet portal	467
Zhubajie	Accommodation booking	425
Ly	Search engine	396
Baixing	Online notice board	359
Daojia	O2O home service provider	300

Note: Didi Chuxing, formerly known as Didi Kuaidi, is the merger between Didi Dache and Kuaidi Dache
Source: PwC China TMT Money Tree (2015)

Source: <http://www.pwc.com/id/en/Consulting/Asset/Consulting%20Publication/rise-of-china-silicon-dragon-apr-2016.pdf>

EXHIBIT 17: FACEBOOK'S ROAD MAP

Source: <http://www.businessinsider.com/facebook-world-of-virtual-reality-in-2026-2016-4>

EXHIBIT 18: TENCENT'S CONNECTION STRATEGY

“Connection” Strategy


For Merchants:

- Access to large user base
- Unified user log-in enables CRM and targeted advertising
- Online payment facilitates transactions

For Users:

- Always connected
- Access to rich mix of content, services, and transactions
- Control multiple smart devices

For Tencent:

- Deepen user stickiness via broadened product offering
- Increase traffic conversion through transactions and advertising
- Tap into new markets unlocked by mobile Internet

Source: <http://www.tencent.com/zh-cn/content/ir/fs/attachments/InvestorPresentation2.pdf>