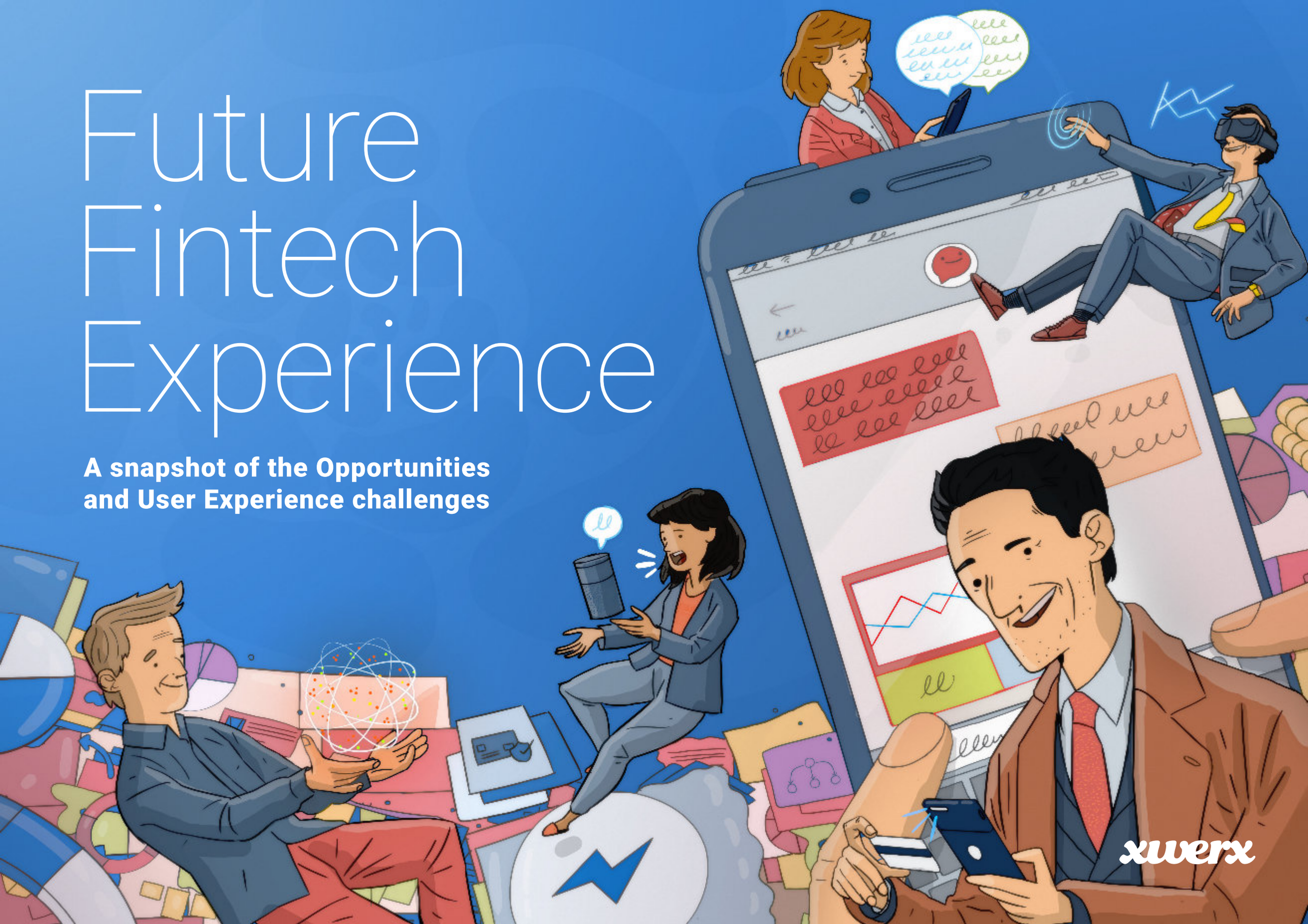
Future Fintech Experience

A snapshot of the Opportunities and User Experience challenges



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Introduction

The technological landscape for Fintech is moving at a rapid pace. We're seeing the rise of **AI Assistants**, **Chatbots**, **Internet of Things**, **Wearables**, and **Virtual** and **Augmented Reality**.

These technologies are still taking shape, but it is safe to say that, in the near or more distant future, they are going to change the way financial services are used and delivered.

Regulation will also play a role. By January 2018, the revised European directive on payment services (PSD2) will mandate the opening of banks' APIs to third parties, with the aim to accelerate innovation in the sector.

What opportunities does this present to your business? How do you ensure that future solutions will **benefit both your customers and your employees?**

This document highlights the key opportunities and the User Experience challenges regarding the most important of these technologies.

Future Communication

CHATBOTS | VOICE USER INTERFACES | AI ASSISTANTS

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Revolutionising customer support

Messaging apps are offering businesses a new, intuitive way to interact in the workplace and with customers. The smartest chatbots answer questions, complete tasks and hand over to humans when needed.

Opportunities

Customer relationship management. Handle customer service requests either independently or alongside a human agent. According to Gartner,[1] AI bots will power 85% of all customer service interactions by the year 2020.

Automate "micro-services". Check balance, pay a bill, get financial advice, etc.

Catch up with the "Millennials". Messaging apps are where young consumers are chatting and shopping. They want to use their existing preferred messaging apps, rather than having to download a separate app.[2]

UX challenges

Touch points. Where should chatbots stand in the overall customer experience? Map the customer journey and identify potential touch points.

Multiple scenarios. Designing a conversation implies the building of flowcharts and repeated user testing to better understand, anticipate and model ideal (and non-ideal) scenarios.

Tone of voice. Different tones of voice have measurable impacts on users' perceptions of a product and brand.[3] UX tools such as personas and user scenarios will help you define the appropriate tone, vocabulary and level of complexity for your bot.

80%

The average user spends 80% of their time in just three of the apps they use. Meanwhile, messaging apps are "increasingly becoming second home screens".

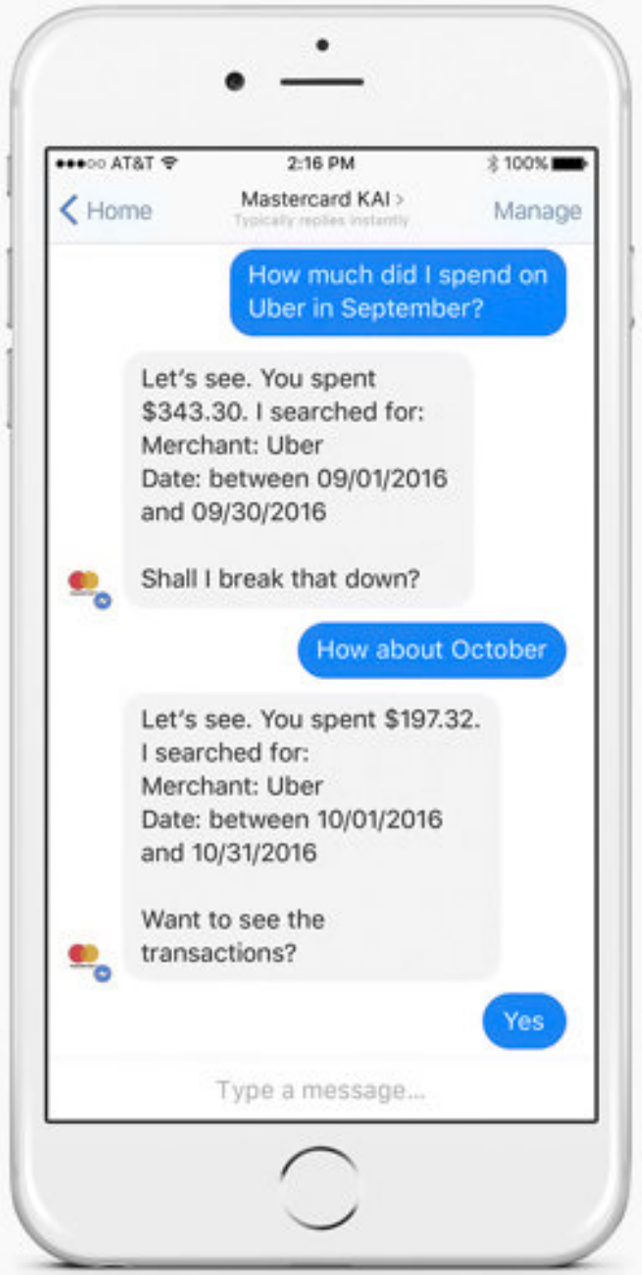
- Mary Meeker's Internet Trends Reports 2016.[4]

CHATBOTS
EXAMPLE

Mastercard KAI

MasterCard users will soon be able to control their accounts by logging onto Facebook Messenger and interacting with a bot. MasterCard aims for the experience to be like “texting a friend.”

Find out more



Voice is the new interface

Inside a car, around the house or the office, Voice User Interfaces answer questions and can help users get things done. Mary Meeker predicts their rise because they're "fast, easy, personalised, hands-free, and cheap".[5]

Opportunities

Queries, notifications and completion of micro-tasks. Most AI assistants and more and more applications have voice command options. Google says 20 % of mobile queries are voice searches.

Command over multiple devices. Along with touch and gesture, voice will help us to naturally juggle a growing number of devices (*see IoT and wearables*), sequentially or simultaneously. This could notably improve workflows in the office.

Usability and accessibility. Solve usability issues raised by very small devices and objects that don't have a Graphical User Interface (GUI). Better accessibility for users with visual impairment. Hands-free solution for drivers, agents in the field, etc.

UX challenges

Make it reliable. According to Baidu's chief scientist, "accuracy, followed by latency" are the two key metrics to look at in order to "smooth" the voice control experience.[6]

Understand context. Voice control is hands and vision free, which makes it useful in some contexts (e.g. asking for a recipe while cooking) and awkward in others (e.g. in a bus). Allow the user to easily switch between Voice and Graphical User Interface (GUI) depending on the context.

New paradigm. In theory, voice could bring a common language to all machines, alowing users to avoid the pain of learning a new interface for every new device. However, this "lingua franca" has yet to be defined and the user has yet to learn it.

"Voice changes the way people interact with their systems."

- Françoise Beaufays, Google [7]

Capital One

U.S. finance giant Capital One has an integration with Amazon's Alexa-enabled devices - including the Echo smart speaker - that allows consumers to check their balance or to make a payment using just their voice.

Find out more

AI ASSISTANTS

Extend human capabilities

AI-powered virtual assistants handle tasks and services for humans. These tasks and services are based on user input and on the assistant's ability to access information and "learn" from a variety of data sources.

Opportunities

Productivity. Intuitive task automation: schedule reminders, answer questions, search and parse data, control smart objects.

Business intelligence. Assist enterprise users with judgment-based work which require complex sets of algorithms. Machine learning can recognize patterns and predict future outcomes.[8]

Integrated assistants. Integration of customer-facing AI assistants (Cortana, Siri, Alexa, Google Assistant) and enterprise software.

UX challenges

User need. Look at the context and the task at hand, while keeping in mind any alternative user interface solutions (menu navigation, search, dashboard, etc.)

Personalisation. What can the system learn from the user (their identity and history) and the context (the time and location) that will make the conversation as straightforward as possible?

Control. Allow the user to control the behaviour of the bots that they use to prevent them from becoming over-intrusive and annoying.

"A meta-layer of machine intelligence that's sitting on top of all the services"

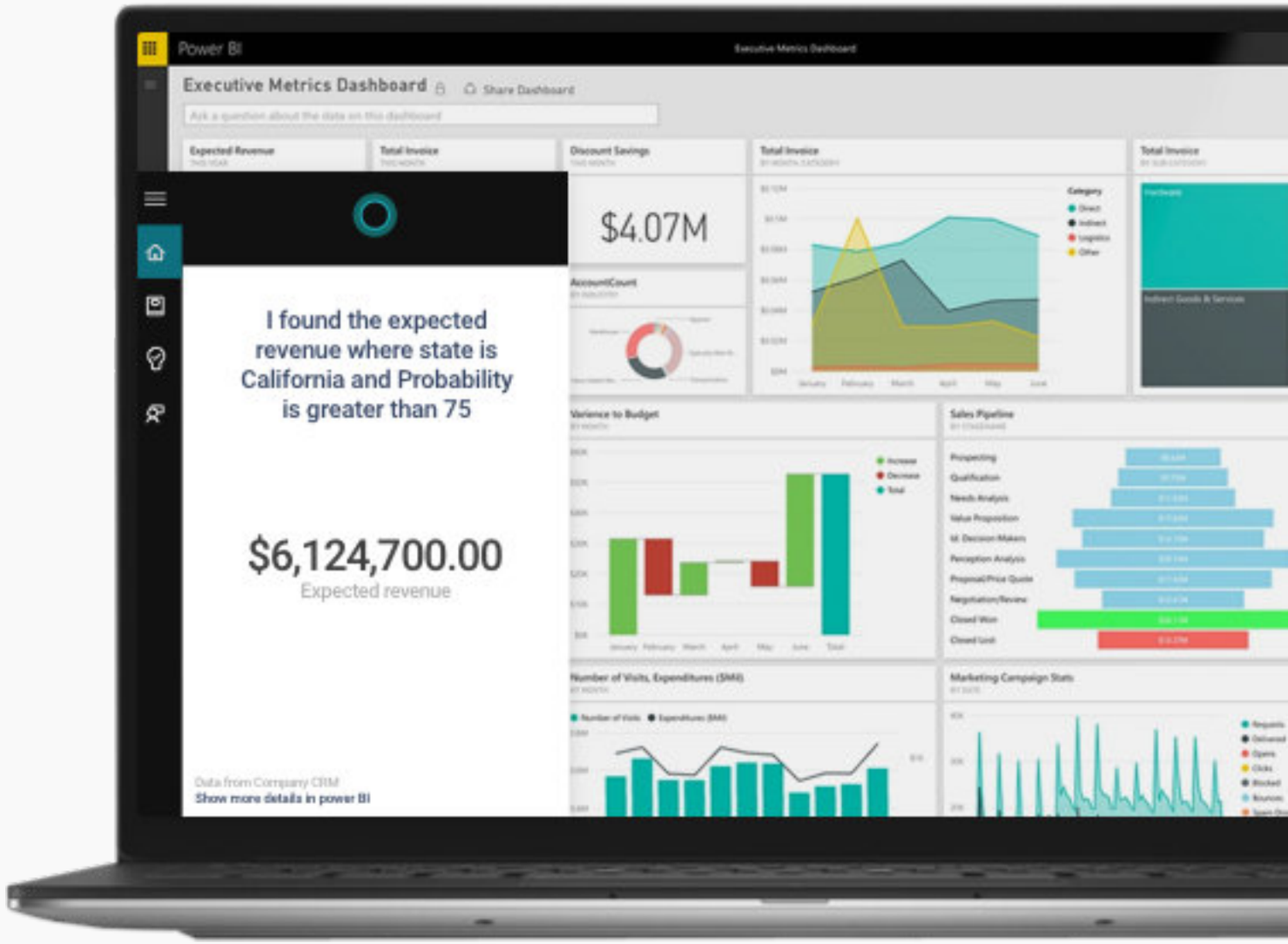
- Mitch Lasky from Benchmark, a Venture Capital Firm.[9]

AI ASSISTANTS
EXAMPLE

Cortana for Enterprise

Microsoft’s digital assistant Cortana can be integrated with office productivity tools but also with business analytics solutions to enable enterprise users “to get answers directly from their key business data”.

Find out more



All things connected

INTERNET OF THINGS | BLOCKCHAINS | WEARABLES

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INTERNET OF THINGS

Physical objects become smart

Any object with a unique identifier and an on/off switch to the Internet can be part of the IoT. This includes watches, fridges, running shoes, ATM machines and car engines. The list is endless and experts predict rapid growth in coming years.

Opportunities

Collect data, automate tasks. Create an IoT-enabled workflow to save time and costs; for example, ATM supply chain management.

The future of retail. Use sensors to create “frictionless” and personalised experiences for customers, e.g. Shops with no cash registers.

Usage-based insurance. Drivers can install sensors in their car that allow insurance providers to monitor behaviour and encourage safe driving.

UX challenges

System thinking. Understand each object as existing in a larger system with multiple contact points and combinations.

Usability. How simple is it to use the new thing compared to the old thing? Designers need to work on usability but also demonstrate the values of an application to encourage adoption.

Multiple interfaces = fragmented UX. Syncing data and setting up workflow between objects and devices should feel as simple as updating a file with your favourite storage service.

Build trust. Provide transparency and control to users who remain cautious about sharing their personal information.

“By the year 2020, there will be an estimated 50.1 billion connected devices in use, an increase of more than 35 billion.”

- Cisco IBSG [10]

INTERNET OF THINGS
EXAMPLE

The Visa Ready Program

The Visa Ready Program provides IoT device manufacturers with a path to embed secure payments into their connected devices, enabling anything from a watch to a car to initiate payments.

Find out more

Speeding up and tracking transactions

Blockchains are distributed, tamper-proof, public ledgers of transactions. The technology, which originates from the digital currency Bitcoin, has a lot more applications than just making pseudonymous payments.[11]

Opportunities

Money transfer. Settle transactions between banks in multiple currencies, as securely as and even faster than traditional transfer mechanisms.

Provenance. Track ownership for a product or a service on a supply chain.

Smart contracts. An insurance company could record contracts onto a blockchain to facilitate claim handling and prevent fraud.

IoT device management. Maintain a timestamped log of connected devices, recording unique ID, manufacturer, granted permissions, etc.

UX challenges

Simplify processes. Research customer journeys and internal procedures to find processes that would benefit from blockchain integration.

New monitoring tools. Design tools such as dashboards that allow users to monitor their blockchain environments.

Make it simple. Communicate complex information in a non-technical way to the end user, using simple signifiers.

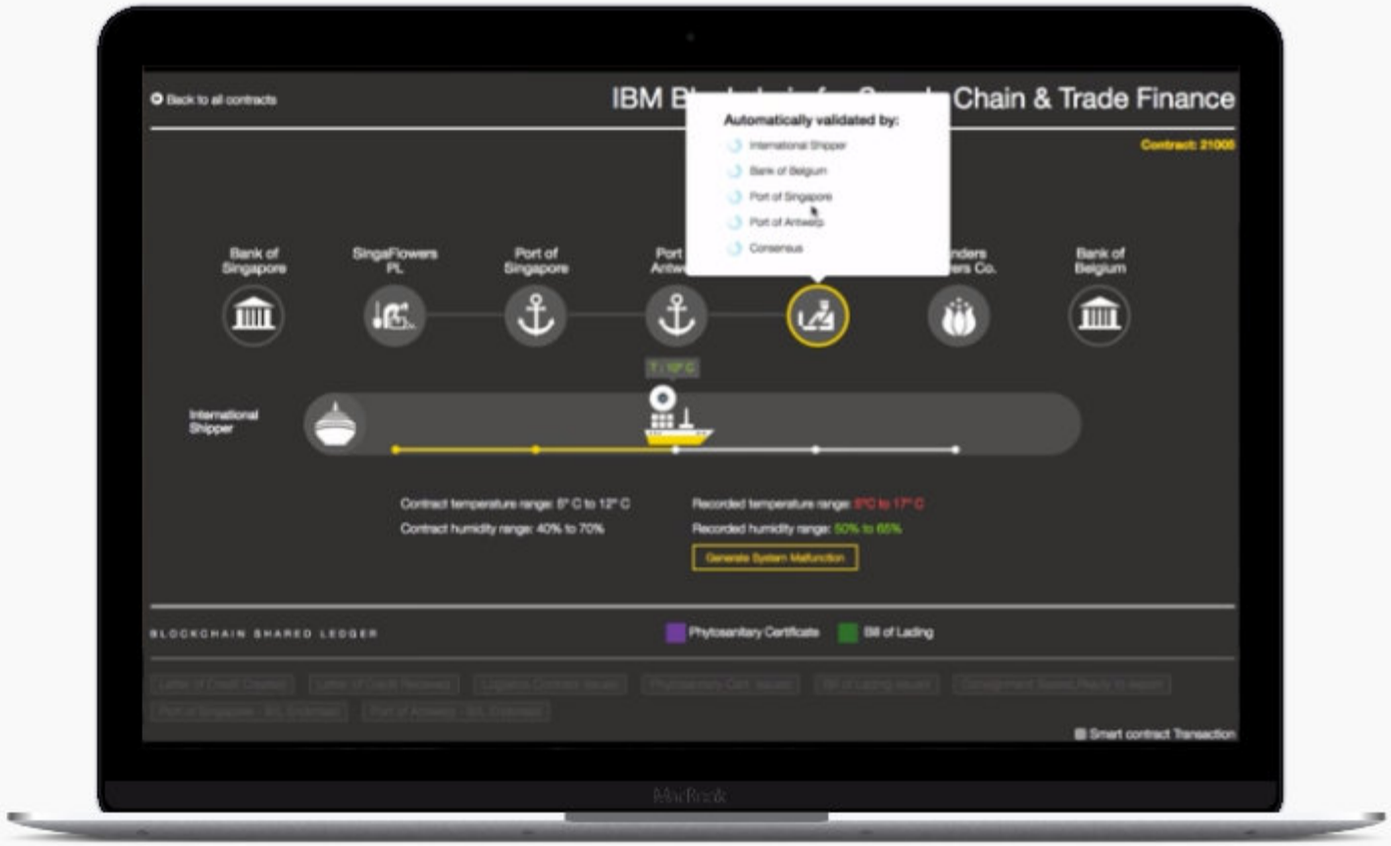
Build trust. Give end users the appropriate data so that they can conclude a blockchain hasn't been compromised.

65% of banks are expected to have blockchain projects in production in three years' time.
- IBM [12]

IBM Watson IoT Platform

Using Blockchain technology, IBM Watson IoT Platform allows multiple business partners to access and supply IoT data without the need for central management. *"All business partners can verify each transaction, preventing disputes and ensuring each partner is held accountable."*

Find out more



WEARABLES

The next step in mobile devices

Wearables include smart watches, smart glasses, and many sensor-embedded accessories and clothing (Apple Watch, Google Glass, FitBit). Use cases for enterprise are emerging.

Opportunities

Communication and guidance. Provide real-time guidance to workers equipped with smart badges or wearable displays (e.g. glasses).

Personalised support. Improve the efficiency of a product by giving context-aware support to the customer (e.g. drug instructions).

Financial Management. Educate customers on better money management behaviour, based on habits gathered through wearables.

UX challenges

Make choices. Just shrinking down a mobile interface is a bad idea. Instead, simplify the user experience to work intelligently within the limitations of the wearable device.

Intimacy. People might find the experience both intrusive and overwhelming. Notifications (vibrations, beeps, pings) need to be considered carefully.

Privacy and security. The collection of sensitive information (either personal or corporate) creates considerable privacy and security challenges.

16% of Americans have used a wearable at least once a month in 2016. This penetration rate should grow to 21.1% by 2020.

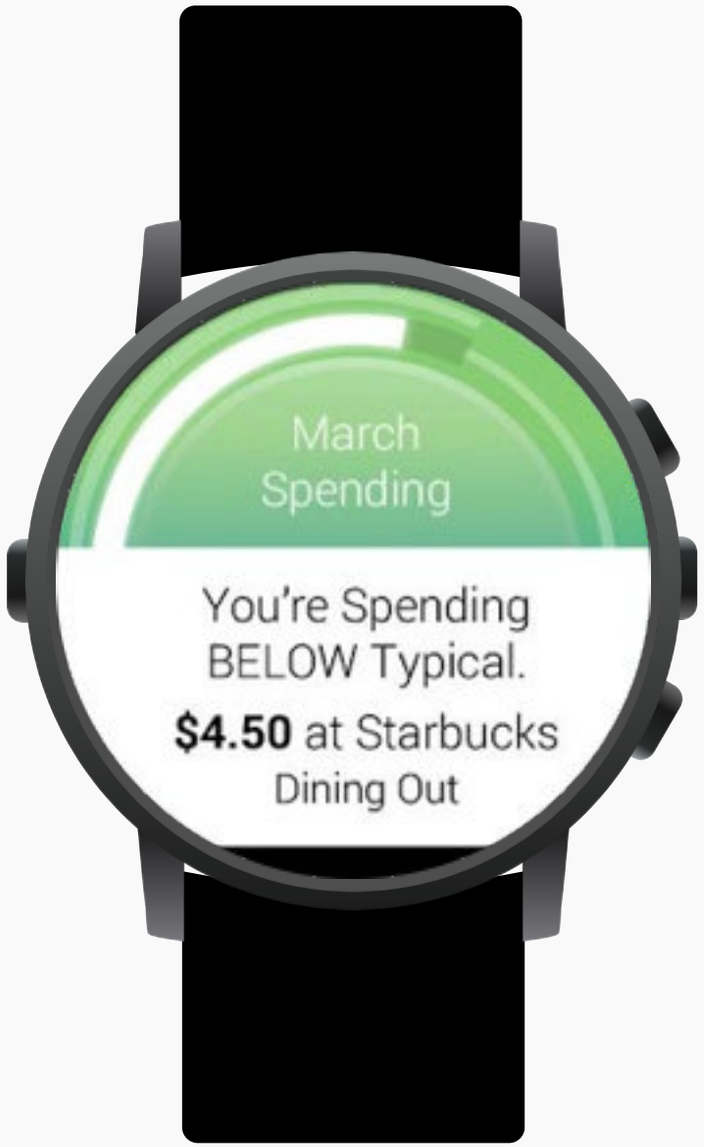
- eMarketer [13]

WEARABLES
EXAMPLE

Moven

Moven's smartwatch app helps users manage their money based on behaviour and context. For example, as a customer walks out of a shop, she'll get an alert telling her how much she just spent and how good she is at saving money.

Find out more



Future Realities

AUGMENTED REALITY I VIRTUAL REALITY

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The new door between real and virtual

Augmented Reality creates the illusion of physical objects or characters within a user's environment. Mobile phones remain the main entry point but a new generation of augmented reality headsets (Hololens, Meta) is coming.

Opportunities

Touchpoints. Invent new triggers and new interactions between the real and the virtual world (e.g. object scanning, virtual previews, 3D instruction guides).

Virtual screens and computer aided vision. In workplaces powered by AR, employees would no longer work on physical terminals.[14] AR could also help agents in the field by showing extra information about surrounding objects (distance, size) or by alerting to danger (see wearables).

3D data visualisation. Present complex data that might otherwise be difficult to handle on a regular 2D screen.

UX challenges

Merge Online and Offline. Design experiences that connect the online with the offline world (e.g. From social media to retail, from retail to mobile app).

Device capabilities. Consider the features and limitations of specific devices, such as graphic processing capabilities. Remember that mobile remains today the main entry point to AR.

New gestures. Help the user to master new gestures such as phone pointing or scanning, hand movement and eye command by providing sensorial cues and appropriate feedback.

Intuitive triggers. Real world triggers that allow an interaction (e.g. a QR code to scan) need to be as intuitive as possible. Otherwise, they will be ignored or seen as overwhelming.

"AR technology used in the enterprise will drive annual app revenues of $2.4 billion in 2019."

- Juniper Research[15]

AUGMENTED REALITY
EXAMPLE

Westpac AR app

In 2014, Westpac (NZ) was the first bank to launch an account managing app using augmented reality. Customers can slide their credit or debit card under their phone. Balances, transaction history, spend locations and other information is then presented in 3D.

Find out more

100% immersive experiences

A virtual reality is a computer-generated world, usually accessed via a headset connected to a phone, a computer or a video game console. The VR market could reach €100 billion by 2025, as much as the desktop market today.[16]

Opportunities

Reinvent the office. Hold virtual meetings in a single digital conference room; facilitate remote work.

Train and learn. Simulate any situation within a controlled environment, visualise/explore complex data and scenarios.

3D labs. Create and test 3D models within 3D environments (e.g. industrial design, architecture, etc.)

Appeal to emotions. Create immersive, emotional experiences for product demos, marketing campaigns, etc.

UX challenges

Controllers. With headsets covering their entire field of view, VR users can't see the real world around them. Keyboards and UI elements have to be integrated in the VR experience and provide convincing feedback (e.g. sense of touch).

Ergonomics. Ergonomic principles have to be updated to take into account a 360° point of view.

Orientation and focus. In 3D environments, guiding users can be tricky. Visual and aural triggers give users some hints about where they are and what they can do.

"Just as smart phones and apps revolutionised how we interact and transact with each other, virtual reality is going to change the entire world over the long term."

- Macquarie Technology Analyst [17]

VIRTUAL REALITY
EXAMPLE

City Hololens Holographic Workstation

In this demo video by Citigroup, a trader at a workstation shares his VR visualisation on a potential crude oil futures trade with an investor.

Find out more

What you can do next

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Centre innovation on people

The customers and employees of organisations who operate in the Fintech sector are seeing new interaction formats right across the technology landscape.

It is only natural for them to expect to see these new formats in the products which your company may be focussed on.

Customers will build relationships with the companies that can deliver the most intuitive, useful and unique experiences. They will choose "products that are designed so well that you forget it's Fintech", as summed-up by Head of Product Alice Newton-Rex.[18]

Employees will expect the same usability evident in consumer products, while looking for even more control and reliability in helping them to complete their day-to-day tasks.

In such contexts, it will be critical for companies operating in the Fintech space to seize the opportunities of new platforms such as bots, connected objects or VR / AR environments.

Success will be found by focussing innovation on people, not technology; serving users while resisting the assumption that something is good just because it has become possible.

By adopting design thinking methods, your company can imagine innovative solutions based on user insights.

"Design is a strategic advantage in times of technological change."

- Tim O'Reilly

How we can help

Understand the user

Talk to your current and potential users, research their behaviours, and collect feedback to understand what motivates and influences their decisions.

Design omnichannel experiences

Explore how new solutions can improve the user experience across offline and online channels. How can they improve internal processes?

Measure early and often

Reduce the costs and risks of innovation by adopting a data-driven, experimental approach to product development. It means testing your ideas with real users, then iterating until your solution proves valuable.

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Xwerx is Ireland's leading User Experience Design agency. We give you the power to create outstanding digital products.

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