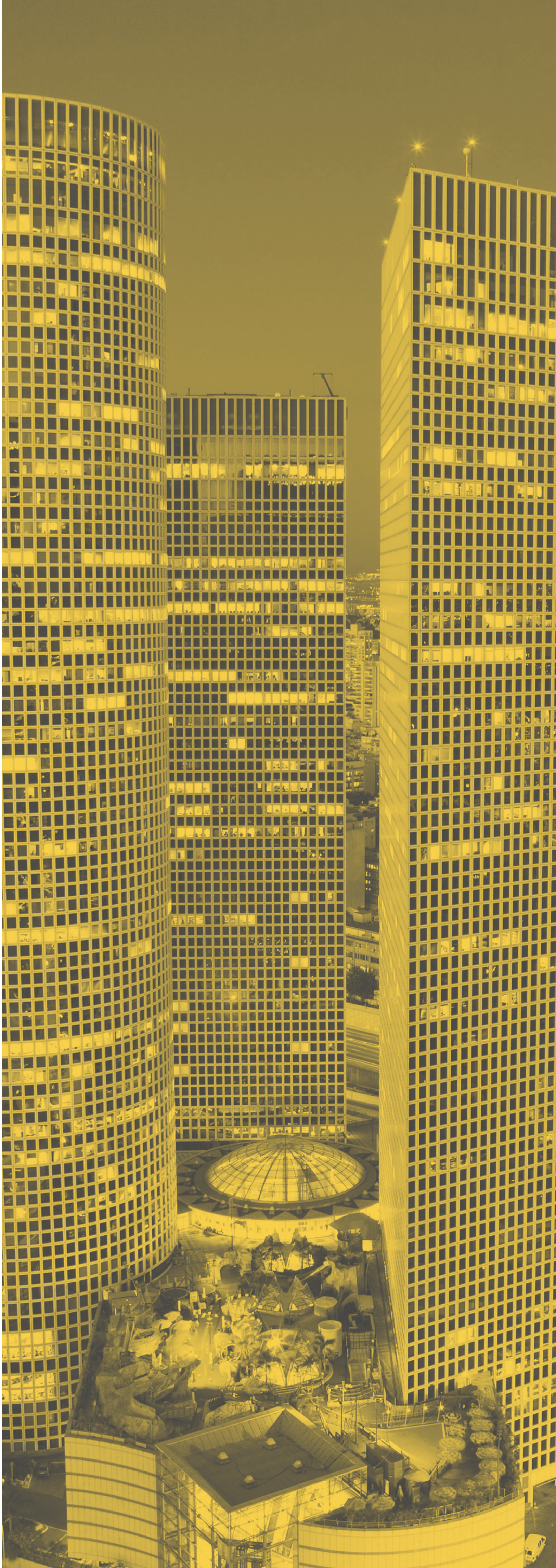
THE FLOOR

BANKING INNOVATION STRIKES BACK

A revitalized banking industry returns to a proud tradition of innovation

CONTENTS



EXECUTIVE SUMMARY

Who do you think is more disruptive? Uber and Airbnb or the banking industry? If you're like the vast majority of people you probably answered Uber and Airbnb. However, this would be incorrect. A closer look into bank innovation reveals a history of ground breaking innovations that have far exceeded the contributions of these companies.

Banks have contributed enormously to the growth of the world's economy since the creation of the first bank in Italy in the middle ages. What's more, the banking industry is once again rising to the forefront of innovation today.

Just like Google and Amazon led the digital Internet wave in the 1990s and early 2000s, banks today are leading a corporate wave in blockchain, an equally revolutionary technology, to charge forward into a new era of financial services and drive deep innovations in the global economy.

After an extended period of hibernation from the late 1970s to 2008, a revitalized banking industry is striking back and returning to a proud tradition of disruptive innovation.

A HISTORY OF INNOVATION

The banking industry has operated at the forefront of innovation since the Middle Ages. A look back in history shows a past filled with high impact innovations in trade finance, payments, credit and more.

A HISTORY OF INNOVATION

1472

Since the creation of the first bank, Bank Monte dei Paschi di Siena, in Italy in 1472, bank innovations have driven global economic growth and improved the lives of millions of people.

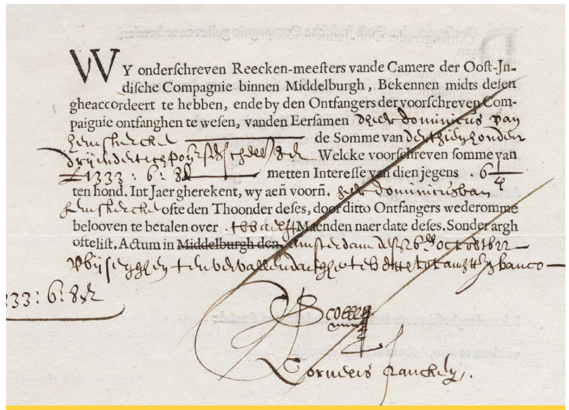
World's first bank 1472

1564

Against the backdrop of intense trade among Italy, the Arab world and other foreign partners, there was a need for advanced trade financing facilities. In 1564, the world's first bill of lading in Italy helped transform international trade by delivering trade parties documentary evidence of transportation, receipt of goods and title.

1623

The first bond issued by the Dutch East India Company dating from 7 November 1623 marked the beginning of the trading world as we know it today and helped drive the global economy.



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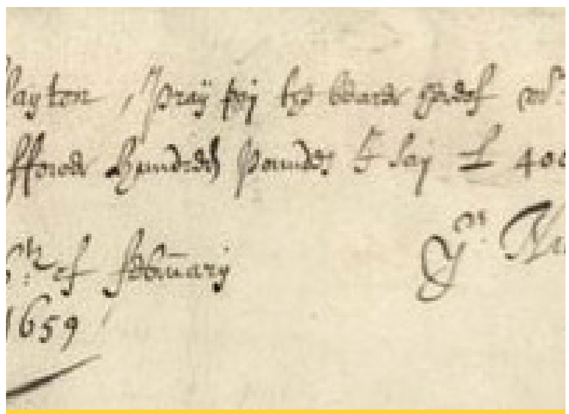
World's first Bond 1623

1659

The first checks of the modern era in the 17th century revolutionized the way payments are made. As an alternative to traveling with mass amounts of coins, checks made payments more convenient and safer. Their use remains a primary means of exchange in many parts of the world today.



World's oldest check 1659

1958

The introduction of the first universal credit card issued by American Express Company in 1958, and the launch of the Bank of America BankAmericard general-purpose consumer credit card (eventually renamed Visa) encountered rapid adoption. Credit cards have since provided unprecedented levels of convenience for users and contributed to increased economic activity through the reduction of transaction costs, friction and greater efficiency in the flow of commerce.[1]

Tel Aviv Stock Exchange 1980s

A HISTORY OF INNOVATION

1967

Barclays advanced the accessibility of cash with the first cash machine in North London in 1967. Vast ATM networks have since enabled people to access their money from almost anywhere in the world.

1973

While Fintech is a hot topic nowadays, Wells Fargo introduced a new automated bank of the future concept, Futurebank, in 1973, offering innovative solutions that can still be seen in bank branches today. The Futurebank branch comprised 24-hour electronic tellers for everyday banking activities, a picture phone directory with a direct line to the personal banking center, Universal TV tellers, and an automatic self-service postal unit.

1974

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) completely revolutionized and disrupted the way banks interact. By enabling secure, efficient and automated financial messaging services for users, SWIFT proliferated a new era for financial institutions and their clients. The SWIFT network has since become the primary communications channel for financial messages relating to payments, securities, and trade.

Perspectives from the field

What is the most important innovation the banking industry has contributed since Bank Monte dei Paschi di Siena's founding in the middle ages?

"Internet banking is a landmark in client engagement. it happened 15-20 years and still remains almost the same and it provides great flexibility and convenience to the clients."

Juan Jimenez Zaballos, Head of Global CIB Corporate Innovation, Santander Group

"The biggest innovation had nothing to do with the business model. The business model didn't change for hundreds of years. What did change is the service model. The world is moving to banking on the go, self-service banking and mobile banking. I don't think there is any kind of business model innovation in the banking world. Even the peer to peer lending does not represent a disruptive innovation. Banks all over the world, in the last 15-20 years, switched from the traditional banking relationship with physical places like branches, ATM, call centers or advisor into a self-service full digital service, on the go, using watches, smart cars or mobile phones. The way people consume financial advisory services or information changed and this is the most important thing."

Dorel Blitz, Head of Fintech,
KPMG Israel

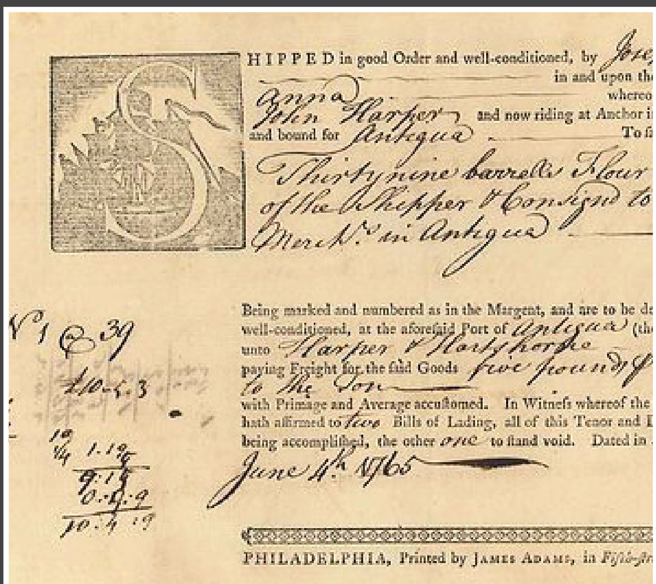
DECADES LONG HIBERNATION

The bullish years of banking innovation from the Middle Ages until the 1970s saw the introduction of innovations that had a dramatic impact on the global economy. What followed in the modern era, from the late 1970s to the 2008 financial crisis were three decades that featured little innovation.

DECADES LONG HIBERNATION

BILL OF LADING

The methodologies and processes behind the bill of lading have remained unchanged since the 16th century.



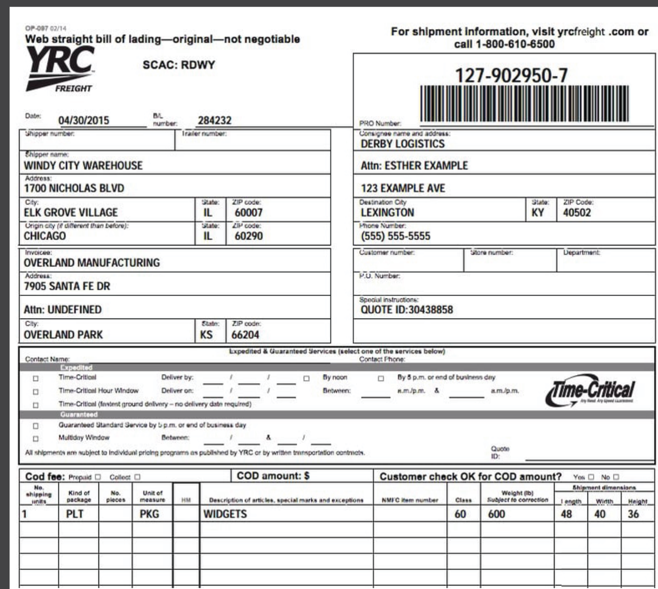
HIPPED in good Order and well-conditioned, by
in and upon the
whereo
John Harper and now riding at Anchor i
and bound for Antigua To f
Thirty nine barrells Flour
of the Shipper & Consignd to
Merch.ts in Antigua

No 1 @ 39

Being marked and numbered as in the Margent, and are to be d
well-conditioned, at the aforesaid Port of Antigua (th
unto Harper & Hartshorne
paying Freight for the said Goods five pounds
to the Ton
with Primage and Average accustomed. In Witness whereof the
hath affirmed to two Bills of Lading, all of this Tenor and D
being accomplished, the other one to stand void. Dated in
June 4th 1765

PHILADELPHIA, Printed by JAMES ADAMS, in Fifth-Str

World's first bill of lading 1564



OP-097 02/14
Web straight bill of lading—original—not negotiable
SCAC: RDWY

For shipment information, visit yrcfreight .com or call 1-800-610-6500

127-902950-7
PRO Number:

Date: 04/30/2015 B/L number: 284232

Shipper number:	Trailer number:
Shipper name: WINDY CITY WAREHOUSE	
Address: 1700 NICHOLAS BLVD	
City: ELK GROVE VILLAGE	State: IL ZIP code: 60007
Origin city (if different than before): CHICAGO	State: IL ZIP code: 60290
Invoicee: OVERLAND MANUFACTURING	
Address: 7905 SANTA FE DR	
Attn: UNDEFINED	
City: OVERLAND PARK	State: KS ZIP code: 66204

Consignee name and address: DERBY LOGISTICS		
Attn: ESTHER EXAMPLE		
123 EXAMPLE AVE		
Destination City LEXINGTON	State: KY	ZIP Code: 40502
Phone Number: (555) 555-5555		
Customer number:	Store number:	Department:
P.O. Number:		
Special instructions: QUOTE ID:30438858		

Expedited & Guaranteed Services (select one of the services below)
Contact Name: Contact Phone:
Expedited
☐ Time-Critical Deliver by: __ / __ / __ ☐ By noon ☐ By 5 p.m. or end of business day
☐ Time-Critical Hour Window Deliver on: __ / __ / __ Between: __ a.m./p.m. & __ a.m./p.m.
☐ Time-Critical (fastest ground delivery – no delivery date required)
Time-Critical
Guaranteed
☐ Guaranteed Standard Service by 5 p.m. or end of business day
☐ Multiday Window Between: __ / __ & __ / __
All shipments are subject to individual pricing programs as published by YRC or by written transportation contracts. Quote ID:

Cod fee: Prepaid ☐ Collect ☐ COD amount: $ Customer check OK for COD amount? Yes ☐ No ☐

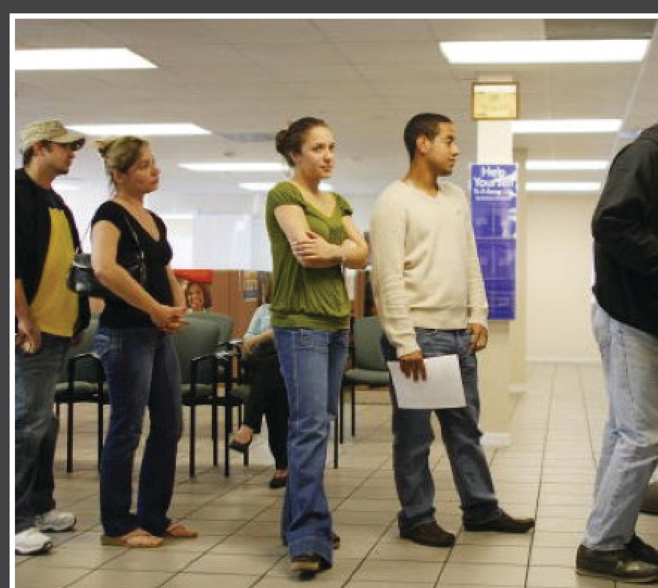
No. shipping units	Kind of package	No. pieces	Unit of measure	HM	Description of articles, special marks and exceptions	NMFC item number	Class	Weight (lb) Subject to correction	Shipment dimensions Length	Width	Height
1	PLT		PKG		WIDGETS		60	600	48	40	36

Modern bill of lading

BANK BRANCHES

A large portion of customers still wait in lines to deposit cash and carry out other banking activities at bank branches.

World's first bank 1472

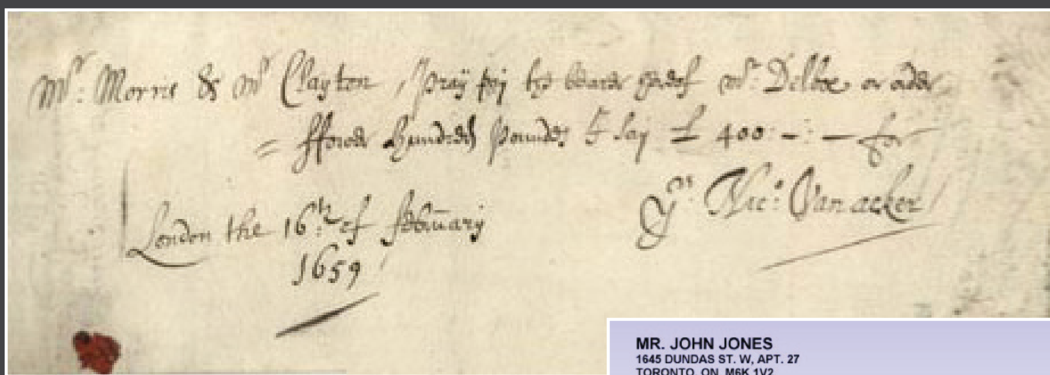


Modern Bank

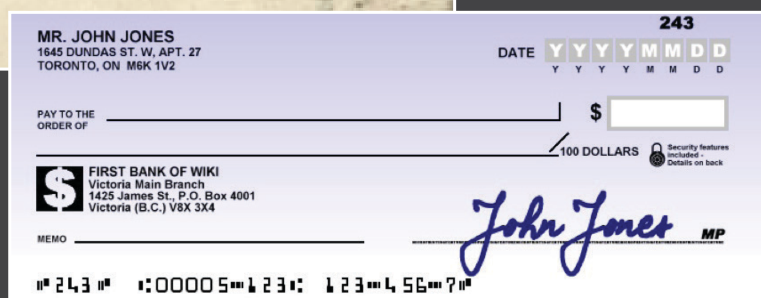
DECADES LONG HIBERNATION

CHECKS

Paper checks have seen little change in over 300 years, comprising: amount, date, signature and beneficiary.



World’s oldest check 1659



Modern check

CREDIT CARDS

Credit cards remain similar. Do you see any difference in 60 years?
Even the size is the same.

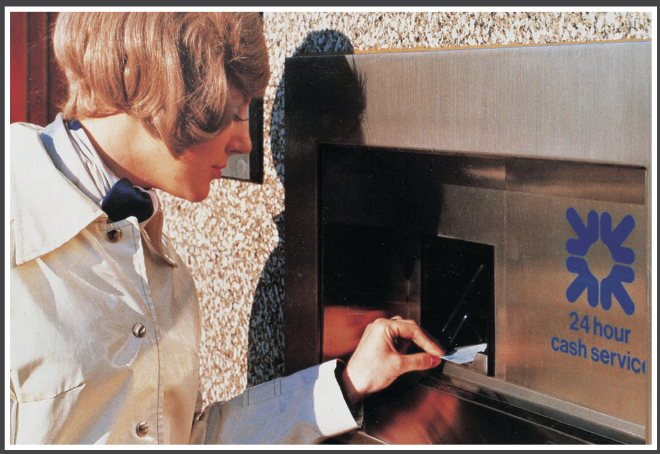
First universal credit card 1958

Modern American express credit card

DECADES LONG HIBERNATION

ATMs

ATMs have provided access to cash for over 50 years already.



One of the first ATMs 1971

Modern ATM

TRADING FLOOR

A notable exception. Trading has undergone major innovations. Today, the vast majority of trading occurs off the trading floor. Complex hyper speed IT systems and algorithms have largely replaced traditional human traders. Below is a comparison between the trading floor of the Tel Aviv Stock Exchange in the mid 1980s and today.

Tel Aviv Stock Exchange 1980s

Tel Aviv Stock Exchange today

NON-TRADITIONAL COMPETITORS EMERGE

Since the late 1970s, as banks hibernated, entrepreneurs began to leverage advances in technology to build new global companies that over time started to compete with the banking industry.

Microsoft and Apple have come of age since the 1970s and have been joined by Amazon, Paypal, Google, Facebook and others in the 1990s and 2000s. PayPal, founded in the late 1990s has become one of the largest Internet payment companies. Ant Financial, an affiliate of Chinese e-commerce giant Alibaba, has expanded at a rapid pace as well with Alipay, and Yu'e Bao fund has grown to become the world's biggest market fund, with over $165 billion under management.

Over the last two decades or so, especially in the years after the 2008 financial crisis, these companies have moved into financial services where they have begun to challenge banks with a new generation of customer-centric financial services.

Multinational technology company Microsoft has developed a mobile payment and digital wallet service and global giant Apple have established Apple Pay. Adding to the competition is Amazon, which now offers loans to small businesses and search giant Google that has introduced the Google Wallet peer-to-peer payments service.

Many of the world's biggest social media companies have entered the financial services sector as well. Leading the way is Facebook, which has joined the mobile payments space with a new payments feature for Facebook Messenger's 1.2 billion users.

Perspectives from the field

What is your perspective regarding GAFA players and the banking industry? Do you see them as competitors or as potential partners? What are the key strengths and weaknesses of the banking industry vis-a-vis these new (or maybe not so new) entrants?

"Both. We need to look at new business models to join up in an efficient and customer centric way."

Neil Cuthbertson, Head of Partner Innovation Network, RBS

"Regulatory changes such as PSD2 are opening the way to GAFA to redesign and change the way traditional banking activity is perceived by clients: GAFA already have access to Big Data and know how to leverage such info. With access to transactional data, they "close the circle"

Roberto Mancone, MD, Global Head Disruptive Technologies and Solutions, Private Wealth & Commercial Clients Division, Deutsche Bank

Perspectives from the field

What is your perspective regarding GAFA players and the banking industry? Do you see them as competitors or as potential partners? What are the key strengths and weaknesses of the banking industry vis-a-vis these new (or maybe not so new) entrants?

"It's undeniable that the GAFA players are entering the banking industry, offering both new and innovative solutions, but also perspectives. They are masters at exploiting customer-created value, in an age where consumers are becoming increasingly receptive to more innovative solutions. But despite the innovation they bring, the strengths and flexibility of existing banks should not be underestimated or undervalued. Traditional banks have everything in place for them to remain in a strong position, despite operating in an ever-changing and evolving sector. Their key strengths include having the necessary infrastructure, regulated assets, loyal customers and a trusted brand in place. The reality of the opportunity is forcing banks to consider new and innovative business models, and this is not a bad thing. Agility in any industry is a fundamental asset and those that stand still will be the ones that get left behind."

Mariano Belinky, Managing Partner, Santander Innoventures

"GAFA players (Google, Apple, Facebook, and Amazon) are creating tension and spurring the traditional banks to embrace technology. Of course, everything depends on specific parties but we can see viable partnerships between tech powerhouses and banks. Techies will most likely come at the solution purely from a tech first, data oriented approach while the banking industry strengths are in the strong customer relationships. They also know how to monetize on these relationships which is not always the case for GAFA. In addition the banks understand regulation and compliance and any secure solution needs to still meet these requirements. The weakness of these incumbents is they may not take the threat seriously enough. Also they may rush to form partnerships that are not advantageous. For instance allowing a tech firm to get in between them and their customer would not be a strong strategy."

Dejan Kusalovic, Global Head of Fintech Enabling, Intel

THE PERFECT STORM

The 2008 financial crisis was a profound turning point for the banking industry. The crisis managed to simultaneously catalyze a boom in the Fintech industry and spur a new era of banking innovation into action.

For the banking industry, the time of reckoning had arrived. Strict new regulations placed financial institutions under unprecedented compliance pressures. Banks began finding it harder to meet rising regulatory demands and changing customer expectations for convenience and transparency. These factors in combination with declining customer loyalty and increased competition from technology companies led banks to the realization that innovation was now a necessity to deliver the efficiency improvements and cost reductions needed to stay competitive.

Shortly after the 2008 financial crisis, banks started creating innovation divisions and, more recently, corporate VCs. Banks were joined by multinational technology companies and smaller Fintech startups in a new era of innovation. Investments in Fintech boomed, increasing from approximately $2 billion dollars in 2010 to over $23 billion dollars in 2016.[2]

THE PERFECT STORM

In parallel to the financial crisis, profound technological innovations were taking place. In 2009, Bitcoin digital peer to peer currency was born. Bitcoin offered a revolutionary way of conducting digital transactions free from third party intermediaries. However, due to issues of money laundering, fraud, and lack of regulation, banks kept their distance.

The arrival of Ethereum in 2015 would change everything. By leveraging blockchain technology and adding smart contract functionality, Ethereum opened the door to the development of thousands of different applications and the realization of regulations, compliance, and monitoring, all the things necessary for banks to utilize the technology.

Perspectives from the field

What area of banking do you think is in most dire need of innovation? Why?

"Retail Banking, as retail banking customers are seeing a massive amount of innovation already impacting them in all parts of their lives from a range of non-banking services. The job is to make banking as relevant and attractive to these customers as Uber, Airbnb and Facebook"

Graham Smith,
Chief Data Officer, RBS

"A great divide yawns between the strategic agenda of the financial services players and the global Fintech investment track record.
Profit and revenue pools of key financial institutions appear fairly disconnected from where the innovation money is directed towards, on the aggregate. Observers might, for example, wonder why about two thirds of all Fintech unicorns serve the retail lending and payment spaces – largely leaving out financial professionals' needs and their ballooning IT budgets. This is especially puzzling at a time when enormous cost pressures and a generalized drive to automate operations are the key strategic priorities for today's industry leaders.

One hypothesis to explain the conundrum of the retail bias is the relative simplicity to target the B2C market. From development cycles all the way to sales, start-up CEOs logically chose to grow in an environment with lower upfront barriers to entry – where it is easier to experiment and obtain valuable customer feedback. Time-to-market is also shorter in B2C, providing a route to rapid iteration and incremental improvements."

Benjamin Haddad, Senior Principal, Accenture Ventures – Global Cyber Segment Lead

Perspectives from the field

Looking to the future,
how do you envision the banking industry in 2040?

“The challenge for financial service providers, like all industries with legacy technology, is finding ways to harness their valuable data. Currently, legacy client applications and task-specific data warehouses mean that banks don't naturally have all of their client and transaction data available for analysis. My prediction is that in the future, banks will migrate to the big data tools, and will be able to deliver better business insights for the business and their clients. Big data analytics is all about examining data that can be gathered from a wide range of data sources, and uncovering unknown trends, patterns or correlations.

The aim is to deliver insights that can provide commercial application for data visualization, predictive modelling, and recommender systems supporting a smarter way of undertaking business. By leveraging this data, banks will be able to engage with consumers in a faster and more consistent manner. They can use big data to gain better customer understanding to develop specific actions (e.g., next best offer), have the possibility to discover new insights by defining granular customer clusters - helping to assess clients with no bank history, and they can upgrade their risk scoring and fraud prevention. In fact, the potential for banks to boost earnings and save money with AI and related technologies will skyrocket in the future. Data innovation is not gained overnight, so our skilled team of experts are already working on valuable solutions that will keep HSBC ahead in the innovation space.”

Keren Chavkin-Lior, Head of Europe International Enterprise Infrastructure, HSBC

“I envision the banking industry adapting to mainstream technology providers by leveraging innovative Fintechs to provide a competitive and compelling banking experience to customers. The role of the bank will expand beyond just banking to other areas of day-to-day micro engagements whilst trust will remain a strong asset of banks, especially since Cyber challenges will become more intensive. From the customer PoV, banking will be as seamless/ open as other services yet seeking the personal touch, powered by AI and a sound understanding of customer needs/lifestyle, major life events and overall 360 knowledge of the customer by the bank - Tailored Banking"

Avi Cohen, CEO & Co-Founder, The Floor

BANK INNOVATION STRIKES BACK

The banking industry has embraced a new era of innovation since the 2008 financial crisis to overcome a diverse range of challenges. Banks are engaged in extensive efforts to find ways to cut costs, reduce compliance burdens, become more efficient, and create frictionless customer experiences.

Contrary to what happened with the Internet wave, which was led by tech players like Google and Amazon, for the first time in decades, banks are the ones leading the new wave in blockchain, a technology as revolutionary as the Internet was 20 years ago.

Banks and their partners are on track to introduce high impact innovations in payments, artificial intelligence, identity, compliance, trading and many other areas.

BANK INNOVATION STRIKES BACK

Leading players in the banking sector are cooperating and collaborating through the establishment of several industry consortiums. R3CEV, a financial technology company is working with over 80 banks, financial institutions, regulators, trade associations and professional services firms to build Corda, a new operating system for financial markets.

The Hyperledger Project, created to advance blockchain technologies across industries for commercial adoption, is actively developing proofs of concept for the financial services sector. With a membership made up of over 140 banks, financial institutions, regulators, trade associations and other professional services firms, the Hyperledger project is at the forefront of innovation in the blockchain space.

Seven of Europe's largest banks have partnered with IBM to build a blockchain-based trade finance platform to address the financing gap of small and medium enterprises. The platform is designed to simplify trade finance processes by reducing the challenges associated with managing, tracking and securing domestic and international trade transactions. Digital Trade Chain members include Deutsche Bank, HSBC and other leading banks.

Perspectives from the field

"Blockchain is coming to a transaction near you. Perhaps not in its current form as Bitcoin, but in a second incarnation, where it will be used for medical records, financial transactions, contract fulfillment, or supply chain traceability. It will open up new opportunities for interactions between parties that require trust and validation. It will disrupt markets that currently rely on centralized authorities to certify relationships and verify transactions. It will add a component of trust to untrusted environments."

Rick Echevarria, VP & GM, Platforms Security Division, Intel

BANK INNOVATION STRIKES BACK

Ethereum Alliance, which includes many of the world's largest firms in the banking and technology industries, as well as some emerging blockchain start-ups, has seen a surge in interest in 2017. The Alliance aims to develop Ethereum blockchain technology best practices for complex applications in banking, finance and other sectors.

Banks have also changed their competitive strategy. Instead of fighting against new Fintech companies, banks are searching the Fintech landscape for firms to partner with or acquire. These partnerships and investments represent a huge shift in how banks view their Fintech counterparts. No longer adversaries, banks are now increasingly seeing Fintech companies as helpers that can speed up their time to innovation and guide them to better customer experiences.

With an understanding that innovation is now a necessity for survival, and the right strategies in place to foster innovation, the banking industry is striking back and returning to a proud tradition of disruption.

Perspectives from the field

In your view, what are the biggest challenges that banks face in adopting blockchain/DLT?

"Of course compliance! Although technical challenges (like scalability, privacy and interoperability) and business challenges (e.g. how to collaborate different counterparties from different industries) are also important. Any innovative products delivered by financial institutions like CTBC need to suit the compliance. Some features of blockchain technology like duplication of shared ledger violate some incumbent regulations like Personal Data Protection Act. So if the attitude of the regulator is conservative, some innovative idea of blockchain will be closed during the incubation phase. Now the solution is a Regulator Sandbox. R3 consortium leads several projects with 22 regulators in order to let them be familiar with blockchain technology and have active viewpoints."

Erick Hsieh, Head of Digital Banking Department, CTBC Holding

ABOUT THE FLOOR

Based at the Tel Aviv Stock Exchange (TASE), The Floor is the first Fintech hub of its kind in Israel. The Floor provides a physical home for local Fintech entrepreneurs and serves as the focal point of access to Israeli Fintech for leading international financial players, tech giants, and VCs.

The Floor provides partners & members with real by nurturing engagement, collaboration, growth and innovation capable of delivering game changing solutions to the global financial industry while securing Israel's position as a prominent Fintech capital.

Author: Moises Cohen,
Co-Founder, The Floor

With thanks to:
Anthony Back
Mariano Belinky
Dorel Blitz
Avi Cohen
Keren Chavkin-Lior
Neil Cuthbertson
Gil Devora
Rick Echevarria
Giuliano Garesio
Benjamin Haddad
Erick Hsieh
Juan Jimenez Zaballos
Dejan Kusalovic
Roberto Mancone
Graham Smith
Keren Chavkin-Lior

[1] https://usa.visa.com/dam/VCOM/download/corporate/media/moodys-economy-white-paper-feb-2013.pdf

[2] https://www.accenture.com/il-en/insight-Fintech-evolving-landscape