THE NEW PAYMENTS ECOSYSTEM: FAST, OPEN, SECURE AND DISRUPTIVE

DISRUPTIVE! Prioritising innovation roadmaps for banks and FinTechs
FOREWORD BY PAUL THOMALLA AND JOEL VAN ARSDALE

The payments industry has recently seen the entry of diverse FinTech players, both technology giants like Facebook and start-ups that are presenting increased competition for banks, processors and networks. While start-ups have generally not been a major threat to the payments industry in the past, the prominence of smartphones as a channel, rapidly evolving customer expectations and real-time account to account transfers will have a profound disrupting effect.

The payment processing industry is currently going through a wave of infrastructure modernization that is required to compete effectively with FinTech innovators and address evolving customer needs as well as regulatory demands. This digital revolution will extend well beyond consumer payments and cards causing significant changes in all areas of finance. Overall, ACI expects there will be a rebalancing of revenue sources, and more importantly, new rounds of consolidation, partnerships and innovation which will reshape the global payments landscape for the better.

The way in which we interact, socialize, and transact is being disrupted by new technologies, new products, and innovative businesses. Payments, due to their nature, are being impacted more slowly than other industries, but disruption is clearly visible and will accelerate. The payments marketplace will look fundamentally different a decade from now – new form factors, real-time infrastructure, greater levels of integration with social and commerce, among other aspects. Disruption can be foreseen and managed. By embracing openness, driving organizational agility, and making smart bets in technology, disruption can and will be positive to the winners in the payments marketplace.

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DISRUPTION IS ALL AROUND US

Our lives and businesses are changing in profound ways.

Changes to the way we socialize:

The ways that we interact with one another are changing.

Interactions between people and with businesses are fundamentally evolving, driving change across all aspects of life.

Changes to the ways we conduct commerce:

The ways we buy and sell are changing too.

- eCommerce.
- mCommerce.
- From eCommerce to mCommerce to ...
- Market places (online and global).
- Social and contextual commerce.
- Big data, loyalty of one.
- Self-service and other new designs for physical stores.
- Internet of Things, IoT (and its adjacent trends, e.g. artificial intelligence).
- Shared economy and Internet of Services, IoS.

An abbreviations and reference book can be found in the appendix.
DISRUPTION MEANS CHANGE

DISRUPTION will define a permanent shift in the way we pay.

What is DISRUPTION?

Fundamental change to the ways in which commerce is done...and that includes the way that people pay.

New products, new ways of doing business, and new types of competition.

A market undergoing disruption requires incumbent market actors to re-think their approach.

This will mean both the disappearance of old ways (such as paper-based payments) and the emergence of others (such as facial recognition payments).
COMMERCE IS FUNDAMENTALLY CHANGING

We are witnessing the transformation of digital commerce.

**Everywhere, at your fingertips, spontaneous**
In addition to real-time execution, pervasive availability is expected. Getting this right becomes a differentiator for competitors.

**Real-time**
Improved technology allows for serving customers in real-time. At the same time, end user expectations are getting higher, speeding up technological development.

**Frictionless**
Different needs served by one application makes disruption forceful: Removing friction improves customer experience.

**Data driven**
A key outcome of disruption will be unlocking the value of data intelligence.

**Payments will play a key role in this future state!**
Many of these areas of disruption will be indirectly or directly influenced by payments.

**Global**
Disruptive innovation needs to be executed on a global scale at launch. Innovators need to focus on portability.
DISRUPTION IS INFLUENCED BY MANY TRENDS

The degree of their impact varies but they are always present.
DISRUPTION IS INCREASINGLY OBVIOUS IN PAYMENTS

Business and technological innovations pave the way for DISRUPTION in payments.

1. Instant payments and real-time infrastructure
   - Real-time clearing.
   - App-to-App.
   - Blockchain.

2. Digital payments in support of digital commerce
   - E-Payments.
   - In-app payments.

3. New form factors and means of authentication
   Direct form factors and means:
   - Contactless.
   - Biometrics.
   - Digital factors also means: AI, Geolocation.

4. New payment methods (often app driven)
   - App-to-App schemes (e.g., Mobile Pay, Twynt, Swish, etc.).
   - Enablement of mobile banking apps (Zapp/pay-by-bank-app, HCE, etc.).
   - Invoice Payments (e.g., Klarna, Affirm, etc.).
   - Wallets (e.g., Paypal, Skrill).
BUT DISRUPTION IN PAYMENTS HAPPENS AT A MEASURED PACE

Behaviors, security, complexity and legacy systems slow down fast adoption.

Money moving infrastructures are still mostly legacy.

There is a higher pace of change in other aspects of life but slower in payments.

Payment value chains are complex, often requiring many parties to drive disruption.

Payment behaviors are harder to change.

Payments must be secure and fraud management is becoming more complex in our digital world. Sustained disruption can only happen in a persistent, secure environment.

The pace of disruption is not rapid, but it is consistent and it is accelerating.

Even after 10 years in business the most disruptive “unicorns” in payments can remain niche.

WHERE IS DISRUPTION IN THE NEW PAYMENTS ECOSYSTEM?

All participants are feeling the impacts of DISRUPTION.

Fintech start-ups are winning share from banks, scaling at an incredible pace but innovation will need more partnerships.

Merchants are seeking out better ways to accept and streamline payments.
- Omnichannel PSP.
- Digital checkout services.
- App-to-App payment acceptance.
- Social commerce.
- Etc.

Domestic associations and co-operations are breaking down in favor of profit-driven franchises.

M&A is driving rapid consolidation and globalization.

Consumer behaviors are changing.
- Faster adoption of new payment methods (e.g., P2P payment schemes).
- Higher expectations towards new services.
- Etc.
THE FUTURE OF PAYMENTS WILL BE DRIVEN BY MOBILE FRONT-ENDS …

… which are easily integrated with multiple accounts and with a merchant.

Parties…

…facing disruption

- Legacy payment service providers, processors, and networks which do not openly embrace mobile.
- Account service providers (i.e. Banks) which do not work collaboratively with payment innovators.
- Merchants which fail to recognize a shift in consumer behaviors, now living from their mobile devices.

…driving disruption

- Merchants reinventing the shopping experience – Amazon, Starbucks, Ikea.
- Service providers who think mobile first – Alipay, Instagram, Stripe, Square, Spotify, Wechat.
- Commerce platforms helping to drive new merchant experiences – Shopkeep, Orderbird.
THE FUTURE OF PAYMENTS IS REAL-TIME AND DISTRIBUTED (E.G. BLOCKCHAIN)

Infrastructure must change to become more efficient.

• Legacy ACH and SWIFT infrastructure.
• Domestic card networks that do not embrace digital commerce.
• Banks which cannot support modern infrastructure, on which innovative products will be built.
• Software and solution development companies who can envision a better way.
• Aggressive banks with a mandate to invest in reinvesting payments infrastructure.
• Regulators, forcing investment in PSD2 and similar open infrastructure.
THE FUTURE OF PAYMENTS IS FED BY BIG DATA SERVICES

And data services will become the key driver for profit growth.

• Payment methods and payment schemes which do not support a supply of data.
• Merchant service providers which cannot provide rich data and supporting analytical tools.
• Service providers which rely upon core per transaction revenue alone.

• Facebook.
• Google.
• Start-ups which are investing new revenue models for data services (e.g., Adara, Cardlytics).
• Data privacy regulations.

Parties...

...facing disruption

...driving disruption
REGULATION DRIVES PAYMENT DISRUPTION

Smart actors will utilize regulation for potential benefits and exploit the new environment.

- Payment services directive.
- Interchange regulation.
- Data privacy laws and regulations.

- Restricted, consent driven data access.
- Open, competitive markets.
- Transparency for customers and marketplace actors.

Driving immediate change to underlying economics.

Longer-term impacts on the business model.
DISRUPTION COMES WITH HYPE – WHAT’S REAL?

Near-term DISRUPTION (already impactful today).

**Real, near-term**

- Contactless has massive momentum and will permeate most global markets (led by physical cards, but increasingly mobile enabled).
- mCommerce is huge and will continue to grow exponentially.
- Cash is being displaced at an accelerated rate by new technologies, new services, and new regulations. This applies in particular to emerging economies.
- In-app payments are growing at 50% and are the new testing ground for innovation.
DISRUPTION WILL ACCELERATE, DRIVING SIGNIFICANT LONG-TERM IMPACT

What do we know today?

**Real, longer run**

- The central/physical will be displaced by alternative forms of checkout.
- Instant lending, in parallel with instant payments, will thrive.
- Merchant acceptance will become more fully integrated, more global, and easier to use.
- Big data will finally come to payments in a meaningful way.
- Infrastructure will become real-time (although global infrastructure is a long way off; cross-border is coming FAST).
- Payments will become safer – driven by artificial intelligence and better use of data.
SEPARATING HYPE FROM REALITY

DISRUPTION is not uniform, there are many more failures than successes when doing innovation.

**Hype**

Most alternative payments and start-ups will fail (the internet bubble fallout was not an anomaly).

Physical and digital cards will remain for a long time, because they are entrenched in behaviors and of a broad demographic set in mature economies.

The security best-practices won’t involve consumers having to fundamentally change their behavior.

Brands still matter – companies with trusted brands, a large customer base, and strong partnership networks will continue to thrive.
DISRUPTION CAN BE A POSITIVE FORCE FOR THOSE WHO ARE PREPARED

Embracing DISRUPTION is the first step.

*Embrace ➔ Engage ➔ Innovate ➔ Adapt*

**EMBRACE DISRUPTION**
- It is a call to action.
- A positive attitude towards disruption helps to master it.
- Be open towards change.
- Be flexible as change may come unexpectedly.
- Create a culture of disruption.

**BE ACTIVE, TAKE PART**
- Engage with the broader community.
- Influence standards.
- Learn from other industries and emerging players.
- See disruption as an opportunity but be aware of its potential risks. Don’t let short-term distractions cloud long-term disruptions.
FOCUS ON THE USER

Businesses that are disrupted generally have lost touch with their customers.

Embrace ➔ Engage ➔ Innovate ➔ Adapt

TALK TO YOUR CUSTOMERS, THEY WON’T LEAD YOU ASTRAY

• Disruptions flow from unmet customer needs.
• Question your own assumptions about customer needs.
• Ask your customers what they need, regularly.
INVESTMENT IN INNOVATION SHOULD BE A MANDATE

DISRUPTION requires investment in new technology.

Embrace ➔ Engage ➔ Innovate ➔ Adapt

INVEST IN PRODUCT INNOVATION
- Cash-cowing will kill you in a marketplace being disrupted.
- Invest 10% of revenues into new product development.
- Establish a 3-year product roadmap driven by customer needs.

MODERNIZE INFRASTRUCTURE
- But not in a big-bang.
- Future-proofing is about continuous change and component services.

*But don’t overestimate the pace of disruption, be careful not to bet too big, too soon.*
AGILITY DRIVES TRANSFORMATION

Focus and an agile organization make you FAST.

Embrace → Engage → Innovate → Adapt

BECOME MORE AGILE AS AN ORGANIZATION

• Reduce lead times for product delivery.
• Make fast decisions, move quickly when changes in strategy are warranted.
• Encourage personnel development – don’t let a stagnant customer disrupt from within.
• Buy or sell assets – M&A is often part of the disruption and evolution of payments.

FIND YOUR PLACE IN THE BROADER ECOSYSTEM, NOT IN ISOLATION

• Partnerships (which are agile) make you smarter and more adaptable to disruption.
• Find your place, where you drive value from differentiation, partner for the rest.

BE AWARE OF CHANGING BUSINESS MODELS AND REVENUE STREAMS

• Traditional revenue streams are being disrupted, too.
• Regulation, customer expectations and accelerated development of technologies fuel a shift in revenue streams.
KEY TAKEAWAYS FOR BANKS

Must innovate product and infrastructure.

**DISRUPTION:**
- Good ideas are being funded and FinTechs are coming to market.
- New payment front-ends AND processing and clearing networks are inevitable.
- Planning horizons are shrinking, and feedback about the success or failure of an initiative comes faster than ever.
- Today’s end user can be tomorrow’s customer.

**REACTION:**
- Look at investing and partnering with FinTechs, but be mindful of adapting to new business cultures.
- Embrace real-time clearing and digital means of payment; ensuring that your infrastructure is ready and services add value.
- Re-think the agility of your organization. Can you start and stop quickly?
- Understand the needs, motivations and product requirements of actors up and down the value chain. Embrace new customers and product models.
KEY TAKEAWAYS FOR FINTECHS

The ecosystem cannot be reinvented overnight, find partners to move faster.

WHAT YOU SHOULD NOT PLAN ON:
• There will be no one way to pay, no single dominant technology.

• A new entrant cannot go it alone in payments.

• Payments data is rich. Monetizing it is easy.

WHAT YOU SHOULD PLAN ON:
• Customer preferences vary and their options are increasingly vast, making fragmentation of payment behaviors inevitable. Disruption in payments comes from incremental innovations working in tandem, not wholesale reinvention.

• Payments infrastructure is too complex to reinvent. Find your unique value-creating role and find ways to adapt these improvements into existing infrastructure.

• Payments generate rich transaction data that tell a story about people and their wants and behaviors. Get access to the data and find ways to monetize, knowing that parties will pay to know their customers better.
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<th>Term</th>
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<tr>
<td>AI / Artificial Intelligence</td>
<td>Artificial Intelligence is an automation of intelligent behavior by machines and programs.</td>
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<td>App-to-App</td>
<td>App-to-App describes money transfers between two applications on mobile phones. Prominent examples are mobile payment schemes like MobilePay in Denmark or Swish in Sweden.</td>
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<td>Big data</td>
<td>Big data is all data available to you (categorized or uncategorized), that is combined and used to derive new insights from this combination of different data from different sources.</td>
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<td>Blockchain</td>
<td>The blockchain is a distributed database that maintains a continuously-growing list of ordered records, called blocks. A blockchain database is the foundation of every crypto currency (e.g., Bitcoin) and instant payment networks.</td>
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<td>Cash-cowing</td>
<td>Cash-cowing describes the continuous generation of bonus by a successful enterprise instead of reinvesting in research and development.</td>
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<td>HCE / Host Card Emulation</td>
<td>HCE is the emulation of card data for contactless transactions. With this emulation, a HCE contactless payment transaction is more secure than a contactless transaction on traditional rails. Examples for HCE are Apple Pay, Android Pay or Samsung Pay.</td>
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<tr>
<td>Interchange regulation</td>
<td>In certain markets, regulators have imposed an interchange regulation, capping interchange for card transactions.</td>
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<td>IoT / Internet of things</td>
<td>The internet of things is the integration of physical devices to the internet. Enriched with internet connectivity, these devices can interact with other devices, services or humans. Examples include, but are not limited to, security systems, irrigation systems, traffic surveillance, etc.</td>
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## APPENDIX I: ABBREVIATIONS AND REFERENCE BOOK (2/2)

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<tr>
<td>PSD2</td>
<td>The Payment Service Directive 2 is an EU Directive by the European Commission to regulate banks, payment services and payment service providers throughout the European Union.</td>
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<td>PSP /Payment Service Provider</td>
<td>A Payment Service Provider offers web shops the possibility to accept payments during the checkout process via various means of payment (e.g. credit cards, online bank transfer, alternative payment methods, etc.).</td>
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<tr>
<td>Social and contextual commerce</td>
<td>Commerce being implemented/facilitated within other environments, e.g., social networks or search websites, is called social or contextual commerce.</td>
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The last millennium experienced steady incremental innovation in payments with card the principal disruptive element. Today, regulators and consumers are demanding FAST, OPEN and SECURE payments causing the pace of innovation to accelerate and payment models to become fragmented. Welcome to a new era of DISRUPTION in payments!