

VISA: ADAPTING TO A WORLD OF FINTECHS

The raindrops of fintech had added up into a bit of a tsunami, and we had to reach a decision.

- Mathew Dill, SVP, Visa Inc.

It was September 2018, and Matthew Dill, Head of Innovation and Strategic Partnerships at Visa Inc. (Visa), was preparing for his meeting with the board of directors next week. The agenda called for a discussion of Visa's strategy in light of the growing influence of financial technology companies (fintech) in the payments space. Dill, along with other like-minded Visa executives, felt strongly that the time had come to take decisive action.

In 2018, Visa celebrated its 60th anniversary as a global payments technology company with US\$20.6 billion in revenue and US\$10 billion in net profit. The global giant offered a wide range of payment solutions, including card-based products, e-commerce and mobile-based payments, and other value-added services to businesses and customers in more than 200 countries. Visa had firmly established its leadership in the industry through its ubiquitous network of merchants, customers, and financial institutions, VisaNet - its centralised, secure and interoperable processing network, and its brand Visa - one of the most trusted and recognised names worldwide.

However, with the advent and rapid evolution of fintech over the past two decades, the payment industry was in the throes of massive transformation. It was witnessing an explosion of new competitors and new methods of payment, in addition to reinvention by existing players and customers - all focused on leveraging the growing penetration of e-commerce and mobile channels. The flag bearers of disruption ranged from the big technology (big tech) companies and global and local networks to emerging alternate payment providers and erstwhile clients turned competitors.

The new scenario presented both opportunities and challenges for Visa. By accelerating its migration to new types of digital payments and security technologies, the company could make deeper inroads in hitherto under-penetrated market segments such as business-to-business (B2B) and peer-to-peer (P2P), and regions such as emerging and developing countries where limited financial infrastructure and high transaction costs had curtailed the growth of card-based payment methods. Moreover, consumer buying behaviour was changing, and millennials across the globe were clamouring for seamless multi-channel and contactless methods of payment.¹ To capture the new payment flows, Visa had broadened its network model by actively developing in-house innovations and driving

¹ Visa, "Global Commerce Unbound", 2018, <https://usa.visa.com/dam/VCOM/global/visa-everywhere/documents/innovations-cashless-report-digital.pdf>, accessed May 2020.

This case was written by Professor Kapil Tuli and Dr Sheetal Mittal at the Singapore Management University, and Christopher Boncimino at Visa Inc. The case was prepared solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality. This case was developed with the support of Retail Centre of Excellence (RCoE).

mutually beneficial partnerships with the fintech companies active in the payments domain, broadly classified as big tech (e.g., Apple and Google), payment ecosystem tech (e.g., PayPal and Adyen), and emerging fintech (e.g., TransferWise and Paytm).

Dill recognised that both big tech and payment ecosystem tech were easier for Visa to collaborate with due to shared goals, standard or mutually agreed upon commercial terms, and a productive history of working together. It was the emerging fintech companies, with their quickly evolving business models, rapidly growing consumer base, and freely flowing venture funding that posed the larger challenge.

The emerging fintechs' low go-to-market cost often bypassed the need for expensive physical payments infrastructure, leading to higher usage rates in less-mature markets. Even in mature markets, new technologies leapfrogged the traditional card payment infrastructure (like that of Visa's) by building direct connections with merchants and customers through alternate networks. With an increasing number of acquisitions and investments in the fintech-payments space, Visa ran the risk of its new and existing competitors collaborating to strengthen their value propositions and building competing platforms that threatened its central position in the payments value chain.

However, collaboration with these alternative players had its own share of complexity. Visa did not have commercial frameworks suitable for the rapidly evolving start-ups, ready-to-use API solutions, technical support channels, sales collateral, etc. Besides, the emerging fintechs' business models, cost structures and targeted market segments varied significantly from that of Visa. By collaborating with them, the payments giant risked alienating its established client base and cannibalising revenue with financial terms that were less favourable than its traditional transactions on VisaNet.

How should Visa proceed vis-a-vis these start-ups that were seeking to redefine the payments industry? As this question ran through his mind, Matt looked down on Singapore's busy Robinson Road from Visa's Asia Pacific headquarters and considered his recommendation for the board meeting. Visa was an innovation-driven company, adept at building and scaling up new technologies. Should it apply its ample resources to defend its current market position? Or should it collaborate with the fintechs on initiatives of mutual interest? Or, should it take on the broader role of a facilitator embracing fintechs and helping to accelerate their growth and development? Which strategy should it pursue?

Global Payment Industry

In 2017, the global payment industry at US\$1.9 trillion in revenues grew at 11% over 2016, and was expected to reach US\$3 trillion in five years.² The traditionally cash and paper-driven economies had come a long way from physical cash and cheques to customer-centric alternatives such as card-based payments, P2P payments and alternative payment methods in e-commerce. The new-age innovations stood to enable payments across mobile device platforms, messaging apps, and smart devices. Over 2017-2022, non-cash transactions were expected to grow at a compound annual growth rate (CAGR) of 14%, with emerging markets growing at 23.5% (refer to **Exhibit 1** for growth in non-cash volume).³

² Phil Bruno et al., "Global Payments Report 2019", McKinsey, September 2019, <https://www.mckinsey.com/...-vf.ashx>, accessed May 2020.

³ Capgemini, "World Payments Report 2019", <https://worldpaymentsreport.com/non-cash-payments-volume/#>, accessed May 2020.

For the first half-century of card-based consumer payments, the payments ecosystem comprised a traditional model with four parties – account holders or customers, issuers, acquirers and merchants besides the payment companies like Visa (refer to **Appendix A** for details on the traditional model). The payment or network companies worked on the principle of ubiquity of acceptance of their card by merchants and customers. Since their brand name stood as a surrogate for trust by all the stakeholders, high brand recognition and equity were critical for universal acceptance.

In the 2000s, card-based products led to a shift in consumer buying behaviour from paper-based payments, such as cash and cheques, to electronic payments. Since 2000, the global card purchase transactions grew at a CAGR of 10-14%, clocking 167 billion in 2012. In 2016, the industry reached a milestone when digital payments surpassed cash payments worldwide for the first time. By end-2017, there were 20.5 billion credit, debit, and prepaid cards in circulation worldwide that generated 296 billion purchase transactions and US\$23 trillion as global payment volume (refer to **Exhibit 2** for regional contributions).⁴

As Alfred F. Kelly, CEO of Visa, observed, “Cash Inc. is our biggest competitor. And we are working to displace cash every day”.⁵ With global cash-based transactions accounting for more than US\$18 trillion in consumer spending and over US\$25 trillion in business spending, there was ample opportunity for continued growth.⁶

Visa: The Original Fintech

Visa’s history could be traced to 1958, when Bank of America launched its BankAmericard program in Fresno, California. In addition to allowing customers to pay using the single card, BankAmericard offered revolving credit, with no fixed number of payments.

The Fresno Drop

To create an immediate network of customers and merchants, the bank rolled out ‘The Fresno Drop’ strategy, whereby the credit cards were mailed unsolicited to Bank of America customers in Fresno. As 60,000 residents became new cardholders overnight, merchants were quick to sign on. Merchant sales grew because of the expanded credit and consumer convenience.⁷ While the risk of fraud was high, the Fresno experiment proved the viability of multi-store general-purpose payment cards in the market.

In 1965, Bank of America started licensing its card system to other banks for a fixed entry fee in addition to a royalty on total cardholder spend, and in 1966, it went international. However, with an increasing number of customers, merchants, and banks in the network, management and settling of transactions had become a challenge. This prompted Bank of America to establish National BankAmericard Inc. (NBI) for BankAmericard’s US-based operations in 1970, and IBANCO for its international operations across 15 countries in 1974, with NBI as IBANCO’s subsidiary. Both entities

⁴ The Nilson Report, 2018, https://nilsonreport.com/publication_chart_and_graphs_archive.php?1=1&year=2018, accessed May 2020.

⁵ *Ibid.*

⁶ Glenn Hubbard, “CEO Speaker Series: A Conversation with Al Kelly”, Council on Foreign Relations, 10 April 2019, <https://www.cfr.org/event/ceo-speaker-series-conversation-al-kelly>, accessible June 2020.

⁷ Jeremy M. Simon, “Visa: A short history”, [creditcards.com](https://www.creditcards.com/credit-card-news/history-of-visa-1273/), 30 March 2007, <https://www.creditcards.com/credit-card-news/history-of-visa-1273/>, accessed May 2020.

were independent nonstock corporations co-owned by all the member banks and comprised a collaborative system of management.⁸ NBI digitised its operation by introducing the first electronic authorisation system in 1973, and the first computerised interbank clearing and settlement system a year later, enabling processing of transactions much faster and round the clock.

In 1976, with many banks in foreign countries reluctant to issue a Bank of America card, it was decided to adopt a new name that had no national identification and was universally accepted. As a result of an employee contest, the name 'Visa' was chosen, and in 1977, BankAmericard was reborn as the Visa card, NBI as Visa USA, and IBANCO as Visa International.

Visa Innovation Journey: From Plastic to Digital

Visa's size and scale allows technologists to work on meaningful initiatives that have the ability to change how commerce is conducted for millions of consumers and companies globally.

- Rajat Taneja, President, Technology, Visa⁹

Visa grew on the strength of its technological innovations. In 1980, it launched its electronic payment network that enabled point of sale terminals to read the magnetic stripe on cards and electronically request authorisation.

1986 was a landmark year that saw the launch of VisaNet, the world's first and largest centralised payment platform, and its transformation from only credit card to the processing of all types of banking transactions such as credit, debit, cash access and prepaid products for consumers, businesses and governments. The enhanced network accorded Visa the flexibility to develop and improve its products and services and led to the enforcement of a more effective fraud detection system.

A slew of initiatives through the 1990s strengthened Visa's position in the market. These included the acquisition of Interlink (an online banking service that allowed Visa to add electronic signature capability), introduction of the card verification value (CVV) and chip card programme to enhance safety of its cards (especially Visa Debit), and the launch of its zero liability policy that ensured cardholders would not be held responsible for fraudulent charges.

The electronic payment industry, historically defined by the physical terminal ecosystem, entered its next phase with the dawn of e-commerce in the late 1990s. Having spearheaded the industry's transformation by challenging the dominance of paper-based payment, Visa went on to introduce new digital and advanced technologies that enabled payments not only physically across a checkout counter but also virtually from any part of the world.

One of its first landmark innovations was standardised transactions. A face-to-face transaction was the most basic type of card-based transaction that occurred billions of times each day through mechanisms like a mag-stripe or a chip transaction. From the onset, Visa ensured that these transactions were based on standards, such as ISO 8583, thus enabling scale and an open ecosystem to be built upon them.

⁸ Reference for Business, "Visa International - Company Profile, Information, Business Description, History, Background Information on Visa International", <https://www.referenceforbusiness.com/history2/18/Visa-International.html>, accessed May 2020.

⁹ Visa, "Visa to Expand Technology Hub in Singapore to Accelerate Global Technology Strategy", 10 January 2014, <https://www.visa.com.sg/about-visa/newsroom/press-releases/visa-to-expand-technology-hub-in-singapore-to-accelerate-global-technology-strategy.html>, accessed August 2020.

The company also launched a set of guidelines to enable non-present physical cards to be used for catalogue sales via mail order/telephone order (MOTO), while minimising the likelihood of fraudulent use. This basic set of procedures drew upon Visa's capabilities that were developed in 1974, and paved the way for the cards to be used in early e-commerce.

In 2004, Visa launched its first contactless or 'tap to pay' method of payment with its smart card Visa Wave in Malaysia. By 2018, about 25% of all face-to-face Visa domestic transactions on its global network were contactless. The payment method was found to be simple, fast, and, among other features, hygienic. Contactless proved particularly effective for high-speed use cases such as transit gates, which historically were operated using proprietary closed-loop systems such as Oyster card in London, or Octopus card in Hong Kong. To support the transit use case, Visa made technological changes to deliver the 500 millisecond response time in opening of the transit gates, and created new small ticket pricing for transit, often less than US\$1. In 2018, transport for London clocked more than 1.7 billion contactless journeys, Vancouver and Milan Metro launched similar solutions, and others including New York and Singapore Metro prepared to introduce them too.

In 2013, to enable Visa cards in digital wallets, Visa developed the Visa Token Service (VTS). Tokenisation secured cards on devices by replacing the 16-digit primary account number traditionally printed on the card with a proxy card number that was not useful if compromised by a fraudster. The development effort required over 1,000 developers and consumed the better part of Visa's development capacity for a year. It was, however, an essential investment to retool Visa's technology core for the upcoming proliferation of devices, the internet of things (IOT) and e-commerce use cases. By 2018, Visa had rolled out VTS in 40 countries representing more than 75 percent of Visa's global payment volume.

In 2014, Visa enabled faster, easier and secure transactions on online and mobile platforms by introducing Visa Checkout, a digital payment service. The checkout process in e-commerce involving repetitive entry of 16-digit card number, cardholder name, expiration date, etc., used to lead to a high rate of cart abandonment. Visa Checkout, created to address this particular issue, simplified the process by just requiring a username and password to checkout, and by 2018, it had more than 40 million customer accounts across 26 countries.

To open up its network to new types of payments, such as P2P, business-to-consumer (B2C) disbursements, cross-border remittances and bill payments - the types of flows that were critical in gig and share economies - Visa launched Visa Direct in 2015 as the underlying technology that enabled push payments¹⁰. While Visa Direct was a new payment product, its core technology was a decades-old specification originally written to enable credits to be put on an account for refunds as a point or rewards program, known as Visa Money Transfer (VMT) and Visa Personal Payments in the earlier versions.

Global Payments Powerhouse

In 2018, Visa led the global payment industry as the largest payments technology network. At US\$8.2 trillion, it handled more payment volume than its four closest competitors - MasterCard, American

¹⁰ Historically digital payments are 'pulled' by a requester (say, merchant) from the consumers' source of funds with their issuer. A push payment reverses the flow and a payment is pushed into the account of a receiver. This lowers the burden of authentication and is typically a lower-risk transaction.

Express, JCB and Discover/Diners Club - combined (refer to **Exhibit 3** for further details). Visa's payment products, either as traditional physical cards or as digital credentials used on online and mobile devices, accounted for 182 billion transactions in the year, and its proprietary network, VisaNet processed 124.3 billion transactions from 3.3 billion accounts at 54 million merchant locations worldwide (refer to **Exhibit 4** for details on Visa's core products). Visa transacted in 160 currencies settled between 15,900 financial institutions around the world.

Corporate Evolution

Visa was initially structured into four separate regional groups: Visa U.S.A.; Visa International that comprised Visa Asia Pacific (AP), Visa Latin America and Caribbean (LAC), and Visa Central and Eastern Europe, Middle East and Africa (CEMEA); Visa Canada; and Visa Europe. Each group was an independent association of its member financial institutions and managed Visa operations in its respective geography. Another entity was Inovant, which operated the VisaNet transaction processing system and other related systems. In October 2007, the group reorganised to form Visa Inc. with Visa U.S.A., Visa International, Visa Canada and Inovant as its subsidiaries. Visa Europe, while remaining independent, entered into a set of contractual arrangements with Visa Inc. and owned shares in the global entity.

In March 2008, Visa came out with its initial public offering at the New York Stock Exchange, and despite a troubled economic climate, made history by raising US\$17.9 billion. By end-2008, Visa had added many new products and services to its core products, including prepaid travel, gift, payroll and healthcare cards.

In the decade since the IPO, Visa continued to capitalise on its brand through strategic sponsorships. Its exclusive payments partnerships with global entities, such as the Olympic Games, National Football League and FIFA, attracted audiences of billions of people worldwide. Recognised as one of the top ten most valuable global brands, Visa found its brand valued at US\$24.5 billion in 2016, and as the category leader for payments in most countries including Japan, China, the UK, India, South Korea, Russia, Australia, and the US.¹¹

In June 2016, Visa Inc. acquired Visa Europe, and in 2018, with the technical integration of the company concluded, a new global firm was born with US\$11.2 trillion as total payments and cash volume, 17,000 employees in 119 countries and a mammoth worldwide network (refer to **Exhibit 5** for Visa's financial performance).

Competitive Landscape

Payments is an industry that is full of frenemies.

- Alfred F. Kelly, CEO Visa Inc.¹²

Besides Visa, the key global or regional network players in the traditional payments industry were MasterCard, American Express, Diners Club/Discover, JCB, and UnionPay. While Discover was US-

¹¹ Jeffrey O'Brien, "Visa at 60. A Digital Odyssey", Internal document of Visa Inc., 2018.

¹² Stuart Lauchlan, "Visa CEO on a Digital Payments Future - Enemies, Frenemies, Uber and Amazon", *diginomica*, June 5, 2017, <https://diginomica.com/visa-ceo-digital-payments-future-enemies-frenemies-uber-amazon>, accessed June 2020.

centric, JCB was Japan focused and UnionPay operated primarily in China. Together, Visa and MasterCard accounted for 75.5% of total global payment volume, with Visa generating 50% and MasterCard generating about 25.5% of all card-based purchase transactions.¹³ Over the years, the competition between the two companies had evolved such that the banks that issued Visa cards were free to issue MasterCard too and vice versa. Unlike them, American Express and Discover had a closed-loop network, and issued their own cards. Pulse in US, Mir in Russia, EFTPOS in Australia and Interac in Canada represented the local networks that focused on primarily debit payment products.

Visa and Fintech

Rise of Fintech

From the late-nineties, digitisation and technical innovations in the payments industry had given way to a multitude of new entrants, business models and product permutations of lending and payment products. Collectively, this wave of financial technology became known as fintech. The range and capability of fintech companies extended beyond the marketspaces of traditional banking to include emerging payment platforms, such as mobile-based payments, crowdfunding platforms, cloud-based services, block-chain and cryptocurrency. On the one hand, these firms were a challenge to Visa. On the other hand, they also presented significant opportunities for collaboration and partnerships in the P2P, B2B, B2C and government-to-consumer (G2C) payment segments. As Dill expounded,

A network comprises concentric circles of ability. In mature circles, it becomes hard to add more utility. Fintech to me is a new concentric circle that is forcing us to learn new ways to consume and advance the network.

The fintech industry comprised a gamut of subsectors such as lending, reg-tech¹⁴, personal finance, payments, money transfer/remittances, wealth management, capital markets and mortgage. By end-2018, global investments in the industry had more than doubled over the previous year to reach US\$141 billion (refer to **Exhibit 6** for the growth in investments over 2013-2018).¹⁵ More than 27% of the cumulative funding in fintech since 2000 had poured into payments, and by 2022, 60% of global GDP was expected to be digitised, with financial services as the key contributor.^{16,17}

Fintech innovations had led the payments value chain to become faster, smarter, and cheaper. An increasing number of disruptors that leapfrogged existing technologies to enter the payment industry included large technology and social media companies (such as Amazon, Apple, Tencent, Facebook and Google) and alternate payment providers (like PayPal, Alipay) that processed payments using in-house account transfers, or/and electronic fund transfer networks (including Automated Clearing House (ACH) or VisaNet). In addition, there were emerging tech companies (like Paytm and DiDi)

¹³ The Nilson Report, "Global Cards", 2019, https://nilsonreport.com/research_featured_article.php, accessed May 2020.

¹⁴ Reg-tech, short for regulatory technology, is the management of regulatory processes within the financial industry through use of information technology.

¹⁵ KPMG, "The Pulse of Fintech H1 2019", 2019, <https://home.kpmg/xx/en/home/campaigns/2019/07/pulse-of-fintech-h1-2019.html>, accessed May 2020.

¹⁶ BCG, "Global Payments 2019 Tapping into Pockets of Growth", September 2019, https://image-src.bcg.com/Images/BCG-Global-Payments-2019-Tapping-into-Pockets-of-Growth-September-2019-rev_tcm9-231986.pdf, accessed May 2020.

¹⁷ Findexable Limited, "The Global Fintech Index 2020", 10 December 2019, https://findexable.com/wp-content/uploads/2019/12/Findexable_Global-Fintech-Rankings-2020exSFA.pdf, accessed May 2020.

that were looking to capitalise on the growing penetration of mobile and digital commerce, often circumventing the need to use existing payment networks of legacy companies.

Some of the fast growing new-age payment products and services were digital and mobile wallets, APIs, mobile peer-to-peer solutions and contactless methods (refer to **Appendix B** for more details). The new technologies and innovations led to a rise in acquisitions and partnerships among the incumbents and disruptors in a bid to collaborate and leverage. Through such deals, the disruptors gained accelerated distribution with access to networks with large user bases, while the incumbents got access to consumer- oriented innovative solutions.

Barriers to Engagement

For decades, Visa had mirrored the interests and culture of its member banks, although the transition to a publicly listed company in 2008 drove more focus onto its products and the network. Dill shared,

Visa gradually recognised that our job was not to talk to a bank about how to create a card to sell, but our job was to make our products and network adaptable with the digital systems that existed in the world. We needed to focus on how to ensure that consumers can use our products easily.

In 2012, Charlie Scharf further challenged Visa's banks-first-approach when he took over as the company's new CEO and emphasised, "Visa is not a bank. It is a network". Scharf also helped create internal recognition for big tech by encouraging active engagement with Silicon Valley companies for understanding the changes taking place and identifying potential opportunities.

For Visa to be relevant and add value to the tech companies, significant re-configuration of its products and business model was required. A big ask, as unlike the fintechs that were primarily local businesses, Visa was run centrally from its global and regional headquarters. Moreover, the company lacked a concerted effort in fintech engagement, as it was neither a stated goal nor a defined deliverable for its senior management.

Potential for Disruption

By 2012-13, many traditional payment companies felt threatened by new business models like that of PayPal that bypassed payment credentials by providing online buyers the option to connect directly with their bank accounts using ACH payments. PayPal not only enjoyed dominance in e-commerce transactions, it also forged strong relationships with other ecosystem stakeholders such as merchants and account holders.

Visa's concerns heightened in 2013, when many banks tried to enter into exclusive deals with companies like Apple, PayPal and Google. Knowing that the big tech players found the proposed bilateral agreements impractical to execute globally, Visa was concerned that this might drive them to build competitive payment networks on their own. Moreover, if banks too widened their relationship net to include these companies, Visa's business model would no longer be a viable proposition. Visa was also cognisant of the disruption to the music, photography, and publishing industries by smart devices in the recent past.

These developments led to a strategic shift in Visa's mindset with the company ready to engage with the tech players for the good of the network. It shifted its 2013 product roadmap to prioritise building standards and technology, such as the Visa Token Service, that would help enable payments on digital platforms. The fintechs too were keen to gain access to Visa's global merchant acceptance footprint and payment services, aka Visa's 'rails', as that would enable them to provide consumer payment services worldwide.

The Fintech Handshake Begins

Visa's Strategic Partners team focused on the large tech players as opposed to deals with the smaller start-ups that demonstrated momentum but did not change the game. In 2014, the tech majors Google and Apple that had entered the payment industry by launching their e-wallets opted to work with Visa. In 2016, Visa collaborated with PayPal to resolve long-standing issues in customer experience, branding, and processing. Consequently, PayPal ensured that Visa-branded products were given equal prominence when consumers configured their payments credentials.¹⁸ Similarly, Visa's investment in companies such as Square (which offered plug-in credit card readers to enable merchants to easily process and manage credit card transactions), and Adyen (that provided end-to-end payment solution to the merchants), helped these start-ups to scale their models faster while growing the usage of Visa's cards. For Visa, these tie-ups were a strong endorsement for upholding standards and open ecosystems. Dill explained,

Collaborating with both big tech and payments ecosystem tech [PayPal, Square and Adyen] was a win-win proposition for Visa. Big tech, which occupied one end of the payments ecosystem continuum as they had marginal interest in payments, offered no direct competition to Visa. Payments ecosystem tech occupied the opposite end of the continuum, as their core objective was to enhance and strengthen the existing value chain, and had a vision in line with Visa's.

However, the middle tier on the payment ecosystem continuum comprised emerging fintech (such as Didi, Affirm, Grab, Line) that had unique business models, cost structures and organisation culture (refer to **Exhibit 7** for the payment ecosystem continuum). Visa had concerns over the suitability of its teaming up with these nimble and agile start-ups that often had a new play on an old financial proposition. They worked to expand their positions quickly, using a focused value proposition to attract attention, modern development techniques to build, cloud services to deploy, and growth hacking techniques to scale. Their focus was primarily on capturing a large consumer base even at the cost of other critical business metrics such as revenue and profits. They tended to set up closed-loop systems to gain merchant acceptance at low costs. But that scaled in a limited manner, and often only at the local level. According to Dill, "In payments you have to ignite and scale up – otherwise you are burning a lot of money."

After failing to strike a deal with Visa, many start-ups including TransferWise, AfterPay and Grab went on to collaborate with Visa's competition. Tasneen Padiath, Head of Digital Account and Fintech at Visa, pointed out,

¹⁸ PYMNTS, "Visa and PayPal Partner to Accelerate Digital Payments", 21 July 2016, <https://www.pymnts.com/news/payment-methods/2016/visa-paypal-digital-payments-partnership/>, accessed May 2020.

MasterCard was quick to adapt to the ways of the fintech world. By mid-2018, it had also signed up deals with new digital banks such as Revolut, N26, Monzo and Starling in Europe, and Xinja and Volt in Australia.

While a small and centralised team was adequate to work with the big tech players, Visa needed a large team that was well distributed across geographies to understand and engage with an ever-increasing number of fintech start-ups. Dill shared,

We did not have the capability to connect with tens of thousands of companies around the world – how do we contract with them, how do we set pricing with them, and how do we technically integrate them?

In addition, many of the emerging concepts like cryptocurrency, biometrics or artificial intelligence were yet to be developed fully to enable secure payment transactions within the existing regulatory frameworks. Padiath added, “Functional and commercial viability of these technologies was yet to be understood.”

Nonetheless, Visa recognised that no single company could have all the answers, and it was important to drive synergies. Thus, it went global with its Visa Everywhere Initiative (VEI) program. VEI helped Visa engage digital start-ups at the forefront of payment industry and support them in bringing their innovations to market. Over 2016-2018, the company also set up ten physical innovation centres across the world including Dubai, London, Singapore, New York, Beijing, Miami and San Francisco.

Emerging Fintech: Defend, Collaborate or Embrace?

The process of building a ubiquitous network extracted a long-term investment from Visa over many decades. However, the consequent wider merchant and customer adoption it achieved was difficult to replicate or penetrate as the payments industry was characterised by slow adoption of change by consumers and complex regulatory structures unique to each market. Many innovations, such as digital wallets that had initially challenged its cards, in practice became mediums for boosting the role of Visa’s cards in virtual form for e-payments. Thus, the next wave of payment innovations could end up delivering more avenues of growth for Visa-branded products. In addition, the card-based transactions enjoyed some of the highest margins in the payments industry.¹⁹

While a challenge, the opportunity of payment innovation through fintechs was too large to ignore. Even a highly mature market like the US, with the highest card-based products saturation in the world, was exploring new payment networks and rails, while the emerging markets in central Europe, Asia Pacific, Middle East and Africa were the breeding grounds for these innovations.²⁰ Dill noted,

Investors believed in Visa’s ability to continue to grow. However, in these under-penetrated countries, while Visa grew as before at about 4% and occupied about 10% of the market, many of these fintech players were now growing at more than 100% and occupied 20-30% of the market.

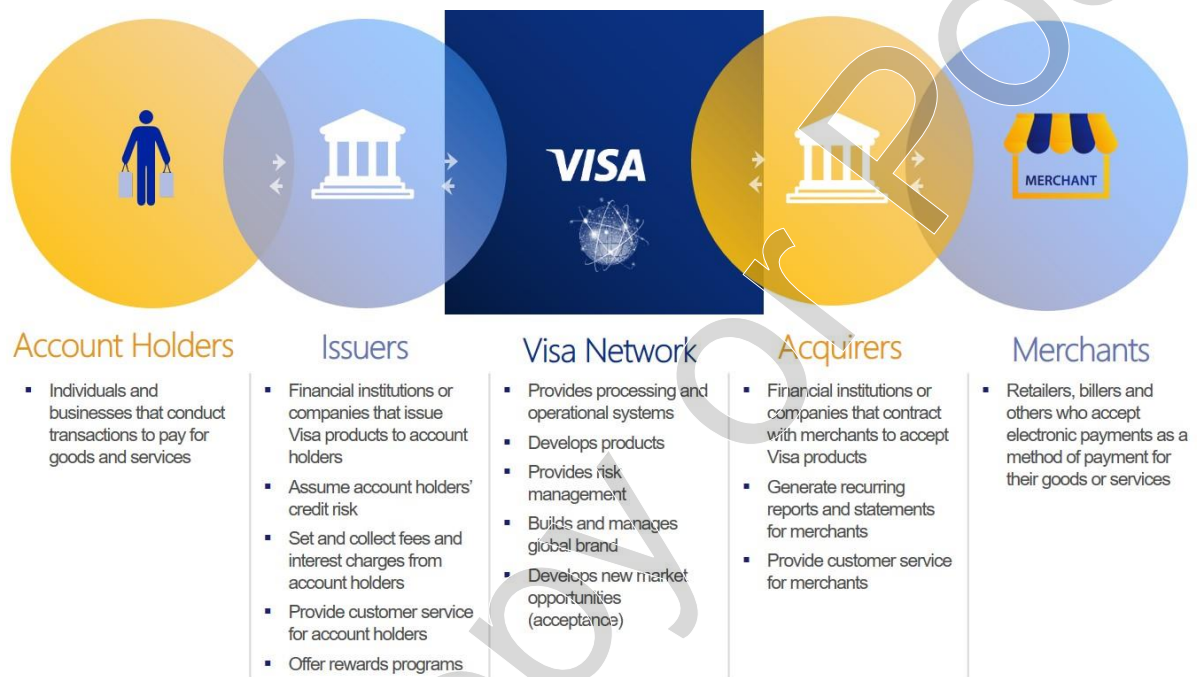
¹⁹ Telis Demos, “Don’t Discount Visa”, The Wall Street Journal, 14 February 2020, <https://www.wsj.com/articles/dont-discount-visa-11581676213>, accessed June 2020.

²⁰ Bruno Mellado and Anirban Bose, “World Payment Report 2018”, 2018, <https://worldpaymentsreport.com/wp-content/uploads/sites/5/2018/10/World-Payments-Report-2018.pdf>, accessed May 2020.

To investors, it was no longer enough that Visa's growth curve was the same as earlier; what mattered was that the opportunities curve was much steeper.

Clearly, the disruptive nature of the emerging fintechs represented both opportunities and challenges for Visa. The dilemma was how Visa should adapt to continue to maintain its leadership in the payments industry. Should it preserve its legacy position by competing against these fintechs or should it seek collaborations with them to avail of mutually beneficial market opportunities? Or should it take the lead as a facilitator, actively invest in the start-ups, partner with them and drive innovation in the payments industry.

APPENDIX A: THE TRADITIONAL PAYMENTS MODEL



Besides the network provider, the traditional model comprised four parties: account holders, issuers, acquirers and merchants. In this system, the issuer earned revenue in the form of interest on the loan provided at the time of purchase and card fees from the account holders, and interchange reimbursement fees from the acquirer. The acquirer charged the merchants a discount fees (about 2 to 3%), while companies like Visa generated three types of revenues:

- 1) Service revenue - earned for services provided to card issuers in support of client usage of its branded products. The higher the payment volume on its products, the higher was the revenue made by the company;
- 2) Data processing revenue - earned for authorisation, clearing, settlement, network access and other maintenance and support services that facilitated transaction and information processing among its clients globally. This was based on the number of transactions that were made across its network, and not on the value of the transaction; and
- 3) International transaction revenue - earned for cross-border transaction processing and currency conversion activities. This was generated whenever a card was used to purchase goods in a country different from the card-issuers country of origin.

Source: Visa Annual Report 2018

APPENDIX B: FINTECH LED INNOVATIONS IN PAYMENT PRODUCTS AND SERVICES

Digital and Mobile Wallets

Among the earlier fintech innovations that contributed significantly to the growth of e-commerce was the digital wallet. First introduced in 1998 by online payments company PayPal, the e-wallet enabled customers to pay using their devices like laptop, tablet, or phone and overcame the issues online shoppers faced such as the time-consuming process of keying in the card details, and security and trust concerns in sharing payment credentials with merchants. With PayPal's acquisition in 2002 by eBay, a leading e-commerce platform, its wallet garnered large-scale acceptance as eBay's preferred payment option.²¹ Many big tech and legacy players followed suit with Amazon 1-Click emerging in 2006, Google wallet launched in 2011, MasterPass in 2013, and Visa Checkout and Apple Pay in 2014. In 2015, Samsung introduced its wallet in South Korea and US, expanding to 24 countries by 2018. Big tech leveraged their large user base, and in 2016, accounted for more than 70% of the e-wallet market.²²

In 2016, the global transaction volume in e-wallets was estimated to be US\$41.8 billion.²³ Emerging markets, in particular, experienced an accelerated adoption of digital wallets due to the high penetration of mobile phones and poor access to banking services, with fintechs such as Paytm in India operating 200 million wallets, M-Pesa in Kenya with more than 17 million consumers and Ant Financial's Alipay in China having 450 million users.²⁴

APIs

Launch of application-programming interfaces (APIs) further opened up the digital payments domain by enabling collaboration. Fintech companies such as Stripe, Square, PayPal and Adyen launched APIs with payment processing capabilities that offered plug and play services to e-commerce merchants and companies, who could simply plug in to provide any element(s) of the payment value chain – e.g., one-time payments, charge back protection or subscription payments, and provide a seamless experience to their customers. Networks like Dwolla bypassed the credit card middlemen to increase the speed and safety of the transactions, and lower processing costs, while other such as Level-Up created proprietary payment networks (like that of Visa and MasterCard), and offered clients additional value added services besides enabling digital payments across different devices.²⁵ By 2016, Google, Apple and Visa also released their APIs, enabling an accelerated growth of P2P payments, personalisation, seamless transactions, integration of rewards and loyalty, and creation of new revenue streams. By 2018, with more than 20,000 in number, APIs had become ubiquitous and core to businesses.²⁶

²¹ James E Faucette et al., "Fintech: A Gauntlet to Riches", Morgan Stanley 17 May 2017, accessed May 2020.

²² Bruno Mellado and Anirban Bose, "World Payment Report 2018", 2018, <https://worldpaymentsreport.com/wp-content/uploads/sites/5/2018/10/World-Payments-Report-2018.pdf>, accessed May 2020.

²³ Ibid.

²⁴ Visa, "Innovations for a Cashless World", 2017, <https://usa.visa.com/dam/VCOM/global/visa-everywhere/documents/visa-innovations-for-a-cashless-world-2017-report.pdf>, accessed May 2020.

²⁵ Tejas Manohar, "Top Payments APIs: PayPal, Square, Stripe and Others", Programmable Web, 11 March 2015, <https://www.programmableweb.com/news/top-payments-apis-paypal-square-stripe-and-others/analysis/2015/03/11>, accessed May 2020.

²⁶ Wendell Santos, "APIs show Faster Growth Rate in 2019 than Previous Years", Programmable Web, 17 July 2019, <https://www.programmableweb.com/news/apis-show-faster-growth-rate-2019-previous-years/research/2019/07/17>, accessed May 2020.

Mobile Peer to Peer

Over 2013-2018, mobile P2P payment platforms grew in popularity for their quick, easy and safe solution for paying not only friends but also businesses and merchants, by directly connecting with a person's bank account. Triggered in 2013 by PayPal's Venmo, Square's Cash App and Circle, followed by Zelle featuring instant deposits, the market for P2P transactions grew exponentially. In 2017, PayPal, Venmo and Zelle reported transaction volumes of US\$155 billion, US\$35 billion and US\$75 billion respectively.²⁷ Messaging apps too offered convenient to use integrated payment channels, with Tencent's WeChat used by 19% of consumers globally for payments, Facebook Messenger by 33% and WhatsApp by 38%.²⁸

The concept of using case-based consumer experiences led companies like ride sharing apps Uber and Grab to build upon a single purchase moment to include consumption across multiple activities such as food, entertainment and retail, and then use the app to pay at the point of sale.

Emerging Form Factors

Customers' preference for omni-channel retail led to the adoption of integrated point of sale (POS) terminals that enabled merchants to accept payments through contactless credit cards, wearables, and digital wallets. New form factors for payment, such as QR codes gained traction, especially in emerging markets with WeChat and AliPay pioneering it in China in 2011. QR was particularly attractive for the start-ups as the technology required low upfront investment costs for both merchants and consumers, and more importantly, the absence of legacy players to begin with, lowered the barriers to entry. The two-dimensional code comprised black and white squares that could be read by many devices, including smartphone cameras and POS terminals, and did not require the expensive payments infrastructure. Over 2016 -2017, Visa and MasterCard too launched their QR based solutions, mVisa and Masterpass QR respectively, in a number of emerging countries in Asia and Africa.

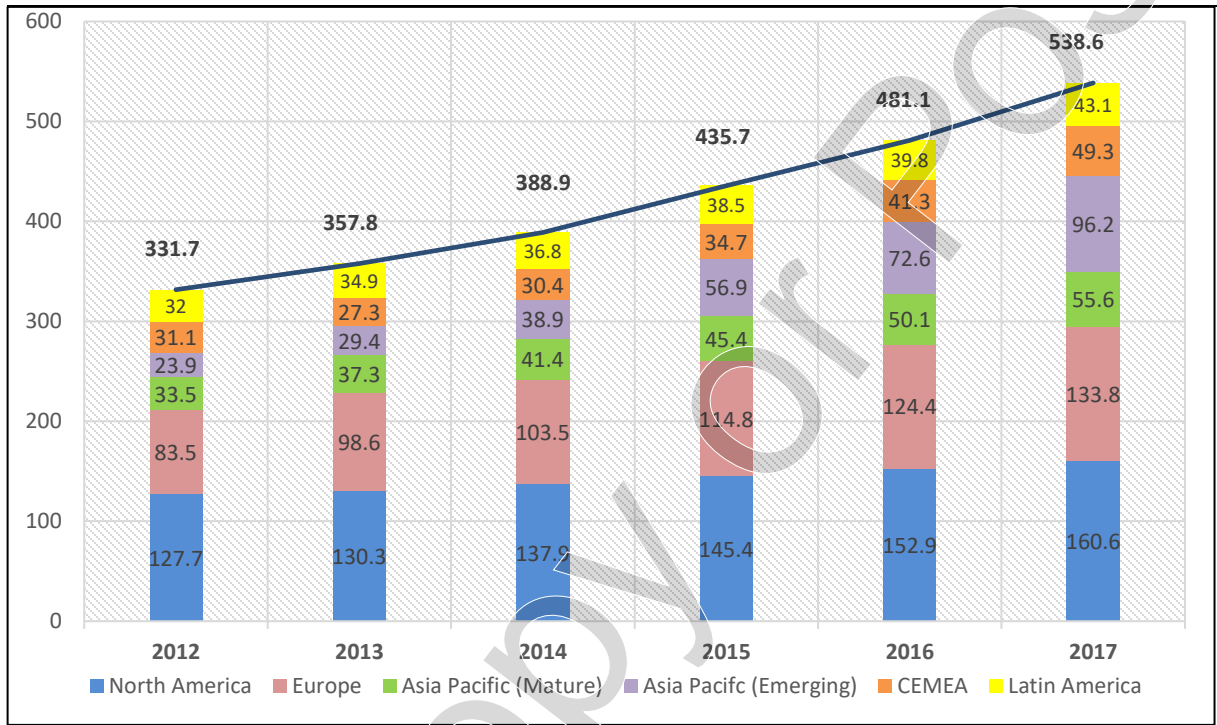
New solutions using biometrics, facial recognition, geolocation and artificial intelligence were being used to facilitate point of purchase experiences. For example, Amazon created a complete digital self-checkout experience at its Amazon Go retail stores, while Starbucks introduced zero friction or wait time by enabling its customers to place fully tailored orders and make payments beforehand. Enhanced security through technologies, such as EMV chip, tokenisation and end-to-end encryption, grew the confidence of digital buyers and sellers. Besides cards majors, many big tech companies and others such as WorldPay, PayPal, Square and Adyen adopted tokenisation on the back-end to enable mobile payments offerings at the physical point of sale and online. In 2017, the number of electronic funds transfers at point of sale (EFTPOS) terminals that allowed contactless payments rose by 41% to reach 40.9 million worldwide.²⁹

²⁷ Clark Newlove, "The Rise of Peer-to-Peer (P2P) Payments on Mobile — What Makes it Such a Crucial Feature?", N26, 10 August 2018, <https://medium.com/n26-us/the-rise-of-peer-to-peer-p2p-payments-on-mobile-what-makes-it-such-a-crucial-feature-921355ba4ad8>, accessed May 2020.

²⁸ Visa, "Innovations for a Cashless World", 2017, <https://usa.visa.com/dam/VCOM/global/visa-everywhere/documents/visa-innovations-for-a-cashless-world-2017-report.pdf>, accessed May 2020.

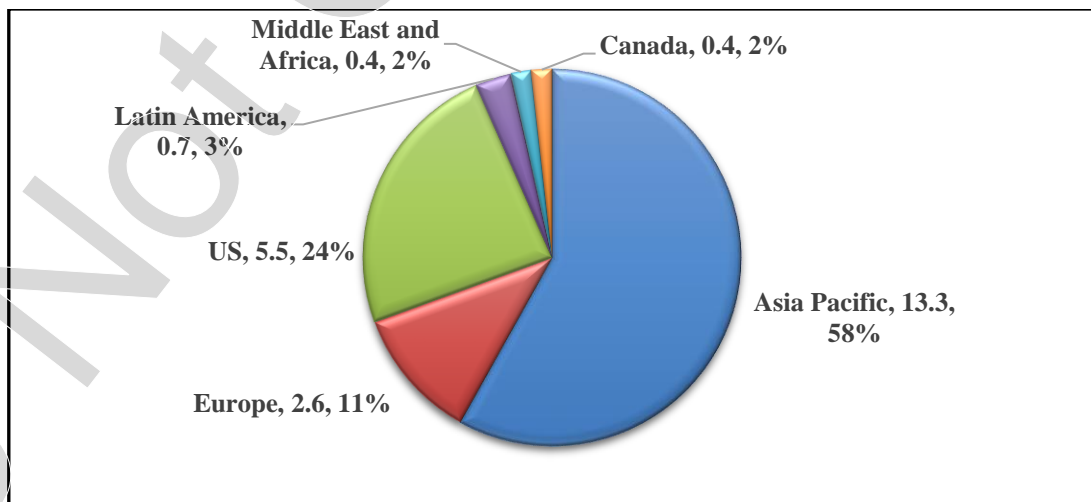
²⁹ Sarah Clark, "Four in Ten POS Terminals Now Accept Contactless Payments", NFCW, 11 June 2019, <https://www.nfcw.com/2019/06/11/362980/four-in-ten-pos-terminals-now-accept-contactless-payments/>, accessed May 2020.

EXHIBIT 1: NON-CASH TRANSACTIONS (IN BILLIONS) GLOBALLY AND BY REGION



Source: Capgemini, “World Payments Report 2019”, <https://worldpaymentsreport.com/non-cash-payments-volume/#>, accessed May 2020.

EXHIBIT 2: REGIONAL CARDS-BASED PAYMENTS VOLUME (TRILLION) 2017



Source: The Nilson Report, 2018, https://nilsonreport.com/publication_chart_and_graphs_archive.php?1=1&year=2018, accessed May 2020.

EXHIBIT 3: COMPARISON OF NETWORK COMPETITORS 2017

	Visa	MasterCard	American Express	JCB	Discover Diners Club
Payments Volume (USD billion)	7,565	3,814	1,071	253	159
Total Volume (USD billion)	10,516	5,242	1,085	260	173
Total Transactions (billion)	170	87.5	7.7	3.4	2.6
Cards (million)	3,243	1825	113	114	58

Source: Visa Inc. "Annual Report" 2018.

EXHIBIT 4: VISA'S PORTFOLIO OF CORE PRODUCTS

Business Payment Solutions	<p><i>Includes corporate (travel) cards, purchasing cards, virtual accounts, and disbursement accounts covering most major industry segments around the world.</i></p> <p><i>Designed to bring efficiency, controls, and automation to small businesses, commercial and government payment processes, ranging from employee travel to fully integrated, invoice-based payables.</i></p>
Credit Cards	<p><i>Issued by financial institutions to allow consumers and businesses to access credit to pay for goods and services.</i></p> <p><i>Visa does not extend credit, however provides combinations of card benefits, including technology, authorisation, fraud tools, and brand support that financial institutions use to enable their credit products.</i></p> <p><i>Visa partners with clients on product design, consumer segmentation, and consumer experience design to help financial institutions match their consumers' needs.</i></p>
Debit Cards	<p><i>Issued by financial institutions to allow consumers and small businesses to purchase goods and services using funds held in their accounts.</i></p> <p><i>Visa provides a strong brand; the network infrastructure and processing; acceptance; product features and support; risk tools and services; and industry expertise to help issuers optimise their debit offerings.</i></p>
Prepaid Cards	<p><i>Prepaid products draw from a designated balance funded by individuals, corporations, or governments. They include general-purpose reloadable, payroll, government and corporate disbursements, healthcare, gift, and travel cards.</i></p>
Global ATM	<p><i>The Visa/PLUS Global ATM network provides convenient cash access in more than 200 countries worldwide through issuing and acquiring partnerships with both financial institutions and independent ATM operators.</i></p>

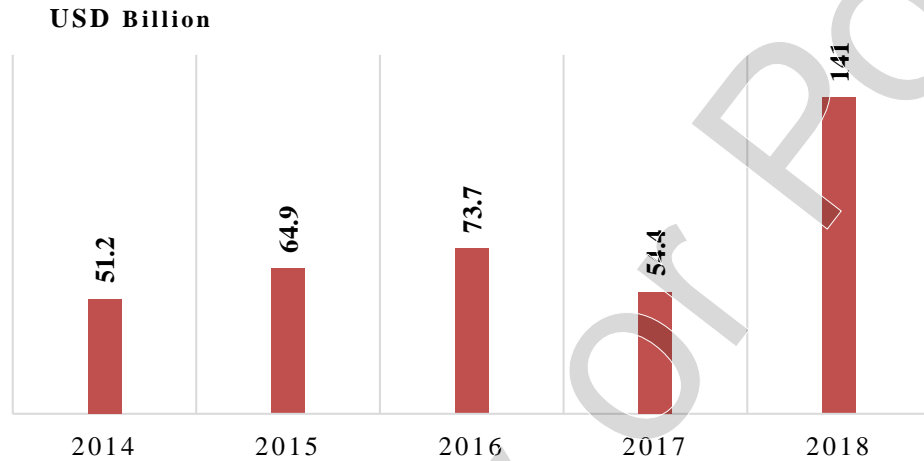
Source: Visa Inc. "Annual Report" 2018.

EXHIBIT 5: FINANCIAL PERFORMANCE OF VISA INC. 2008-2018

In USD millions (except for per share data)	FY 2018	FY 2016	FY 2014	FY2012	FY2010	FY 2008
Operating Revenues						
Service revenues	8,918	6,747	5,797	4,872	3,497	3,061
Data processing revenues	9,027	6,272	5,167	3,975	3,125	2,073
International transaction revenues	7,211	4,649	3,560	3,025	2,290	1,721
Other revenues	944	823	770	704	713	569
Client incentives	(5,491)	(3,409)	(2,592)	(2,155)	(1,560)	(1,161)
Net Operating Revenues	20,609	15,082	12,702	10,421	8,065	6,263
Operating Expenses						
Personnel	3,170	2,226	1,875	1,726	1,222	1,314
Marketing	988	869	900	873	964	1,016
Network & processing	686	538	507	414	425	339
Professional fees	446	389	328	385	286	323
Depreciation & amortisation	613	502	435	333	265	237
General & administrative	1,145	796	507	451	359	332
Litigation provision	607	2	453	4,100	(45)	1,470
Visa Europe Framework Agreement loss	-	1,877				
Total operating expenses	7,655	7,199	5,005	8,282	3,476	5,031
Operating Income	12,954	7,883	7,697	2,139	4,589	1,232
Non-operating Income (Expense)						
Interest income (expense)	(612)	(427)	(8)	29	(72)	(143)
Other	464	556	35	3	72	35
Total non-operating income (expense)	(148)	129	27	68	49	104
Income before income taxes	12,806	8,012	7,724	2,207	4,638	1,336
Income tax provision	2,505	2,021	2,286	65	1,674	532
Net Income	10,301	5,991	5,438	2,144	2,966	804
In billions						
Total volume, including payments and cash volume (USD)	11,200	8,100	7,300	6,300	5,000	4,200
Payments Volume	8,200	5,700	4,700	3,900	3,100	2,700
Transactions processed on Visa's networks	124.3	83.2	64.9	53.3	45.4	36.9
Cards	3.3	2.5	2.3	2	1.8	1.6

Source: Annual Reports of Visa Inc.

EXHIBIT 6: GLOBAL INVESTMENT (VC, PE AND M&A) IN FINTECH COMPANIES



Source: KPMG, “The Pulse of Fintech H1 2019”, 2019, <https://home.kpmg/xx/en/home/campaigns/2019/07/pulse-of-fintech-h1-2019.html>, accessed May 2020.

EXHIBIT 7: FINTECH LANDSCAPE ON PAYMENT ECOSYSTEM CONTINUUM, 2018



Source: Authors