

CHU ZHANG  
KARISHMA GROVER

## Citibank: Innovating the Customer's Journey with Fintech

*How do we improve every part of the customer journey when they interact with the bank?*

Angel Ng, Consumer Business Manager, Citibank Hong Kong

At the 2014 Mobile World Congress, Citi Global CEO Michael Corbat said, in his keynote speech, “We see ourselves as a technology company with a banking license.”<sup>1</sup> In Hong Kong, Angel Ng, Consumer Business Manager of Citi’s consumer operation in the city, considered how the bank had changed to fulfill his directive. In Asia, technology companies had been encroaching on the banking space, with tech giants such as Apple and Alibaba launching payment platforms like Apple Pay and AliPay. Angel knew Citi had to fulfill the CEO’s mandate to stay relevant, more so in this part of the world to transform the business and combat unavoidable market landscape changes.

With the advent of technology, consumer behavior had changed drastically. Technology platforms had brought convenience to consumers. E-commerce had changed shopping habits with recommendation-based purchases, and social media had made the world a smaller place. Data-driven technologies used by companies like Amazon and Netflix monitored customers’ activity to tailor their online experience. Banks had slowly begun to understand the power of data-leveraged technologies.

Angel needed to win in the fintech space and, by doing so, improve the client experience for customers in Hong Kong. But, first, the bank needed to overcome certain external and internal challenges. Angel thought about Hong Kong’s specific cultural challenges. How could Citi educate customers about the benefits of new technologies that could transform the traditional banking services? While Citi had made significant strides, it was not as nimble in bringing new technology to the market as the fintech companies or other high-tech companies. The challenge lay in establishing a culture of innovation within the business,

---

<sup>1</sup> Citibank, “CEO Michael Corbat’s Keynote at the Mobile World Congress,” <http://www.citigroup.com/citi/news/executive/140225Ea.htm>, accessed August 2017.

---

*Karishma Grover prepared this case under the supervision of Professor Chu Zhang solely as a basis for class discussion. The authors may have disguised certain data to protect confidentiality. Cases are written in the past tense; this is not meant to imply that all practices, organizations, people, places or facts mentioned in the case no longer occur, exist or apply. Cases are not intended to serve as endorsements, sources of primary data, or illustration of effective or ineffective handling of a business situation.*

*Inquiry on ordering and permission to reproduce the case and its materials, write to [bmcase@ust.hk](mailto:bmcase@ust.hk) or visit [cbcs.ust.hk](http://cbcs.ust.hk).*

© 2017 by the Hong Kong University of Science and Technology. This publication may not be digitized, photocopied or otherwise reproduced, posted, or transmitted without the permission of the Hong Kong University of Science and Technology.

*Last edited: 19 March 2018*

while ensuring that compliance and regulatory requirements are being met, allowing customers to build their trust in Citibank.

## Fintech

The term “fintech” had been around since the 1980s and, simply put, meant technology development geared toward financial services. Worldwide, fintech companies targeted unbanked customers as well as banked customers who wanted cheaper, faster, and more efficient processing for their money. In the United States, startups such as Dealstruck,<sup>2</sup> Fundera,<sup>3</sup> and Funding Circle,<sup>4</sup> among others, assisted small businesses with quick lending opportunities, easy loan applications, highly skilled advisers, and flexible financing terms. Others deployed more disruptive methodologies, such as crowdfunding platforms like wefinance<sup>5</sup> that allowed multiple members of the community to finance a business or individual. Some startups directly collaborated on digital banking platforms with innovative customer engagement techniques, such as automated messaging platforms that leveraged existing social media platforms, allowing banks to engage through these channels and tailor marketing and product offerings based on new insights about customers.<sup>6</sup>

Nearer to Hong Kong, in China, fintech companies were launched by some of the largest conglomerates in the country. Alibaba, the largest e-commerce firm in the world, owned Ant Financial, which supported the financial needs of small and micro-enterprises. Ant Financial’s Alipay provided a widely used payment platform in China that had caught the attention of the United Nations as a technology that could support the “Better than Cash”<sup>7</sup> Alliance and provide digital financial services.<sup>8</sup> Alipay had already made its foray into Hong Kong by partnering with 2,000 shops and restaurants in its first phase, and its managers were optimistic they could capture more of the Hong Kong market.<sup>9</sup> Another giant in payments was Tencent’s WeChat Pay. Together, Alipay and WeChat Pay had become the de facto payment applications in China, capturing 94% of the country’s mobile payment market in 2017.<sup>10</sup> They strongly competed against each other, and each company’s vision was to expand to markets where a growing number of Chinese tourists traveled. JD Finance Group, part of JD.com, operated several lines of business in China, in the areas of micro-lending, crowdfunding, payment services, and insurance, among others. Lufax Holdings was reported to be the world’s largest and most successful fintech firm and offered wealth management and insurance services to its customers.<sup>11</sup>

<sup>2</sup> Dealstruck, <https://www.dealstruck.com/>, accessed August 2017.

<sup>3</sup> Fundera, <https://www.fundera.com/>, accessed August 2017.

<sup>4</sup> Funding Circle, <https://www.fundingcircle.com/us/>, accessed August 2017.

<sup>5</sup> Wefinance, <https://www.wefinance.co/>, accessed August 2017.

<sup>6</sup> Dyme, <http://www.dyme.co/>, accessed August 2017.

<sup>7</sup> Better than Cash Alliance was a United Nations Capital Development Fund project that researched the development of tools that could help underdeveloped countries transition to digital payments.

<sup>8</sup> “5 charts on how mobile payments are growing in China,” 20 April 2017, Tearsheet, <http://www.tearsheet.co/payments/5-charts-on-how-mobile-payments-are-growing-in-china>, accessed August 2017.

<sup>9</sup> “Alibaba to roll out Alipay in Hong Kong,” *Financial Times*, 24 May 2017, <https://www.ft.com/content/f28f22f5-2fcf-392f-bd56-2e6b4c6038f6>, accessed August 2017.

<sup>10</sup> “Is WeChat Pay Taking Over Alipay?,” *Forbes*, 20 June 2017, <https://www.forbes.com/sites/quora/2017/06/20/is-wechat-pay-taking-over-alipay/#729a4aa3a0b1>, accessed August 2017.

<sup>11</sup> “11 Of The Largest Companies In China Dominate Chinese Fintech,” Lend Academy, 5 May 2017, <http://www.lendacademy.com/largest-companies-chinese-fintech/>, accessed August 2017.

## Fintech in Hong Kong

Hong Kong was ranked the fifth leading fintech hub worldwide, ahead of South Korea, Switzerland, and Frankfurt.<sup>12</sup> In November 2016, the Hong Kong Monetary Authority (HKMA) collaborated with the Applied Science and Technology Research Institute (ASTRI) to establish an HKMA-ASTRI Fintech Innovation Hub, which was a way for various stakeholders in the industry to collaborate and innovate together. In early 2017, HKMA launched the Fintech Facilitation Office to foster the development of the fintech ecosystem in Hong Kong and promote Hong Kong as a fintech hub in Asia.<sup>13</sup> Additionally, in September 2017 HKMA Chief Executive Norman Chan shared seven initiatives that would herald “A New Era of Smart Banking”.<sup>14</sup> With such programs in place, HKMA aimed to further the adoption and proliferation of fintech in Hong Kong, by targeting the banking sector’s technology divisions.

Some startups in Hong Kong had already attempted to revolutionize digital banking, such as APrivacy, which allowed bankers to communicate with customers over any device, channel, and medium they preferred, providing seamless digital security to these interactions.<sup>15</sup> For those who wanted cheaper, faster remittance services, Bitspark<sup>16</sup> provided a global network covering a wide range of locations, with a competitive fee structure. Companies like Neat<sup>17</sup> had a 10-minute HKMA-approved online account-opening process that was free and came with a Neat Debit MasterCard. The company targeted foreigners, startups, and others who had difficulties opening their first bank account in Hong Kong.

## Fintech in Citibank

Citibank launched Citi Fintech in 2015 in New York City, the global headquarters of the bank. Citi Fintech comprised 40 employees handpicked from various divisions of Citi and poached from tech companies such as Amazon and PayPal. The idea behind the new division was to create an elite group that could operate with the agility of a startup and engage in rapid prototyping—working on projects in two-week sprints.<sup>18</sup> The group delivered a new mobile banking experience within a year of launch that featured improvements such as logging into the banking portal using touch ID or facial recognition. Citi considered itself a front-runner in digital banking, and many fintech entrepreneurs shared the sentiment that Citi moved faster than many other big banks. Yolande Piazza, Head of Citi Fintech, had a 30-year career in banking technology development. Under her leadership, Citi completed six successful partnerships with fintech companies in 2016 and nearly 20 more by the summer of 2017, expanding banking and wealth management features offered on mobile for its retail bank clients in the US.<sup>19</sup>

<sup>12</sup> “A tale of 44 cities,” Deloitte, April 2017, <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/Innovation/deloitte-uk-connecting-global-fintech-hub-federation-innotribe-innovate-finance.pdf>, accessed August 2017.

<sup>13</sup> Hong Kong Monetary Authority, “Fintech Facilitation Office (FFO),” <http://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech-facilitation-office-ffo.shtml>, accessed August 2017.

<sup>14</sup> Hong Kong Monetary Authority, “A New Era of Smart Banking,” <http://www.hkma.gov.hk/eng/key-information/speech-speakers/ntlchan/20170929-1.shtml>, accessed September 2017.

<sup>15</sup> APrivacy, <http://www.aprivity.com/>, accessed August 2017.

<sup>16</sup> Bitspark, <https://bitspark.io/>, accessed August 2017.

<sup>17</sup> Neat, <https://www.neat.hk/>, accessed August 2017.

<sup>18</sup> “Here’s How Citigroup Is Embracing the ‘Fintech’ Revolution,” *Fortune*, 27 June 2016, <http://fortune.com/citigroup-fintech/>, accessed August 2017.

<sup>19</sup> “Banks Must Disrupt Themselves, Not Consumers, Citi Fintech CEO Says,” *Bank Innovation*, 13 June 2017, <http://bankinnovation.net/2017/06/banks-must-disrupt-themselves-not-consumers-citi-fintech-ceo-says/>, accessed August 2017.

## The Citibank Client Journey

Citibank Hong Kong clients were typically “emerging affluent” or “affluent” customers who looked for convenience in their fast-paced lives in Hong Kong. On average, customers were well educated and worried about data privacy, a concern shared by the Hong Kong government.<sup>20</sup> Citibank conducted an annual survey to better understand its customers across a variety of key products such as investments, deposits, mortgages, loans, credit cards, insurance, and mobile banking. The Citibank Digital Banking team also used the survey to understand online banking platform usage. Citibank had the highest digital-savvy customer bases among Hong Kong banks, with 52% of the total Citibank customers using digital banking at least once in three months. The bank classified its customers into three segments based on their banking balance. The emerging affluent segment was called Citi Priority, for which a customer had to have a minimum account balance of HKD500,000.<sup>21</sup> Citigold was the affluent segment, requiring a minimum balance of HKD1.5m. If the customer held a banking balance over HKD8m with Citibank, he or she would qualify for the Citigold Private Client status. According to the market survey, 71% of the Hong Kong based emerging affluent segment used online banking [see **Exhibit 1**].

As banking moved online, the banking industry started closing branches globally. Like other banks, Citibank had noticed foot traffic falling in its Hong Kong branches. Therefore, in 2015, Citibank decided to rationalize the number of branches and instead shift its investment to digital banking. HSBC, on the other hand, did not systematically close branches in Hong Kong as it was doing in its other key market, the UK.<sup>22</sup> Hong Kong consumers had always been accustomed to having the epitome of convenience. They did not walk more than 500 meters without finding a 7-Eleven convenience store in Hong Kong. Similarly, many consumers were used to having a retail banking branch within walking distance from their home and workplace. Significant segments of the market still had not moved to digital banking and expected personalized support from the banks.

Angel identified three areas where fintech had an impact on Citibank. The first area was to digitize basic transactional services such as fund transfers, balance enquiries, payments and customer authentication. The second area was to provide data-driven value-added services based on customer analytics. The third area was to create or participate in a fintech ecosystem that allowed the bank to further its footprint in the customer’s transactions.

### Digital Banking: Citibank’s Success Story

Citibank’s digital banking platform had altered its positioning within the bank and had become ingrained within the business. Its primary focus had been addressing known consumer pain points across the traditional transaction-based banking services Citibank offered its customers. In 2008, Citibank launched its mobile app globally, and over the last decade, it had worked hard to make it more robust and more convenient for customers. It had tried over the years to improve the user interface, such that it was simple and easy to use, and provided the ultimate “remarkable client experience” that Citibank aimed to deliver. The digital banking team scoured the market for opportunities that could assist them with this aim, viewing fintech as an opportunity, rather than a threat.

<sup>20</sup> “Right balance between data privacy & big data helps business growth,” *Computer World*, 25 Feb 2016, <http://cw.com.hk/feature/right-balance-between-data-privacy-big-data-helps-business-growth>, accessed August 2017.

<sup>21</sup> USD = HKD7.75.

<sup>22</sup> “HSBC closes 62 more UK branches, but all Hong Kong outlets to stay open”, *South China Morning Post*, 25 January 2017, <http://www.scmp.com/business/banking-finance/article/2065419/hsbc-closes-62-more-uk-branches-all-hong-kong-outlets-stay>, accessed August 2017

Biometric-based security solutions such as voice biometrics had already become part of the phone banking platform. In June 2016, a customer could call Citibank and be validated using just his or her voice, instead of answering a series of personal questions. This made it quicker and easier for the customer, with the additional benefit of the ability to call from anywhere he or she wanted, as no confidential data would be exposed in public. In November 2016, Citibank Mobile App launched the Touch ID verification, where Android and iPhone users could use their fingerprint to log in to the application. Such efforts were ensuring that the verification process was more robust and more secure. Angel felt this could be taken even further, with face recognition used when a customer walked into the branch office, replacing the current scanning of the Hong Kong identity card. Such automation in banking allowed Citibank to solve customer pain points by making the processes faster, more efficient, and less prone to errors.

Fintech had been applied to internal processes, in addition to client-facing applications. For example, the processing period of a credit card application was reduced from a few weeks to two days, owing to the implementation of real-time credit score checks. The customer could receive, in principle, approval as soon as he or she completed the online application form, a speedy service that few local banks could offer. Angel believed that the bank had a firm grasp on the consumer pain points while engaging in transactional services and had implemented the right digital banking solutions; thus, her search for newer and better solutions did not lie in this area.

### **Data-Driven Technologies: Adding Value to Existing Services**

*To become a tech company with a [banking] license, we have to become a data company with a [banking] license first.*

Angel Ng, Consumer Business Manager, Citibank Hong Kong

Angel felt that adding value to services using data-driven technologies was an area of fintech that could transform the bank's products and services. Within Citigold, Citibank offered research and advisory services that provided recommended products and services to customers. It based this service on research and analytics on its customer base. Angel envisioned a greater need for an enhanced solution in research and advisory services. Customers often asked the bank or their relationship manager how could they optimize risk and return on their portfolio, or how customers with similar profiles managed their money. By powering their recommendations with data analytics, the bank could easily make such information available to customers.

Angel compared this value-added service to that of Amazon, Netflix, or Facebook, which used customer activity to predict the products and services customers would like to use next. Such technology companies had mastered the art of providing the information that the customer needed at the right time and place, based on analyzing a pattern in their online behavior. What if your bank could use your geo-location from your smartphone, and combine the information with your credit card transaction history, to prompt you with specific credit card offers as you entered a mall? Angel felt that partnering with existing startups or companies in this space could enable the bank to provide such customized, prediction-based services. The challenge lay in providing accurate predictions, which depended on the amount of transactional information that could be amassed for an individual, to be used for analytics. Citi often did not have a complete picture of Hong Kong customers, who tended to spread their banking and card spending across several accounts at different banks.

## Customer Experience: Engaging through a Fintech Ecosystem

Customer experience, specifically outside the traditional banking system, was the third area in which fintech could greatly help Citibank's value proposition to its customers. Angel strongly believed that "we don't ask the customers to come to bank anymore, we go where they go." Alipay, China's leading third-party online payment solution, was an integral part of the online marketplace giant Alibaba. Alibaba, Tencent, and Xiaomi were three leaders of the Chinese market that had created an ecosystem,<sup>23</sup> increasing customer loyalty. Noting their successes, Angel wondered how Citibank could enter similar ecosystems in Hong Kong while being fully compliant with the banking law and regulations imposed by the HKMA. Citibank had a customer base and the trust of its customers. Now it needed an alliance that could take its services further into the market, touching clients many times during the day, rather than just in relation to a banking transaction [see **Exhibit 2**].

### Improving the Customer's Journey with Fintech

*We have the scale and brand, familiarity with regulatory requirements, finance to support development. Fintech is an opportunity rather than a threat for Citi to embrace.*

Angel Ng, Consumer Business Manager, Citibank Hong Kong

Citibank firmly understood the value of technology in improving customer experience. With a deep understanding of the customer's pain points, digital banking development was completely coordinated with the business. Citi also understood that to enable rapid development and idea generation for the pain points, it needed to shift its approach from a "build internally" model to a "build-buy-partner" model. In order to increase the Citibank footprint in the client's journey, Citibank had developed a set of application programming interfaces (APIs). These APIs allowed external developers, from startups to established companies, to create applications that could be accessible by the Citi Mobile App and vice versa.

### Citi Fintech Challenge

To corroborate its efforts in the build-buy-partner model and the launch of the APIs to the developer community, Citibank Hong Kong hosted the Citi Fintech Challenge in 2017, in which developers from all over the world competed for the best fintech solution that could address Citibank customers' pain points. Startups, as well as established companies that had already worked with other banking institutions, participated. The competition described three success factors for winning candidates: first, solutions had to be innovative, with comprehensive functionality; second, there had to be solid business potential in the idea, and the new service developed had to have a market along with scalability of the solution; and third, the solution had to be designed to fully integrate with the existing digital banking platform. To generate maximum benefit from the competition, Citibank also arranged for top business leaders from PwC and Alibaba to coach the participating teams in their delivery. The competition solutions were in four subject areas: wealth management, payments, data analytics and compliance, and operations efficiency.

### Becoming Agile

Angel realized that developing in-house solutions to address the rapid development in the digital space, did not serve the bank's purpose, which was to lead innovation in customer experience. In previous attempts, the bank had spent years to work on an internal system that cost it significant resources. In addition to this,

---

<sup>23</sup> "Why Alipay is more than just the Chinese equivalent of PayPal," *Tech in Asia*, 3 August 2017, <https://www.techinasia.com/talk/online-payment-provider-alipay-chinese-equivalent-paypal>, accessed August 2017.

the solution may even become obsolete by the time it was ready, with ever-changing customer attitudes. The expectation of time-to-market for new solutions was shortening, and implementation lead time was expected to be no longer than six to nine months, forcing Citibank to adopt agile rapid development methodologies in its effort to partner with startups. Additionally, while Hong Kong universities had top-notch engineering and computer science degrees and programs, their graduates tended to choose careers in business, given the lack of engineering and tech jobs in Hong Kong. This proved to be an additional challenge when building in-house, as experienced talent in banking technology development was limited.

Internally, Citibank had been conducting inspirational information sessions to inculcate an agile mind-set. The sessions, named “Digitalk”, centered on “future compatibility” and encouraged all employees within the bank to embrace advancements in technology and update their skill sets as the environment demanded. At times, Citibank invited business leaders from leading technology companies like Google and Alibaba, so employees could learn from their experiences. Angel hoped that, in this way, the culture within the traditional bank could be enhanced with a culture of agility and innovation, while it remained a compliant bank in the eyes of the regulators and customers.

### One + One Equals Three

*When picking a partner, we need to be complementary to each other. In terms of our customer base, in terms of where we can add value to our customers. There is no point if one plus one equals two. One plus one must equal three.*

Angel Ng, Consumer Business Manager, Citibank Hong Kong

Angel felt the bank had set itself in the right direction. Her next challenge lay in choosing the right opportunities for Citibank to add value to its existing services using data analytics and to participate fully in the tech ecosystem. Angel knew that consumer behavior was changing quickly. Citibank “could not do something because it was cool,” in her words, but had to be able to earn back its investment within ever-decreasing product life cycles; cost to serve would be a key performance indicator (KPI). As for partnerships, Angel had certain key criteria that needed to be met. First, the proposal or solution had to enhance existing services and build customer satisfaction and loyalty as a result. Second, the solution had to reduce the cost to serve the customer, while bringing efficiency into the process. Third, future partners had to complement the Citibank business and adopt the customer-centric vision and strategy of the bank.

Several obstacles would be encountered on the path to success. How could Citibank develop or adopt technology faster for solutions that brought value to its customers? How could Citibank overcome the specific cultural challenges in Hong Kong, such as customers’ preference for diversifying wealth across several banks, which denied banks from obtaining a complete snapshot of the customer? How would Citibank change the attitudes of customers toward data privacy and introduce new technologies? Changing people’s behavior was hard. At the same time, Citi could never be as fast as a tech company and had to adapt to shortened life cycles in order to accommodate rapidly changing consumer behavior.

## EXHIBIT 1: FREQUENCY OF ONLINE BANKING USAGE

## Frequency of Online Banking Usage

	Total Population		EA Segment	
No. of online banking users ('000)	3,292 (52%)		2,452 (71%)	
	Computer	Mobile Devices	Computer	Mobile Devices
At least 2 times per day	2%	1%	2%	1%
1 time per day	7%	2%	8%	3%
1 – 6 times per week	34%	17%	38%	17%
1 – 3 times per month	42%	19%	41%	21%
Less than once a month	11%	10%	8%	10%
Never	3%	51%	4%	49%

Source: Banking User Population Survey 2016.

## Digitization – leader in Hong Kong banking industry

Digital Engagement: Achieved all KPIs; Citi clients are more digitally engaged vs HK norm

Strong growth in engagement				
	2016	YOY	2017 Feb	Vs goal
Digitally enrolled %	68.6%	+ 5.8 pps	69.4%	0.6 pps
Digital active %	51.1%	+ 8.7 pps	52.3%	1 pps
Mobile active %	18.0%	+ 6.1 pps	18.4%	0.2 pps
eStatement %	64.3%	+ 10.3 pps	66.3%	1.2 pps



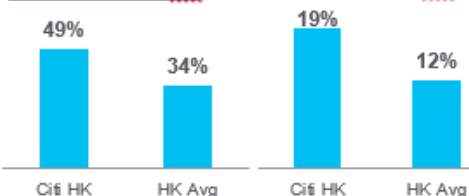
✓ Cost avoidance from eStatement in 2016: US\$3.1MM

Digital active %: better than market by 15 pps

(Market data\* as of Jun 2016)

Digital active : +15 pps

Mobile active: +7 pps



Digital acquisition: Overachieved goals for all products

Digital a/c share %	2016	YOY	2017 YTD	Vs goal
Loan	51%	+10 pps	52%	1 pps
Card	18%	+ 10 pps	23%	2 pps
Retail	8%	+ 3 pps	12%	2 pps

Recognized as Best eBank by Triple A

HK Won largest # of awards across region



- Best eBank
- Best Retail Mobile Banking Experience
- Best Retail Social Media Banking Experience
- Most Innovative Social Media Project
- Best Gamification Project



Source: Citi Digital Transformation.

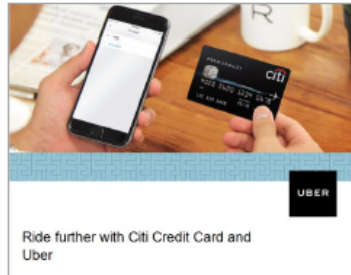


**EXHIBIT 2: CITI'S PLANS FOR ENTERING DIGITAL ECOSYSTEMS****Expand Presence in the Digital Ecosystem**

Integrate Banking Services into Digital Ecosystems



Banks  
Citi in deal with Singapore ride-hailing app

**Citi forges Asian partnership with Airbnb**

04 November 2016 | 2763 views | 1

Source: Citi



Source: Citi Digital Transformation.