The Competitive Threat from TechFins and BigTech in Financial Services

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forthcoming

Michael R. King and Richard Nesbitt, eds. *The Technological Revolution in Financial Services*. Toronto: University of Toronto Press, forthcoming.

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September 21, 2019

Imagine this scenario. A young adult opens an app on her mobile phone. She chats and messages her friends over social media, posts photos, plays games, shops for whatever she needs, orders from a restaurant, buys tickets to a concert, arranges transportation, watches videos, listens to music, and books travel. She pays for all of it using her online account, transfers cash between her money market fund and bank account, takes out an unsecured loan, buys and sells investments, sends and receives money, and buys insurance. All of this within one app.

While this story may once have seemed fictional, it is now a reality and currently available on the WeChat app from the Chinese technology company Tencent or on the Alipay app from its rival Alibaba. Both companies have built online marketplaces and mobile apps that combine e-commerce, social networking and gaming. They also offer financial products including payments, deposits, loans, investments, bank accounts and insurance. Their platform ecosystems now connect more than a billion users with a wide variety of non-financial and financial services manufactured in-house or by third-parties. Similar services may one day be available from U.S. companies like Amazon, Apple, Google or Facebook.

The Chinese technology companies are known as *TechFins*, a term first coined by Alibaba's Jack Ma in 2016 to describe Ant Financial – the financial services arm of the Alibaba ecosystem. Ma argues that TechFins are harnessing technology to redefine financial services and increase financial inclusion. He contrasts this mission with the goal of FinTech companies who use technology to profit from selling financial products to customers. Ant Financial's stated purpose is to provide access to capital and financial services to young people, small businesses, and poor nations that are underserved or unbanked:[2]

> "Fintech takes the original financial system and improves its technology," said Ma... "TechFin is to rebuild the [financial] system with technology. What we want to do is to solve the problem of a lack of inclusiveness."

Ultimately, TechFins purport to use technology to create a world where customers have access to financial services just like tap water – you open the tap and water just flows out.[3]

From being a minority view several years ago, the new consensus among bank insiders and industry commentators is that TechFins like Alibaba and Tencent, not FinTechs, represent a greater threat over the next decade to banks, asset managers, insurance companies and other financial incumbents.

The other threat comes from a diverse collection of North American technology companies known collectively as "BigTech" (or "Big Tech").[4] BigTech companies are Amazon, Apple, Facebook and Google,

where the term highlights that their main competitive strength comes from massive datasets on customer transactions and behaviour in their platform ecosystems (Frost et al, 2019). As noted by the BIS, BigTech is an apt name as the stock market capitalisation of these large technology companies was bigger than some of the world's largest financial institutions including JPMorgan, Bank of America and Wells Fargo in the US, and Industrial and Commercial Bank of China and China Construction Bank.[5]

Whether you are a fan or a critic, it is clear that TechFins and BigTech companies are transforming financial services. The main message is that financial incumbents need to pay close attention to these new entrants and consider how to adapt their business strategies in order to survive in the digital age.

The key questions for financial incumbents are: Is the threat from these new entrants real or not? Will the Chinese TechFins be able to export their business model abroad? And will BigTech companies push into financial services? To propose an answer, we review the history and strategies of two companies that have moved farthest into financial services – Ant Financial and Amazon. We examine their key competitive strengths to gauge the threat they pose to financial incumbents over the coming decade.

The Rise of Alipay and Ant Financial

Alibaba and Tencent combine the culture of innovation and technical expertise of Silicon Valley start-ups with the customers and scale of Wall Street banks. Both Chinese TechFins began with a non-financial business – e-commerce for Alibaba and social networking and gaming for Tencent – that attracted large user bases. They added payments to facilitate adoption and growth of their marketplaces, then added deposits, investments, credit and insurance. Now they are using the data and customer insights generated from their platform ecosystems to identify customer needs and cross-sell proprietary and third-party financial products.

The Creation of Alipay

As a pioneer in Chinese e-commerce, Alibaba recognized early-on that its online marketplace was being held back by a lack of trust between buyers and sellers (Xie, Sia and Neo, 2017). Customers were hesitant to pay for goods purchased online, fearing merchants would not deliver them. China featured an underdeveloped payment system, with little penetration of cards and debit cards.[6] It was time consuming and expensive for consumers to transfer money. Small businesses were held back by a lack of credit, financially constrained and underserved by the domestic state-run banks. To fill these institutional voids Alibaba set up Alipay in 2004 as an online payment gateway similar to PayPal, which began operation in 1999. Alipay charged no transaction fees and increased trust in e-commerce by holding customer payments in escrow accounts that would be released to merchants once the goods were delivered. This model proved so successful that Alibaba soon opened Alipay to third-parties, both online and offline merchants and service providers.

By August 2008, Alipay had 100 million registered users with daily transactions reaching 2 million. Within a year it reached 200 million users with 5 million daily transactions, then 300 million users by March 2010. Alipay launched a mobile payments app in November 2009 and a consumer version of Alipay launched in January 2010. Alipay grew rapidly and became the dominant player in third-party mobile payment transactions processing more than 50% of all transactions within a few short years.

Alipay's rapid growth was driven by strategic partnerships and product innovations.

- **Strategic partnerships**: In 2005 Alipay signed partnership agreements with ICBC, China Merchants Bank, and VISA with the other Chinese banks signing in the following years. In April 2009, Alipay began working with the e-banking system of the Bank of China, with the cooperation of five major state-owned banks and 15 national banks. In 2010, it partnered with the Bank of China to allow quick payment with a credit card, adding ten banks in 2011 and improving payment success from 60% to 95%.
- **Product innovations**: In 2005 Alipay began a 24-hour customer service hotline followed by online customer service and compensation against account theft. In 2008 Alipay began offering voice-controlled payments for mobile users and released its mobile Wireless Application Protocol (WAP) platform. In 2008 Alipay provided a platform allowing Shanghai residents to pay their water, electricity and telephone bills online, which expanded to Hangzhou in early 2009 Alipay became the first service to allow offline payments by scanning barcodes in July 2011 and biometric payments using finger prints in July 2014. In 2013, Alipay launched the digital Alipay Wallet, to facilitate mobile payments by allowing users to electronically store and manage credit cards, gift cards and discount coupons, to make electronic fund transfers via the Internet, and to make purchases by scanning barcodes and QR codes. Finally, Alipay has invested in biometric identity to enable payments using facial recognition.

It is important to recognize that Alibaba did not create Alipay as a strategy to grow its revenues. Instead it emerged organically as mean to solve the pain points faced by its merchants and customers. Alipay did not receive an official licence to operate a payment business until May 2011, six years after it began operation. As a regulatory condition for receiving this payment licence, Alibaba spun off Alipay into a stand-alone company (called Small and Micro Financial Services Company) with Alibaba retaining a 33% minority stake and Jack Ma as majority shareholder with 46%.[7]

A similar customer-centric approach led Alibaba to begin offering other financial services: a money market fund (Yu'ebao), a wealth management marketplace (Zhao Cai Bao), a small business lending business (Aliloan), and a credit scoring business (Zhima Credit or "Sesame" Credit).

- **Money Market Fund (Yu'ebao)**: As e-commerce expanded, Alipay saw users were holding large balances in their Alipay accounts, which did not pay any interest. Chinese banks did not offer attractive savings rates or investment advice due to the absence of a wealth management industry for anyone except high net worth individuals. In June 2013 Alipay launched a high-interest money market account targeting these consumer deposits called Yu'ebao, which means "spare treasure" in Chinese.[8] Alipay customers could transfer as little as RMB1 into their Yu'ebao account, which paid an annual interest rate of 5% to 6% vs. 3.3% rate available on one-year bank deposits. Within six months, Yu'ebao attracted US$41 billion in investments and by mid-2017, it had amassed $165 billion, making it the world's largest money market fund (ahead of JP Morgan's $150 billion US government money market fund). Yu'ebao peaked at $250 billion in March 2018, before regulatory pressure led Alipay to impose daily liquidity limits, contributing to a decline in deposits to $168 billion by year-end 2018.
- **Wealth Management (Zhao Cai Bao)**: Most Chinese have little financial literacy and no familiarity with investing and financial products. In April 2014 Ant Financial launched a marketplace for third-party investment products called Zhao Cai Bao.

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- **Small Business Lending (Aliloan, renamed Ant Credit):** Alibaba found that its merchants could not get loans to finance working capital due to a lack of collateral. In 2010 Aliloan began offering unsecured microloans to merchants with the credit limit determined using big data analysis of merchant behavior in the Alibaba ecosystem. At the time of its US IPO in 2014, Alibaba's prospectus disclosed that it had made US$2.1 billion in microloans to merchants. By year-end 2017, this total had reached $5 billion.
- **Credit Scores (Zhima Credit)**: China did not have a comprehensive system of individual credit scores or histories, limiting access to credit for most consumers. Ant Financial therefore set up Zhima Credit (Sesame Credit) in 2015, which leveraged big data to provide consumer credit scores based on users' past payment history and their online behaviour, including reputation scores on Alipay, Taobao and Tmall and connections in their social network.
- **Digital Banking**: In 2015, Ant Financial launched an online bank, MYbank, with a mission to serve small businesses and farmers in rural locations who had no access to banking. MYbank is a joint-venture with a privately-owned conglomerate with Ant Financial holding a 30% stake. Within it first two years, MYbank had provided micro-loans averaging RMB 30,000 to five million small businesses, with a non-performing loan ratio between 2% to 4%.

The Birth of Ant Financial

In May 2014, Alibaba announced plans to list its shares in the U.S. through an initial public offering (IPO). In preparation for this listing, Alibaba was restructured to address regulatory restrictions preventing foreign ownership of a Chinese payment gateway. Alibaba spun-off its five financial units (Alipay, Yu'e Bao, Zhao Cai Bao, Ant Credit and MYbank) to form Ant Financial Services. Ant Financial's stated mission was "Bring small and beautiful changes to the world", with the ant chosen as its logo symbolising the combined efforts of these small but powerful insects to work towards a common goal, namely using technology to enable financial inclusion. Ant Financial completed a Series A round of financing for an undisclosed amount in June 2015, a US$4.5 million Series B round in April 2015, and then a massive US$14 billion Series C round in June 2018 (led by Singapore's Temasek Holdings and GIC).[9] They also raised US$3.5 billion in debt in May 2017 to finance expansion and international acquisitions.

Ant Financial has now grown to become a full-service financial intermediary, providing customers with the products and services needed to manage their financial lives – called FinLives by Ant Financial executives (Wong, 2018).[10] In addition to the existing payment, lending, wealth management and banking services. Ant Financial offers these offerings to small businesses and consumers online or via the mobile app: [11]

- **Consumer Lending**: In 2014 Ant Financial set up two consumer lending businesses, Ant Credit Pay (Hua Bei) and Ant Cash Now. Using Zhima Credit scores, consumers can apply for a loan using the Alipay app in 3 minutes and get approval in 1 second with 0 human intervention (the "3-1-0" model).
- **Wealth Management**: In August 2015 Ant Financial established Ant Fortune as a comprehensive wealth management platform catering to users with little financial expertise. Ant Fortune charged no fees and provided access to Yu'ebao and Zhao Cai Bao. In 2017, Ant Financial opened the wealth management marketplace Caifu Hao to allow third-party financial institutions to sell wealth management products.

- **Insurance**: In late 2013, Ant Financial partnered with Chinese insurance company Ping An to launch China's first online insurance company, Zhong An Online P&C Insurance Company. In its first year of operation, Zhong An underwrote 630 million policies for 150 million customers. Ant Financial developed a third-party online insurance marketplace called Ant Insurance Services to provide insurance products to individuals and small businesses from 80+ insurance partners. Ant Insurance promises a seamless claims process that takes 2 minutes to file online with reimbursement in 2 hours. Over the first year of operation, Ant Insurance Services insured 392 million customers and 40 million small business owners. Ant Financial has also launched a mutual aid health insurance plan on the Alipay app that provides basic medical coverage with the risks and expenses distributed across all members. As of April 2019, it had attracted 50 million members (mostly low-income) with a target of 300 million within two years.[12]
- **Equity Crowdfunding**: In 2015 Ant Financial established ANTSDAQ, the first licensed equity crowdfunding platform in China. It will help entrepreneurs to raise capital from high net worth investors who meet minimum wealth and income limits.[13]
- **Global Payments**: Alipay has expanded globally partnering with Paytm in India, Ascend Money in Thailand, Kakao Pay in South Korea, Mynt and GCash in the Philippines, bKash in Bangladesh, Easypaisa in Pakistan, Touch 'n Go in Malaysia, and Dana in Indonesia. Working with GCash, Alipay has launched a blockchain-based cross-border remittance service.
- **Other Financial Services**: Ant Financial Cloud provides cloud computing services to financial customers. Ant Financial is also investing in artificial intelligence to detect payment risks such as fraud. At its investor day in 2018, Ant Financial reported a throughput of 25,000 transactions per second on its proprietary blockchain, with production underway in origination verification, remittances, charitable donations, mutual insurance, and hospital e-invoices.

Ant Financial's goal is to understand a customer's needs even before they arrive by exploiting the many data sources on its users. The rate of user adoption of multiple products supports this claim. In 2018, Ant Financial reported that the number of customers using 2 or more categories of services was 640 million, 3 or more categories was 480 million, and 5 categories was 190 million.[14] By Q1 2017, Ant Financial had lent RMB 654 billion ($95 billion) to consumers and small businesses (Frost et al, 2019).

Table 1 summarizes the factors that contributed to the domestic success of Ant Financial and Tencent in financial services. Over the past three decades, China underwent economic, demographic and technological changes that increased demand for financial products from unbanked small businesses and consumers. The Chinese TechFins responded by developing online ecosystems that addressed "institutional voids" in China's financial system (Xie, Sia and Neo, 2017). China also featured a permissive policy and regulatory environment that supported their growth and expansion.

Exporting the TechFin Business Model Abroad

Can the domestic success of the Chinese TechFins be replicated abroad? The answer is yes and no.

The features of the Chinese financial system that supported the rapid growth of TechFins in China are also present in many emerging market economies (EMEs). Both TechFins are expanding in EMEs through acquisitions and partnerships, particularly in India, Asia, Latin America and the Caribbean. These regions feature large, growing and younger populations with the same high penetration of internet and mobile phones. The potential for e-commerce and online financial services that leapfrog the existing financial

infrastructure are also present. As of 2019, Alipay was already in 42 countries and supported 27 currencies, while WeChat Pay was in 49 countries and supported 14 currencies.[15]

Table 1: Factors Explaining the Success of the Chinese TechFins

Economic, Demographic and Technological Changes
• Rapid economic growth created a middle class of Chinese consumers with rising incomes, increasing wealth, and more leisure time. • China features a large population of unbanked or underbanked consumers and small businesses whose needs were underserved due to the poor state of the domestic financial system. • Millennials who were better educated and earned higher salaries were more willing to shop and transact online. • China's telecommunications infrastructure developed with the arrival of the internet, personal computers and mobile phones, allowing TechFins to leapfrog into digital banking without the need for expensive branch networks. • The TechFins benefited from other technological developments: cloud computing, big data and analytics, artificial intelligence and machine learning, and QR codes.
Institutional Voids
• China's state-owned economy was inefficient, with businesses and retail customers facing high information asymmetry, high search costs, and a lack of trust between buyers and sellers. • China's state-owned banking system focused on large companies and government entities. • China did not have a system of credit scores or ratings, or the history required to create one using traditional metrics. • Many small businesses and consumers were financially constrained with little access to credit. • China's payments infrastructure was antiquated. China did not have a network of credit or debit cards, with cash as a primary means of payment. • Consumers were forced to use expensive and time consuming methods to transfer money and make payments. • China's wealth management industry was undeveloped and focused on high net worth individuals, with little attention to lower income households
Policy and Regulatory Environment
• China's policy and regulatory environment is centrally directed, reflecting the earlier state of development of China's financial system and the nature of the players. • The stated missions of both Alibaba and Tencent were aligned with government policy to promote economic growth, financial development and financial inclusion. • High barriers to entry prevented foreign competition from U.S. tech companies. The TechFins could replicate and innovate on foreign business models without fear of foreign competition. • China's permissive regulatory environment allowed the entry of TechFins into payments, investments, and banking. • Privacy laws in China, or the lack thereof, are more favorable for the data-intensive business models of the TechFins.

By contrast, Alibaba and Tencent have made little headway in North America and Europe where they face competition from BigTech and larger FinTechs, as well as opposition from policymakers and regulators. In 2013, Tencent ran high profile advertising campaigns in European nations with soccer star

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Lionel Messi but ultimately withdrew from the market, largely due to the dominance of Facebook and WhatsApp.[16] In 2018, Ant Financial's proposed $1.2 billion acquisition of MoneyGram International was rejected by the U.S. government's Committee on Foreign Investment in the United States over security concerns, despite Jack May visiting the U.S. to meet with President Donald Trump a year earlier.[17]

As a result of these set-backs, both Chinese TechFins have narrowed their ambitions in the near-term to serving Chinese tourists travelling overseas and foreign customers who purchase products on Chinese e-commerce sites. For example, in October 2016, Ant Financial partnered with Verifone to allow merchants in North America and Europe to accept Alipay App payments through Verifone's mobile point-of-sale solution.[18] In February 2019 the U.S. drugstore company Walgreens announced a partnership with Ant Financial to introduce Alipay in 7,000 locations across the U.S.[19] Tencent has also scaled back its ambitions. While it retains a U.S. branch office in Palo Alto, California, the office is currently focused on recruiting and partnerships, not U.S. expansion.[20]

The Threat from North American BigTech

While the ambitions of the Chinese TechFins to expand in the advanced economies have been curbed in the near term, the question remains whether other BigTech companies are positioning themselves to offer financial services on their platform ecosystems.

In the case of Amazon, the answer appears to be yes. Amazon has spent a decade building a foundation in payments and is now strategically expanding into other financial services to support its e-commerce marketplace, discussed in greater detail below. While we focus on its financial activities in North America, Amazon is aggressively expanding its financial offerings in EMEs, using these markets to pilot products and develop expertise that may be used to offer these services later in developed markets.

Apple, Google and Facebook appear to be entering financial services in North America and Europe by offering payments (through Apple Pay, Google Pay and Facebook Messenger, respectively).[21] They are also partnering with financial incumbents. Apple's has partnered with American Express and now banks to offer Apple Pay, and will issue a Mastercard backed by Goldman Sachs. Apple's strategy appears to be designed to protect its share of the smart phone market by providing increased functionality on the iPhone and Apple ecosystem.

Facebook's and Google's intentions in North America and Europe are less clear, but they are actively expanding in EMEs.

In 2011 Google introduced an ewallet and in 2015 partnered with U.S. online lender Lending Club to offer merchant financing.[22] But in 2016 Google closed its comparison-shopping website for mortgages, credit cards and insurance after only a year.[23] Google has not made any clear statements about its intentions, but it is investing in start-ups. It spun off its investment arm, Google's ventures, in 2009 with Google's parent company Alphabet as the sole limited partner. As of 2016, GV, had invested in 245 ventures, of which 13% were FinTechs.[24] By early 2019, GV had funded more than 400 portfolio companies across all stages and sectors, but the terms financial services and Fintech did not appear.[25] In 2018 Google obtained an eMoney license in Lithuania. And Google has partnered with Indian banks to offer micro-loans through Google Pay, which already offers money transfers and payments.[26]

Facebook has long had an agreement with PayPal that allows users to send money through Facebook Messenger and in 2018 had approached U.S. banks about partnering to provide their services on its platform. [27] But Facebook scrapped its initial peer-to-peer (P2P) money transfer service in Europe after it failed to gain traction. Then in June 2019, Facebook announced plans to launch a digital currency, Libra, to facilitate low cost money transfers and payments globally using Facebook Messenger and WhatsApp.[28] The digital currency would be backed by a reserve of currencies and U.S. Treasuries, recorded on an open-source blockchain and held in a digital wallet, Calibra, which is owned and operated as a Facebook subsidiary. [29] No banks were listed in the original group of 28 partners, which included VCs, non-governmental organizations, blockchain companies, payment providers, tech companies, telecoms and ride sharing companies. With its global user base of 2.4 billion users as of March 2019, Libra could provide the foundation for Facebook to take a leading position in retail financial services.

While Apple, Google and Facebook may pose less of a threat to financial incumbents than Amazon, these companies possess the required ingredients to be successful: massive loyal customer bases, well-recognized brands, a history of innovation, a focus on customer experience and design, and expertise of the same technologies driving FinTech innovations.

Amazon's Path to Financial Services

The market intelligence company CB Insights has studied Amazon's strategy in financial services and concluded that it is pursuing a systematic strategy to offer financial services in North America without applying to become a conventional bank (Davis, 2018):

> Based on our findings, it's hard to claim that Amazon is building the next-generation bank. But it's clear that the company remains very focused on building financial services products that support its core strategic goal: increasing participation in the Amazon ecosystem.[30]

Like the Chinese TechFins, Amazon first entered financial services by offering payment solutions to increase sales on its marketplace and capture revenues from interchange fees. From this foundation, Amazon has added small business lending, cash deposits, consumer credit and debit cards, and product insurance.[31] In 2019 there were also rumours of partnerships with major banks to offer regulated financial services such as chequing accounts and mortgages. The pace at which Amazon is introducing financial products appears to be accelerating, suggesting more is coming.

According to CB Insights, Amazon's strategy has been to build internally and learn through trial-and-error, rather than to rely on external partnerships, investments, or acquisitions.[32] Amazon develops and tests new features in select markets over several iterations, before launching them more broadly, at which point it is too late for incumbents to respond.

Amazon's entry into payments illustrates its long-term vision. Amazon has spent a decade to develop a full payments infrastructure including credit and debit cards, ewallets, cash deposits, and most recently biometric payments technology.

- In 2007 Amazon Pay was introduced, allowing customers to pay using credit and debt cards stored in their Amazon account.

- In 2013 "Login and Pay with Amazon" launched allowing customers to pay merchants on third-party websites using their Amazon account. This service directly competes with PayPal. It was rolled out in India then Europe in 2014.
- In 2017, Amazon Cash allowed users to add cash deposits to their Amazon accounts.
- Amazon Pay Express was added to provide a merchant payments processing service.
- Amazon's most recent payments initiative is its Amazon Go grocery store where consumers shop with no checkout required. Customers scan their Amazon app to gain access to the store, then can "grab and go" without needing a physical check-out to pay for products.

Along the way Amazon has demonstrated a willingness to fail.

- In 2007 Amazon Flexible Payments Service was introduced to allow P2P money transfers using tokenization but was discontinued in 2015.
- In 2008 Amazon released two e-commerce payments solution, "Amazon Simple Pay" and "Checkout by Amazon". Amazon Simple Pay allowed third-party websites to accept Amazon account information for payment, but was discontinued in 2015. Checkout by Amazon was an all-in-one solution that allowed online stores to look and process orders like Amazon, including the one-click option, with the payments managed by Amazon. It was discontinued in 2017 and replaced with "Pay with Amazon".
- In 2014 Amazon's point-of-sale card reader for small businesses, Amazon Local Register, was launched but then shut down a year later.
- In mid-2014 Amazon launched a mobile wallet only to withdraw it six months later.[33]

These failures and subsequent product launches reveal a strategy of experimentation, always with the goal of increasing sales on its marketplace.

Amazon's other major financial product is Amazon Lending. In 2011 Amazon began providing loans to select merchants who sell on its platform with the goal of increasing sales by helping merchants finance their Amazon inventories. Amazon Lending offers loans from $1,000 to $750,000 with terms of up to 1 year, reportedly in partnership with Bank of America.[34] Amazon Lending is by invitation only and restricted to financing inventories with Amazon, with qualifying merchants selected based on past sales metrics. The application is completed online with rapid turnaround and rates reportedly from 3% to 17%.[35] Over its first six years, Amazon SMB lending provided $3 billion of loans to 20,000 businesses in the US, Japan and the UK.

Key Competitive Strengths of TechFins and BigTech

This final section reviews the key competitive strengths of the TechFins and BigTech to assess the potential threat to incumbent financial institutions. While these tech companies feature many competitive strengths, we focus on three that have particular importance for financial services:

1. Platform ecosystems and network effects,
2. Access to customers and brand recognition, and
3. Data insights and customer experience.

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Platform Ecosystems and Network Effects

These technology companies are following a "platform ecosystem" strategy built around a core product that is integrated with other in-house or third-party products through an online portal or mobile app (Ceccagnoli et al, 2012; Gawer and Cusumano, 2014). Alibaba and Amazon's core product is e-commerce. For Tencent and Facebook, it is social media. Apple's core product is smart phones. And Google's is a search engine. In biology the term ecosystem describes a community of living organisms and the non-living components that support them. In a platform ecosystem, the living organisms are the users and merchants while the non-living components are the products, services and other features.

The goal of a platform ecosystem is to attract different categories of users to the platform and generate network effects (Evans and Schmalensee, 2016; Rysman, 2009). Same-side network effects occur when an increase in users on one side of the platform attracts even more users on the same side. With cross-side network effects the growth of users on one side (e.g. customers) attracts more users on the other side (e.g. merchants, advertisers). Each platform ecosystem seeks to offer a unique combination of core and complementary products and features that makes the platform sticky, leading to loyal, repeat visitors. This stickiness creates a barrier to entry as users may find it difficult to leave the ecosystem or to multihome on competing platforms.

Once this business model is understood, it becomes clear that the TechFins and BigTech platform ecosystems will inevitably offer financial services to their users. To be able to engage in e-commerce or P2P transactions, users need an account and an online method of payment. By adding a payment gateway to the platform, the tech company can further monetize its users by capturing part of the interchange fee. Customer and merchant accounts on the platform will also require cash balances, creating opportunities to cross-sell credit, loans, investments and insurance products.

Access to Customers and Brand Recognition

Most financial products are commodities with many close substitutes. For this reason, banks have invested heavily to build brick-and-mortar branch networks (a tangible asset) and to create a distinctive brand (an intangible asset). The branch network allowed banks to compete for customers based on proximity and convenience. The brand allowed the bank to market a unique value proposition to targeted customer segments. Both sources of competitive advantage have been eroded in recent years, the former by technologies like the internet and smartphones, and the latter by financial crises and scandals.

Technology has eroded the value of a branch network over decades: during the 1970s to 1980s by the introduction of automated teller machines and telephone banking; during the 1990s and 2000s by the arrival of the internet and online banking; and during the past decade by mobile networks and smart phones. Now consumers have a bank in their pocket, allowing a new generation of customers to bypass physical branches altogether.[36]

In this digital world where geography is less of a barrier, the principal barriers to entry are a financial intermediary's brand recognition and the trust associated with it. These intangible assets were heavily damaged by the 2008-2009 Global Financial Crisis. They were further damaged from 2010 to 2018 by scandals and criminal convictions that resulted in billions of dollars of fines paid by banks globally.

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The extent of the damage can be estimated by examining the annual rankings of the most valuable global brands, as compiled annually by Interbrand. In 2006, global financial institutions were 8 of the top 50 most valuable brands (led by Citigroup at #11, American Express at #14, and Merrill Lynch at #21). Technology companies were all lower-rated (with Google at #24, Apple at #39, and Amazon at #65).[37] By 2018, these positions had reversed: Apple, Google and Amazon held the top 3 spots and only five global financial institutions were in the top 50 (led by American Express at #24 and JPMorgan at #26).[38]

A key metric used to measure the success of TechFins and BigTech companies is the size of their user base.[39] Alibaba had 634 million at year-end 2018 while Alipay had over 900 million worldwide. Tencent's WeChat app had 1.1 billion users. In 2018, it is estimated that 45% of Americans owned an Apple iPhone. In early 2019, Facebook reported 2.38 billion monthly active users.[40] And since 2016, Google was reportedly handling two trillion searches per year. Clearly these tech companies have been successful in acquiring customers and developing brand loyalty.

TechFins and BigTech companies have suffered significant damage to the trust in their brands over the past two years. In China, Alibaba and Tencent are accused of collaborating with government authorities to monitor Chinese citizens and suppress free speech.[41] Facebook has been hit by disclosures of security breaches, fake news campaigns, and unauthorized use of customer data by third-parties.[42] Numerous episodes have generated critical news coverage, regulatory scrutiny, political inquiries, fines from regulators, and civil lawsuits by privacy advocates. While these events have mostly focused on the ad-based business models of Facebook and Google, all technology companies that collect customer data have been affected. While these companies have updated and publicized their privacy policies, the damage to customer trust remains.

Data Insights and Customer Experience

The media is full of references about how much data is being collected each day on consumer behaviour. Data scientists often cite the same statistic – 90% of all data in the world has been collected in the past two years.[43] This data collection has been made possible by the emergence of cloud computing since 2006 and the associated drop in cost of storage and computing power. The greater availability of data and computing power has awoken the dormant field of artificial intelligence (AI). In particular, the science of getting computers to learn and act without being explicitly programmed – known as machine learning – is being deployed across industries: autonomous vehicles, genome mapping, speech recognition, web search, email spam filters and recommender systems. It is also being heavily used in financial services.

At the epicentre of this data collection are the platform ecosystems. As mentioned earlier, one of the main competitive strengths of the TechFins and BigTech is their ability to capture and analyze proprietary data on customer behaviour. These platforms are logging each click, key stroke, text message, chat, post, image, and video. These unstructured data sets are being analysed using machine learning to generate insights on user behaviour. The stated goal is to be able to understand a customer's needs even before they arrive. As explained by Alibaba's CEO Daniel Zhang in their 2018 investor day, this data allows Alibaba to turn business-to-consumer (B2C) on its head with final customer demand generating consumer insights that lead to the supply of new products, or C2B.[44]

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But to be clear, the competitive advantage for financial services is not the data itself, it is how it is used to understand a customer's needs. The TechFins and BigTech are not selling financial services to make a profit from their customers. Their goal is to help customers enjoy their lives and in so doing provide financial services at the moment when users need them (i.e. "turning on the tap of water") to fuel their marketplaces.

This customer-centric perspective (or paradigm) is crucial for understanding the threat to financial incumbents from TechFins and BigTech. These tech companies are not looking to replace the banks, because they do not view the banks as their competitors. Instead these companies want to create a simple and lower cost experience for their customers. In so doing they are bundling financial services with non-financial products. It is this unrelenting focus on the customer experience that distinguishes TechFins from FinTechs and other financial intermediaries. It is also why financial incumbents should be worried. Soon they may become product manufacturers whose commodity goods are fighting for space on a digital shelf in an online superstore controlled by Alibaba or Amazon.

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[1] I am grateful to Jon Frost, Jesse McWaters and Richard Nesbitt for input and suggestions. I have also benefited from excellent industry briefings by Lindsay Davis and Matthew Wong of CB Insights. All errors and omissions are my own. Prof. Michael R. King can be contacted at the Gustavson School of Business, University of Victoria, Business & Economics Building 246, 3800 Finnerty Rd, Victoria, BC, V8P 5C2, Canada, michaelking@uvic.ca.

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