



Reading the global payments radar

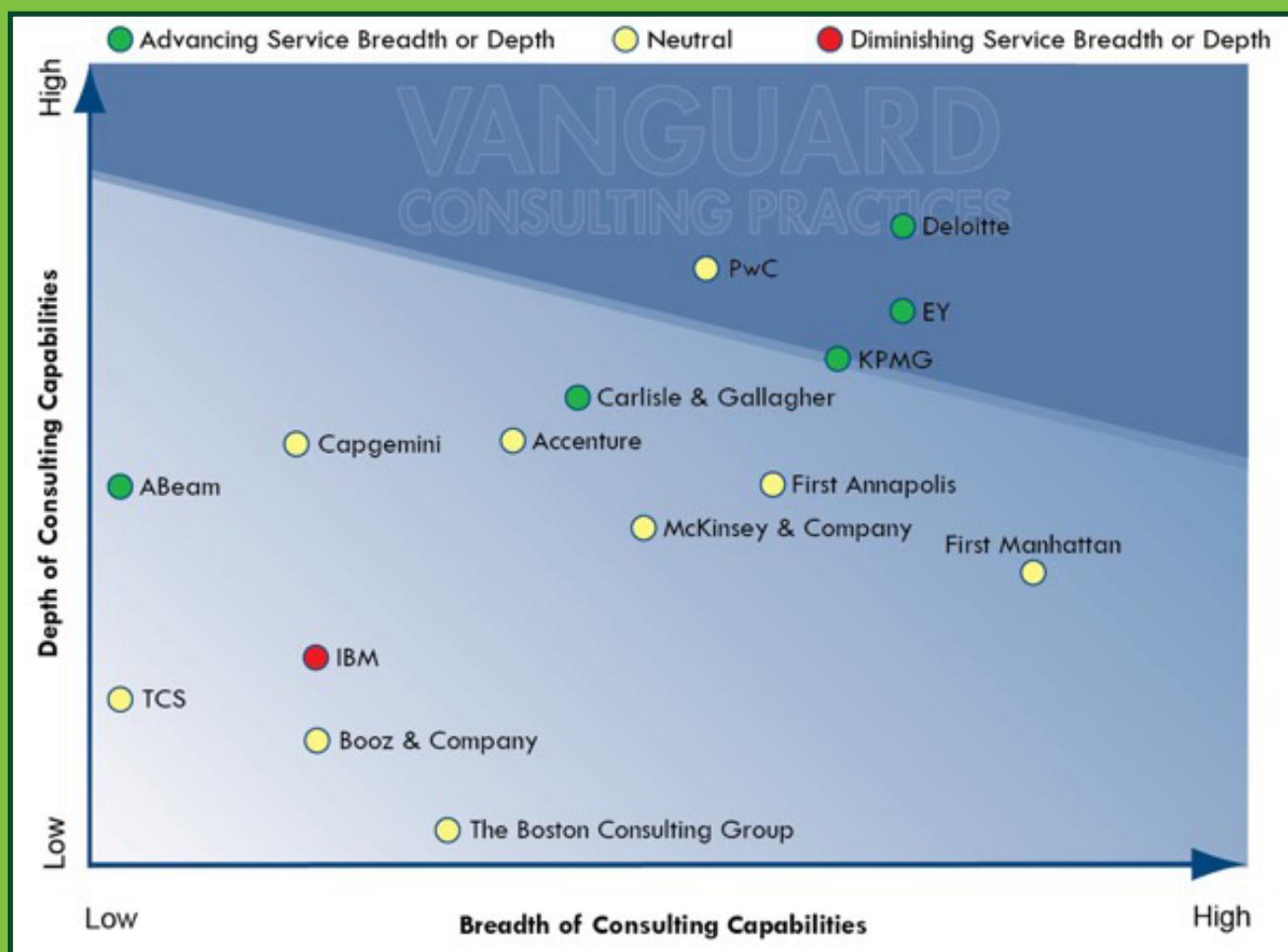
Scanning for opportunities and potential
threats in the payments market

Ninth edition

“As some clients try to develop cross-border strategies, Deloitte is one of only a handful of firms with truly global capabilities.”

Kennedy Consulting Research & Advisory

Kennedy Vanguard of cards and payments consulting providers¹



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Deloitte provides audit, tax, consulting, and financial advisor services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 140 countries, Deloitte brings world-class capabilities and deep local experience to help clients succeed wherever they operate. Deloitte's approximately 169,000 professionals are committed to becoming the standard of excellence.

Foreword

The Global Payments landscape is at a pivotal juncture: Economic recovery coupled with rapid innovation is redefining payments as an engine for growth. Continued improvements in credit quality and encouraging employment numbers signal increased demand for Payments related services and continue to further our optimism for growth for the industry. While rising interest rates will continue to define the economic climate in the forthcoming months, it is imperative that leading issuers approach an encouraging growth environment cautiously.

Innovation and structural transformation in the short and medium term will likely spell opportunity for incumbents, accompanied by uncertainty and risk as disruptive marketplace offerings gain traction and mature.

As plastic gives way to mobile payments, consumer expectations and the roles played by traditional industry leaders are changing precipitously. The ubiquity of advanced mobile devices coupled with increased transaction speeds has fueled the popularity of mobile payment methods and cryptocurrencies, and reshaped both consumer and merchant demands, while introducing new non-bank competitors, further fragmenting the space. Incumbent issuers, while under pressure, are uniquely positioned to play a defining role in the future of new payment channels as technology continues to drive disruption and growth.

New actors and competitors will continue to drive a wedge between Issuers and Merchants. While opportunities and risks accompany decisions to compete or collaborate, traditional banking institutions should ensure customer relevance be maintained by turning to solutions that focus on helping merchants grow sales, offer instant credit to qualified consumers, and exploit the availability of predictive, real-time analytics using payment and bank-owned data. Traditional providers of payments products and services must evolve to serve this new era and capitalize on the opportunity to develop stronger merchant and consumer value propositions.

Imminent structural transformation to the global payments infrastructure points to the growing maturity and acceptance of innovation within the space, as governments around the world seek to enable real-time payment processing. The US Federal Reserve continues to signal it will facilitate the industry's move to an efficient and broadly accessible payments systems as part of a vital and strategic priority for the US economy, reaffirming the need for incumbents and new entrants to question proven business models and product offerings, in light of disruption that is decidedly here to stay.

Deloitte has been at the forefront of these changes, building strategies and some of the most advanced, innovative mobile and analytic solutions. Over the past 10 years we have led the industry as a trusted advisor to nearly all of the largest stakeholders including issuers, merchants, acquirers, networks, and processors.

We are pleased that Kennedy Consulting Research & Advisory named Deloitte the global leader in Cards & Payments based on breadth and depth of consulting capabilities in their Consulting to the Banking Sector: Cards & Payments report. Deloitte also ranked #1 for Cards & Payments Consulting globally based on revenue and market share.

On behalf of the payments leaders from each of the markets our network of member firms represents, we hope you find these insights and our Payments Radar helpful as you navigate through the change, deciphering the threats from the opportunities.

Yours truly,



Brian Shniderman

Assessing the lay of the land

Once considered a very stable industry, many payments players are facing a period of significant change.

The short-term revenue picture for the payments industry, in particular credit card issuing banks, is unclear. On the one hand, card issuer revenue is increasing due to improvements in consumer credit quality and decreasing consumer charge-offs, both of which are driving improvements in revenue and net income for issuers.

However, there are obstacles ahead and uncertain market dynamics that could derail a return to historically “normal” revenue performance: stagnant or rising unemployment, interchange fee, commoditization or regulation, and systemic market disruption, such as consumer de-leveraging, or shifting to other payment platforms.²

With shifts in the traditional payments market, including economic and credit downturns forcing voluntary and involuntary migration across products, converging industries, the entry of nontraditional competitors, and emerging new models and innovations, the field has become more active and uncertain, with no clear path to leadership and no sure bets.

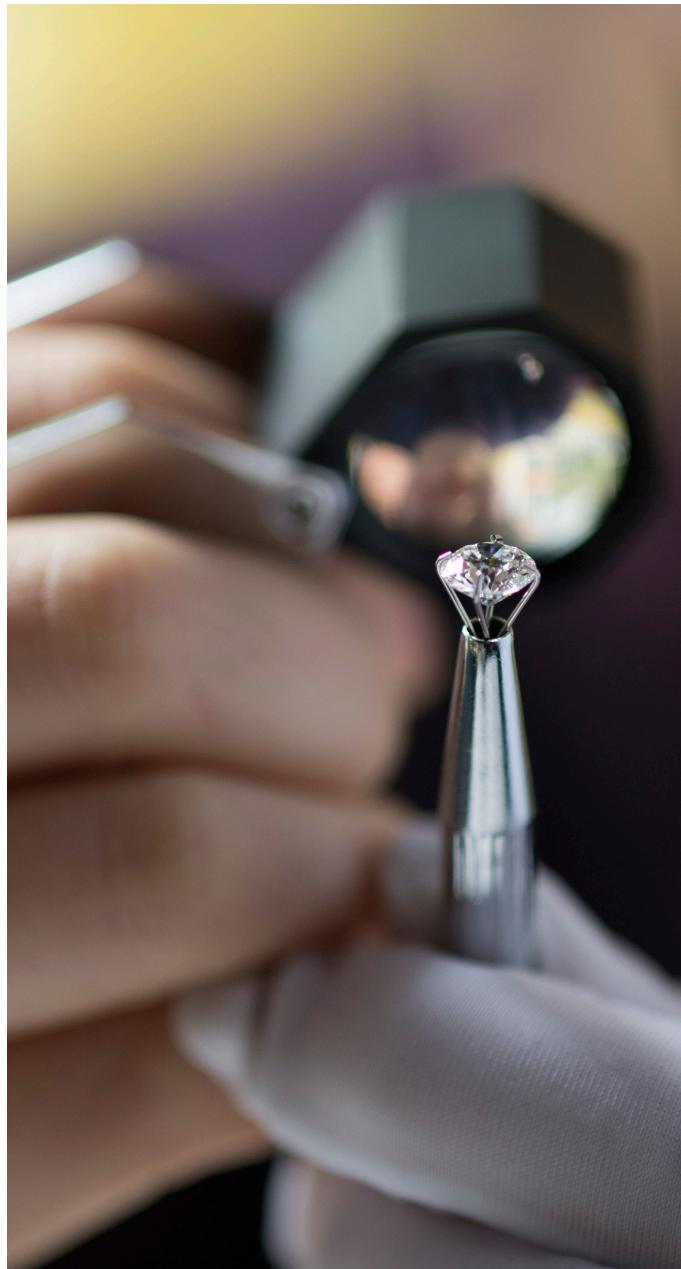
The pace and scope of change may be very significant. For those who are prepared to respond appropriately, the rewards could be equally significant. The race will go to the nimble and well informed — the leaders and fast followers with the information and insights to move quickly on smart, well-executed strategies.

As always, Deloitte will be there to help our clients in their efforts to anticipate trends, follow the right opportunities, mitigate risks, and execute effectively on strategies that are well conceived.

Once considered a very stable industry, many payments players are facing a period of significant change.



Anticipating potential threats and identifying opportunities



In recent months, we have found our clients to be highly uncertain, and largely unprepared, to address the current environment. In any uncertain market, properly anticipating trends is a prerequisite to planning an effective response strategy. The Deloitte payments team actively tracks, evaluates, and prioritizes payments industry trends using more than 25 business and technology elements and a database of market factors. Since 2007, we have published a series of articles that address the existing challenge of the global retail payments environment. We prioritize trends based on the following:

- Timing and assessed urgency associated with each trend
- Significance in expected volume, velocity, and revenue impact
- Degree to which strategic responses to trends are actionable and executable
- Trends that drive opportunity ratings high and fit with clients' capabilities (the top 25 payments companies)
- Trends that represent significant downside risk, if not addressed

Based on our most recent analyses, we see several trends that are affecting the global market today and beginning to define the global payments industry of tomorrow.

Is your institution prepared?

Over the next 18 months, we anticipate the following trends will be among the most significant in defining and changing the payments industry.

Issuers	Merchants
<p>Compelling new payments alternatives and e-wallets like Venmo, ApplePay, Alipay and Ripple are emerging from startups and non-bank competitors, upending traditional payments ecosystem and experiences. Financial institutions are recognizing the need to own or enable easy integration with new e-wallets, cryptocurrencies, and mobile solutions which are nimble and offer creative payment options to remain competitive in the face of emerging alternative threats. The migration entails digital products, channels, currencies, identities, and risks and requires increasing cooperation between FinTechs and traditional players to bring seamless, resilient solutions to market.</p>	<p>Innovative entrants to the payments ecosystem make up 35% of all new Financial Technology firms and are changing not only the way Merchants use technology to process payments but also the ways in which they drive customer engagement and ultimately satisfaction. Contactless technologies such as Apple Pay, Google Wallet, Samsung Wallet, and Android Pay in-store as well as frictionless initiatives out of store will continue to gain traction. As a result Merchants will seek solutions offering these innovative functionalities in order to further utilize Payments as a value-add, enhancing customer satisfaction and retention.</p>
<p>Consolidation and optimization of currently divergent payments processes and systems may be a major emphasis as banks seek cost containment, as well as greater product flexibility and revenue enhancement. Forward-thinking payments providers will likely look to establish an enterprise payments system — leveraging technologies to establish payments hubs — which may drive down processing costs, help create shared services, and facilitate the development of new payments products.</p>	<p>Increased Merchant adoption of Cloud and Mobile enabled full-service Software solutions is radically changing how Merchants engage with customers and is driving down processing costs. As merchant-facing payments services move from simple payment processing to true payments, analytics and POS solutions, we expect additional consolidation with upstream players, additional optimization of the services offered, as well as reduced costs for Merchants. Wallet consolidation is also expected as result of maturing customer and merchant expectations.</p>
<p>A move to real-time systems globally has contributed to an environment in which consumers, merchants, and financial institutions expect ability to transact securely. The new standard is driving change for traditional FOPs, credit, debit, prepaid, etc. as consumers expect faster settlement, notifications, and consolidated reporting. Growing ubiquity of smart devices, e-commerce, as well as innovation in P2P are also driving adoption of Real Time Payments.</p>	<p>The mass movement to real-time payments is quickly gaining traction both globally (35 countries have adopted a form of real-time processing and settlement) and more recently in the United States. As NACHA and regulatory priorities evolve (such as the Fed's recommendation to accelerate adoption of ISO 2022 in the US), Merchants have come to expect both faster processing and settlement speeds, further accelerating the move to real-time payments. Merchants stand to benefit from faster payment execution and settlement through optimized liquidity as real-time payments become reality. Further, Merchants will continue to prioritize Payment Rails offering not only greater speed but also efficiency in the wake of change.</p>

Issuers	Merchants
<p>Acquirers are positioning themselves to take a dominant role in emerging global B2B e-payments in high-growth verticals. New gateways are emerging to fill unmet needs across untapped industries, leading to increased ease in conducting cross-border and cross-industry transactions. This will be done by removing hurdles associated with international B2B payments, reducing costs, and simplifying processes that, combined, enable members of the value chain to better communicate, exchange data, and accelerate growth. Digital payments also enable far greater metadata to be sent along with the payment.</p>	<p>Acquirers will continue to look downstream to remain competitive and offer value-add services beyond payment processing, benefitting Merchants in the form of lower costs and enhanced product offerings. Acquirers, in pursuit of new, typically customer facing, disruptors, will seek to offer POS and cloud enabled, omni-channel solutions, analytics capabilities and other downstream services in order to retain market share and advantageous pricing.</p>
<p>Banks proactively apply analytic insight to find growth opportunities, build deep relationships, and link goals to front line performance. Integrating unstructured, streaming data generated by innovators provides the opportunity to extend the analytics to enhance the customer experience and proactively address real-time risks. This can feed robotics to improve efficiency and effectiveness of processes and campaigns. Unstructured data also improves campaigns by addressing risk in real-time. Frictionless experiences will evolve, driven by data and behind the scenes processing, linking behavioral economics and trust for 'app-less' experiences.</p>	<p>As merchant-facing payment solutions move from simple, terminal based, payment processing offerings to true software enabled solutions, Merchants of all sizes will increasingly benefit from increased analytics capabilities and as a result, derive enhanced customer insights resulting ultimately in increased customer loyalty. Vertically integrated POS/Payment Processor solutions will also benefit from the additional data amassed and utilize it as a means to generate more transactions via its vendors.</p>
<p>The significant industry changes and the underlying challenges brought on by financial and regulatory reform and nonbank competition will likely continue to feed the need for scale and innovation in the drive toward healthy growth. Low valuations and appetite from Private equity firms, large incumbents and new entrants alike will continue to play a significant role, changing the dynamics in the industry, and infusing capital and energy into the system, while also introducing new types of risk.</p>	<p>As new entrants aggressively seek Merchant relationships, we expect lower processing costs for Merchants and, as traditional terminal-based providers purchase or partner with upstream players and as Issuers/acquirers seek new ways to engage with Merchants downstream, we expect margin compression yielding lower processing rates for Merchants as a result.</p>
<p>Also, as Middle Market issuers' needs change in light of the evolving payments landscape, large Issuer banks will seek to leverage their position in the market to generate additional Payments revenue via Agent Bank models.</p>	
<p>As payments become increasingly seamless and agile across channels, security and authentication issues related to identity verification become further complicated. Aware of the growing threats, industry players are investing in EMV, biometrics, and real-time analytics to drive innovation in fraud detection. Issuers, in particular, are firmly establishing analytics techniques as part of a multilayered approach to combat data breaches and mitigate risk.</p>	<p>As fraud losses and data breaches continue to rise, Security will remain a priority for Merchants (revenue lost due to fraud up 33%). Data breaches are especially costly at the Merchant level, at which trust is imperative in ensuring customer loyalty and retention as well as in maintaining brand power. While EMV and other hardware upgrades will continue to ensure more secure payments, Merchants will look to their POS software solutions to further mitigate risk.</p>

Issuers	Merchants
<p>Interoperability and Consumerization will likely be the primary focus areas of an evolving business payments ecosystem. Leaders will create B2B experiences that resemble B2C across multiple channels and move more aggressively towards the virtual payments space as industries and transactions shift away from paper products. Businesses and financial institutions will also recognize the flexibility virtual payment solutions offer, including opportunities to address payment pain points between various actors along the payments value chain, and will gradually migrate towards electronic payment forms.</p> <p>Merchants moving towards Mobile POS, Mobile Payments, and Contactless Solutions will put additional strain on Issuers. As Merchants move to systems which prioritize speed and ease of use such as rapid in-app Mobile Payments or contactless-enabled POS, customers are less likely to pay attention to their card Issuer (result of rapid growth of 'Invisible Payments'). Going forward, Issuers will look for new ways to build and incentivize customer loyalty which will undoubtedly entail courting Merchants directly.</p> <p>Banks and leading financial institutions, such as Standard Chartered, Barclays, UBS, Citibank, and Deutsche Bank, are increasingly looking to adopt blockchain technology to help streamline costly and risky cross-border transactions, reduce operating expenses, increase visibility and transparency across multiple parties, and secure real-time settlements. Issuers are recognizing the benefits of distributed ledgers in rendering payments processes more efficient, and are shifting from cautious interest to exploratory proofs of concept.</p>	<p>Innovation in Consumer Payments to transform the B2B Landscape</p> <p>The evolving relationship between Issuers and Merchants creates an imperative for Merchant engagement and brand optimization</p> <p>The evolving relationship between Issuers and Merchants empowers Merchants to engage upstream and prioritize value</p> <p>Moving from experimentation to implementation of blockchain technology</p> <p>As innovative, software driven entrants continue to focus on engaging Merchants, Merchants with B2B and G2B needs stand to benefit greatly, not only from faster and more secure digitally enabled and optimized payment processing but also from reduced fees as increased competition in the space continues to bring transparency to pricing.</p> <p>Merchants moving towards Mobile POS, Mobile Payments, and Contactless Solutions will put additional strain on Issuers. As Merchants move to systems which prioritize speed and ease of use such as rapid in-app Mobile Payments or contactless-enabled POS, customers are less likely to pay attention to their card Issuer (result of rapid growth of 'Invisible Payments'). Going forward, we will likely see Issuer-led incentive programs geared towards Merchants to maintain Issuer brand and volume growth.</p> <p>While the popularity of Bitcoin wanes, Merchant adoption of POS or Payment Processor solutions enabling Cryptocurrency acceptance will stabilize and only gain traction for certain Card Not Present Merchants. However, as fraud liability increasingly shifts to Merchants in light of the national adoption of EMV, we foresee that Payment Processors, Gateways and POS solutions catering to Merchants will seek to emulate Issuers and financial institutions and develop blockchain enabled solutions</p>
	

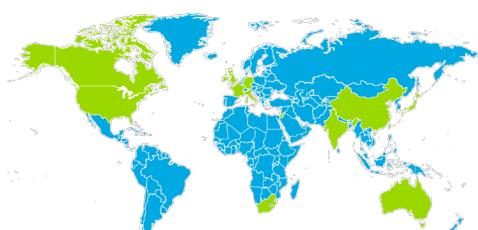
Organized for your success:

Recognized by industry analysts as the leading global financial services industry consulting organization for our cross-border execution

Deloitte's Payments practice extends far beyond our US borders. We serve clients that have global reach and have pinpointed representative countries where we have a footprint.

Increasingly, the opportunities and threats in the payments industry transcend borders. As a result, it has become essential that our clients have an understanding of the inter and intra-country implications of their actions (or in many cases inactions). Recognized by industry analysts as the leading global financial services industry consulting organization for our cross-border execution, Deloitte's Global Payments practice brings deep market insights to our clients' most important projects, and leverages Deloitte member firms' 210,000 dedicated professionals in more than 150 countries.

Our global footprint in payments



Collective member firms collaborated to help four different countries with their real-time, faster, and secure payments initiatives

Representative joint efforts between Deloitte and its network of member firms around the globe



Canada and the United States worked together to execute a postmerger integration and PMO for a major processing platform migration.



United States teamed with a Global Merchant to implement a flexible and agile way for rolling out and adopting alternate payments, including: Alipay globally, PayPal in Europe, and Apple Pay in the US.



Mexico and the United States worked together to implement a merchant acquiring operation and advise on a commercial prepaid strategy for joint ventures and networks.



Brazil and the United States worked together to introduce a combined social networking and mobile platform to issuers and large financial institutions.



United Kingdom and the United States teams establishing an e-wallet license and go-to-market plan for issuer and network.



South Korea and the United States teamed to provide mobile payments strategy for a global manufacturer and a large automobile company.



China and the United States developed a mobile payments platform and joint ventures for networks.



Australia and the United States worked together to assist a leading financial services organization to develop a target operating model, and devise the product, market and technology strategy to transform the organization's business based on the changing financial services landscape.



Spotlight on Deloitte's payments capabilities

Mobile financial services and payments

Deloitte's "Mobile Financial Services and Payments" offering consists of end-to-end capabilities that very few can offer. Deloitte has mapped the market demand to our capabilities and drafted a set of propositions as listed below:

- Mobile Financial Services (MFS) Integrated Market Strategy
- MFS Operating Model and Organizational Design
- MFS Channel Integration, Product and Customer Experience Design
- MFS Infrastructure and Technology Integration
- MFS Risk Management and Security Plan

Deloitte has the full life cycle experience and mobile payments and processing capabilities. We also have one of the most fully integrated global teams of mobile practitioners across more than 15 countries. The organization, through its network of member firms, has an internal global collaboration call bringing practitioners from these countries together, allowing them to share ideas and collaborate on client issues. These collaboration calls also support various client projects by sharing best practices from a number of countries across the globe.

Deloitte has a myriad of white papers and articles on mobile payments underway. White papers, such as "Cell me the money" have been widely acclaimed and been used by a number of organizations across the globe to understand the mobile payments landscape.



Deloitte has one of the largest, most focused, and successful global payments teams in the industry.

- We attract and retain highly talented senior leaders from top banks, card companies, and leading strategy, operations, and IT consulting firms.
- Our ability to combine consulting, tax, risk, and audit capabilities enables us to incorporate in our service offerings, analysis and perspectives of payments issues rarely addressed by our competition. For example:
 - Tax implications to major card portfolio acquisitions
 - Risk analysis associated with new payments regulatory changes
 - Pricing implications from new market entrants

We have provided services across the full spectrum of payments-specific projects, covering virtually every major payments function and instrument.

We have team members specializing in strategy, operations, and implementation and execution, which distinguishes us from the competition for delivering executable strategy.

We have effectively delivered payments-related services for clients across the transaction activity chain, including:

- Most of the top 10 retail banks (based on DDA Net Interest Margin)
- Most of the top payments processors
- Eight of the top 10 card issuers and two of the top-three debit card issuers

- Three major credit card networks
- One of the largest debit card processing networks and one of the largest third-party debit card transaction processors

Deloitte Tax LLP and affiliates in Latin America work together to design and implement a tax optimized business model for the mobile payments joint venture between a global payments, a technology company and a global integrated telecommunications operator.

Deloitte is a dominant leader in serving the consumer business industry; as such, many of the largest US merchants served by the payments industry are Deloitte clients. Through our global reach and collaborations, we have developed firsthand experience through interviews with overseas merchants and gained insight on processing systems, payments preferences, and trends in foreign markets.

Third-party recognition

Mobile Commerce Daily recognized Deloitte & Touche LLP as the Mobile Commerce Researcher of the Year.³

Kennedy Consulting Research & Advisory recognized Deloitte as the largest global financial services consulting provider based on revenue.⁴

Turning payments innovation into an executable strategy

Innovation in the post-recession and new, challenging regulatory environment is one of the keys to many payments organizations' growth plans. Determining that the innovations can be executed is equally important as resources are limited and should be effectively put to use.

Deloitte's payments innovation methodology introduces a highly flexible approach for identifying and creating strategic options that can address the known, and help anticipate and set in place actions to address the unknown.

The outcome can provide concrete results within an implementation plan that reflects a clear set of priorities.

In a recent application of the methodology, Deloitte conducted an innovation scan and developed a prototype for consumers and merchants to design and bid on their own highly relevant, dynamic affinity programs enabled by social networking. We refer to this as Social Network Affinity Programs (SNAP) Marketing.

SNAP Marketing is a way to use social networking sites and data, together with untapped consumer affinities, to expand and evolve card portfolios. It can potentially drive increased card member spend and new accounts by taking advantage of special interest groups, allowing consumers to create their own affinity programs. Simultaneously, it offers a way for merchants to compete for customers, further driving incremental spend through customized rewards to targeted consumers.

Implementing enterprise payments hubs

In the current regulatory environment, many of our financial services clients are experiencing margin pressures related to their payments functions. The existing silos-based payment systems result in high cost of operations due to duplication of functionalities and services across different payments instruments and products. In this scenario, our clients are looking to leverage significant cost benefits by consolidating these diverse systems.

The Enterprise Payments Hub is a demonstrated solution to alleviate these duplications and cost pressure challenges. It consists of a centralized infrastructure capable of processing multiple payment instruments, providing efficiency, flexibility, and a single customer view. The solution removes duplicate payment processing functions through the use of a central set of services for channel interface

management, transaction processing, transaction support, and customer life cycle management.

Deloitte's payments hub implementation methodology introduces a highly flexible, services-based approach for consolidation and incrementally developing payment hubs. In a recent application of the payments hub implementation methodology, Deloitte helped the client to develop a detailed technical architecture and road map for implementing a large, global, multicurrency B2B payments hub supporting card, Automated Clearing House (ACH), wire and check-based payments. A phase-based implementation road map resulted in revenue generation events virtually every six months.

Securing an online payments environment

While the world continues to embrace the convenience of online transactions,

Deloitte has one of the largest, most focused, and successful global payments teams in the industry.

the level of security involving those transactions has struggled to keep up, leaving customers at risk.

Many of the authentication products and systems currently in place and available do not provide an independent mechanism for customers to manage and control their identity. For example, in a typical username/password online banking environment, a customer's "secret" (e.g., password) can be compromised by someone using a "fake" bank website to capture and subsequently reuse their confidential information.

In an effort to secure the online environment, Deloitte Australia and Australian-based Emue Technologies have pioneered and patented the concept of "mutual authentication" for secure access to remote services. This "mutual authentication" is designed to give both the service provider (e.g., bank) and the customer an opportunity to identify each other before initiating a transaction. Unlike other one-way authentication devices, this solution can be used across multiple remote channels (e.g., telephone, web, Internet shopping, corporate VPN systems), which makes it attractive from a commercial perspective for issuers who not only want to prevent fraud, but also want to offer an integrated approach to authentication using a single platform.

While building this concept, the developers also considered customer convenience — resulting in its proprietary software being integrated into cell phones and credit cards.

Payments analytics — leveraging connectedness and technology advances

Payments Innovation and Increased Consumer Enablement will transform consumer and merchant behavior as Technology and Analytics advances enable financial services providers to drive competitive advantage. Our Practice focuses on leading practices to separate analytics hype from reality.

Customer payments analytics of the future

What can issuers do to understand 'default payment' digital behaviors and drive growth?

How does a payments provider use real-time transaction flow analysis to benefit merchants and consumers?

What happens when a bank is unable to identify a new customers' needs preemptively?

What opportunities do real-time fraud, credit risk, and marketing models provide?

Separating myths from realities of payments analytics enables businesses to quickly deliver insights/value.

Myth

Cognitive technologies mimic the human brain/think like humans do, thereby replacing need for Human — Computer Interaction

Reality

Cognitive is narrow artificial intelligence designed for specific use cases. Seamless human computer interaction is needed

Updated privacy regs and consumer perceptions stymie transaction analytics innovation

Collaborating with vendors/innovators provides a method for privacy compliant offers, transaction analysis, and insight

Analytics techniques perform best when there is very good data quality available

New techniques learn from experience, so payments firms can streamline decision making without waiting for perfect data

Deloitte's Consumer Protection Center

In the increasingly competitive payments environment, banks need to provide a differentiated customer experience to compete and meet growth objectives. Due to regulatory requirements, many institutions have invested in compliance and complaint management technology. Deloitte offers the Consumer Protection Center (CPC) to enhance those investments by capturing, analyzing, and acting upon complaint data to support compliance, customer experience, operational risk management, and regulatory reporting.

Specific analytical use cases start with processes designed to meet new data aggregation and reporting requirements in order to mine the data and apply it to generate a tangible return through concrete actions. Sample complaint use cases include:

- Identifying repeat callers and escalated complaints
- Differentiating inquiries from complaints
- Measuring how complaint handling affects future customer loyalty and satisfaction
- Providing an early warning system of an increase in complaint volume or potential risk

Sample use cases for applying complaint analysis in improving customer experience include:

- Applying regulatory text analytics to more accurately quantify the voice of customer
- Leveraging geospatial analytics frameworks to optimize channel distribution
- Measuring the impact of fraud, dispute, and holds on customer behavior
- Measuring churn by complaint category

Can risk and compliance coexist with innovation in mobile payments?

Innovation in mobile payments takes many forms. At the local grocery store, "app-heads" try to create ways to eliminate the register all together. Car manufacturers dream of ways to link service and car owners' bank accounts. Health care providers consider ways to store records in the cloud so customers can access their records through their handheld devices. Toll payment systems noodle with how to make the payment of the toll easier and less reliant on the plastic pass in a driver's windshield.

Yet, while innovators think about ways to enhance existing or create new products and services, consumers remain wary and worry about their personal data being compromised. And regulators charged with protecting consumers continue to develop and refine rules and regulations that aim to protect an individual's personal and financial information.

Faced with the dilemma of complying with consumer protection regulations and mitigating risk throughout the payments life cycle, it may seem as though risk management and innovation in the mobile payments world are doomed to be mutually exclusive.

Not so. Innovation forged in conjunction with risk management may result in a symbiotic relationship that could produce innovative products and services that benefit from the application of a compliance and risk lens. Involving the "watchdogs" in compliance and risk in the innovation process may eliminate having to fix products on the fly after they've been launched.

Coupling the actions of developers and innovators with compliance and risk executives could prove a competitive advantage. Working together, they could enhance new products with controls that could help mitigate risk. Their common goal could focus not only on creating the "killer app" but also could aim to avoid compliance and risk pitfalls — before the first

consumer's finger touches the download button on the screen of a handheld device. Such a new mobile payment app could provide consumers with confidence in the end product and, most importantly, the safety of their data from the get-go.

Risk and compliance in mobile payments innovation should not be an afterthought; rather they should become part of the innovation process. Watchdogs and innovators are the new yin and yang of the mobile payments industry.

Developing the next generation of loyalty platforms

Current loyalty programs are inflexible, leaving stakeholders frustrated and seeking ways to optimize their relationships. Emerging mobile and customer analytics capabilities present an opportunity to redefine the loyalty rewards experience. Deloitte has combined its Payments practice's product innovation and technology development capabilities to design a groundbreaking new rewards redemption platform. This platform utilizes predictive models to deliver targeted merchant offers through an innovative, social network-linked mobile application.

Deloitte's rewards redemption platform benefits loyalty program stakeholders by enhancing the customer reward redemption experience:

- **Consumers:** Analytics provide targeted, relevant offers that address consumers' actual wishes and needs.
- **Merchants:** Targeted offers allow merchants to allocate marketing spend and enhance repeat purchases.
- **Reward Issuers:** Enhanced customer experience and improved point utility supports card loyalty and increases rewards points turnover.



Enter the blockchain — Decentralizing payments for faster, safer, and cheaper transactions

Cryptocurrencies' underlying technology, blockchain, may be the phenomenon's lasting innovation that will revolutionize the payments landscape. Blockchain technology enables the transformation of a typical bank facilitated ledger system into a distributed ledger system, making value transfer and settlement more transparent, faster, cheaper, and safer.

Blockchain technology is a digital ledger system that record transactions in an immutable way and is securely shared across all established parties. In a public blockchain, everyone is able to transfer and view the transaction records; in a private, or permissioned, blockchain, only the authorized parties are able to perform and view transactions. Every time one party

transacts with another party, information about this transaction is checked against previous entries in the blockchain, preventing fraud and securely 'hardening' the chain.

The transformative potential of blockchain:

Near real time: Blockchain technology enables the near real time settlement of recorded transactions, removing friction, reducing risk and thus cost.

No intermediary: Blockchain technology is based on cryptographic proof instead of trust provided by a third party, allowing any two parties to transact directly.

Distributed ledger: The peer-to-peer distributed network records a public history of transactions. Blockchain technology is distributed and highly available. Blockchains

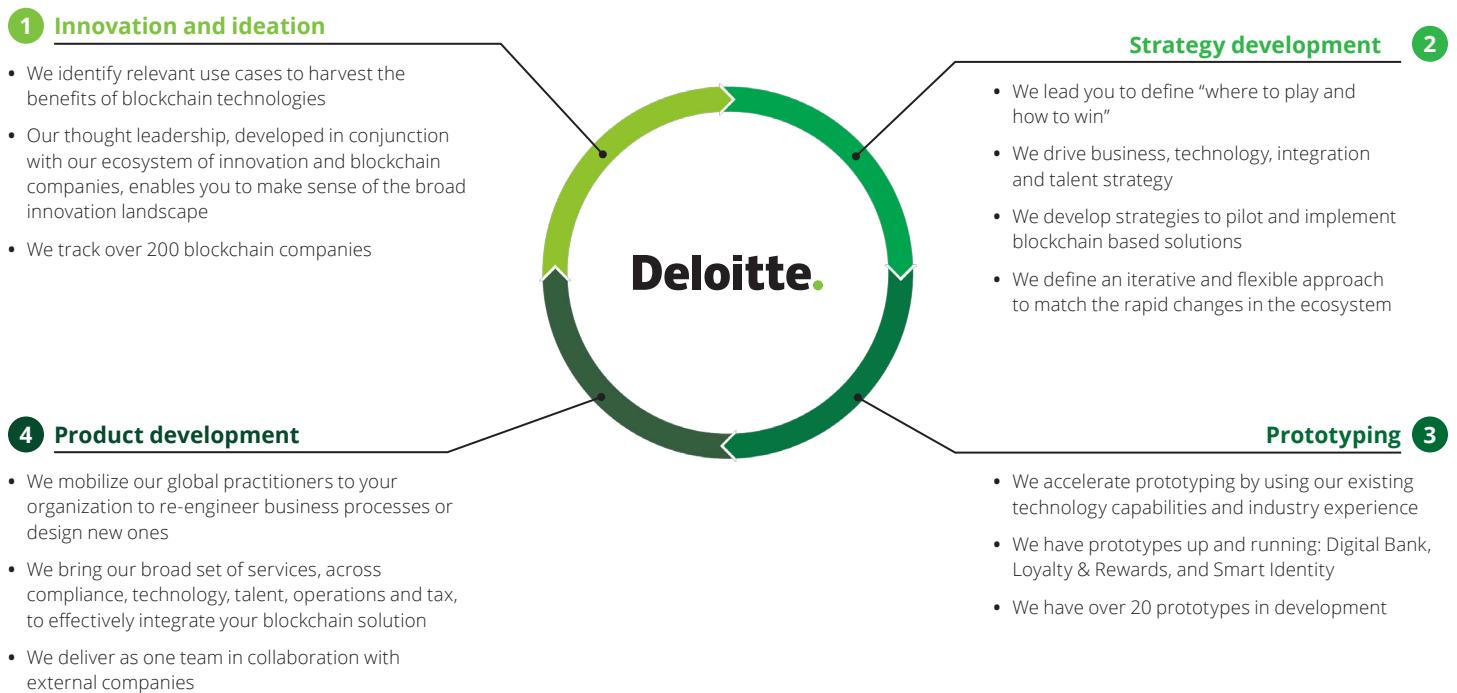
do not typically preserve the identities of the parties nor the transaction data, only the proof of the transaction existence.

Irreversibility: A blockchain contains certain and verifiable record of every single transaction ever made. This prevents double spending, fraud, abuse and manipulation of transactions. It presents challenges to provide charge back capabilities but smart contracts are addressing this.

Censorship resistant: Work has been performed in crypto economics in order to ensure that blockchains continue producing new blocks and that blocks are not being reverted or altered.

Deloitte's blockchain offering

Deloitte has been applying and operationalizing strategies for implementing blockchain for its clients for years. The following infographic breaks down Deloitte's blockchain offerings on a global scale.



23

Industries where we have deep business process knowledge



Global delivery network with 9 development teams

600+

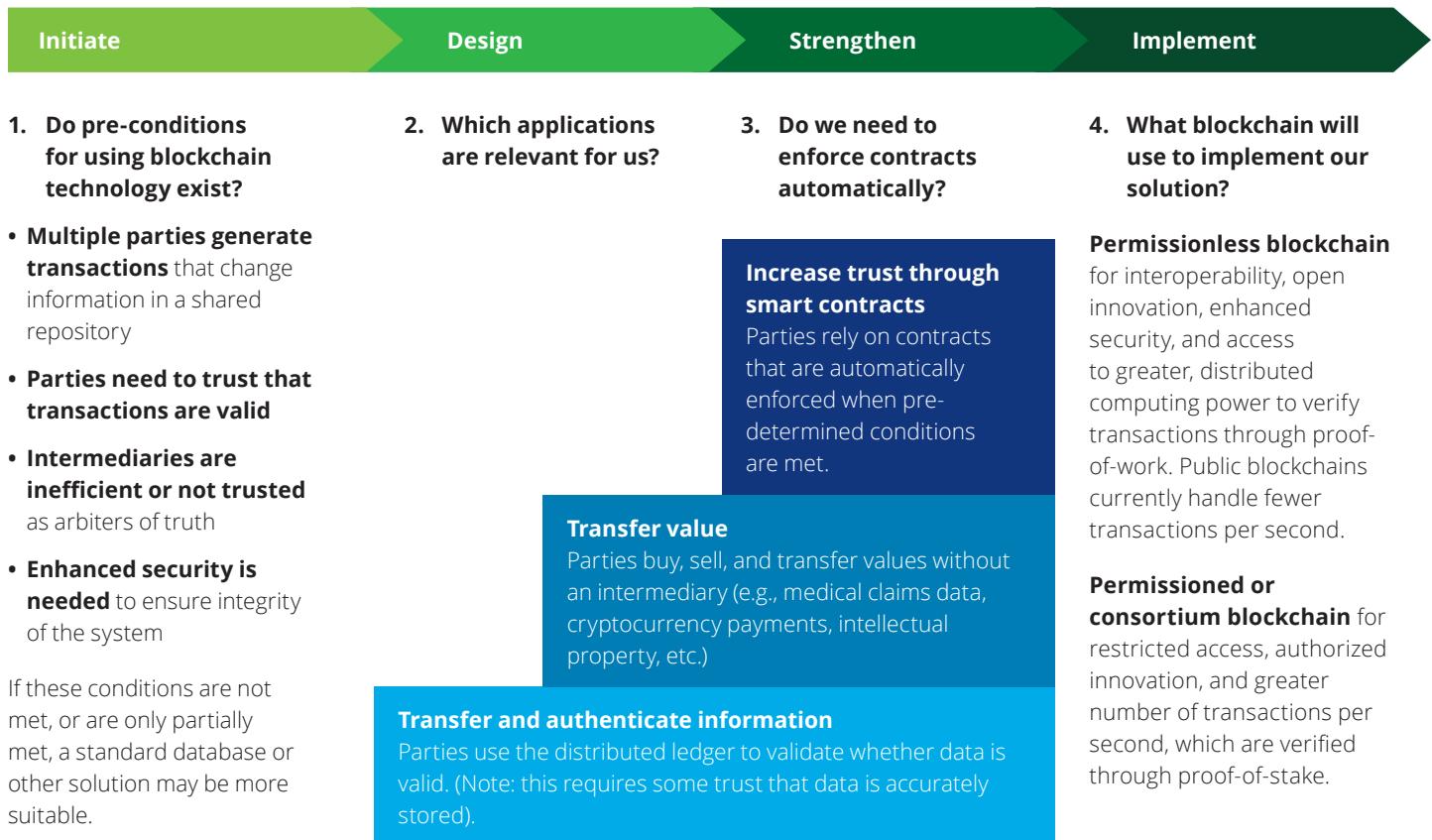
Practitioners in our blockchain community from 40 countries



Ecosystem of technology and innovation companies (subset above)

Deloitte's blockchain framework

Deloitte's blockchain framework serves as a guide for organizations interested in utilizing blockchain technology. It can help guide decision making by answering four key questions: when should organizations initiate blockchain pilots? How should they design the use cases? When should they strengthen the system through smart contracts? Should they implement permissioned, permission-less, or consortium blockchains? For organizations new to technology, the guided four-step process simplifies a complex, rapidly evolving field into a series of discrete decisions.



Cross-border payments and blockchain

Blockchain technology stands to fundamentally disrupt cross-border payments and preliminary applications include the following benefits:

- **Quick** — Complete payments in near-real time
- **Cheap** — Reduce network costs for transactions to near zero (measured in micro-cents)
- **Data rich** — Enable sharing rich transaction data and sender/receiver information for AML checks

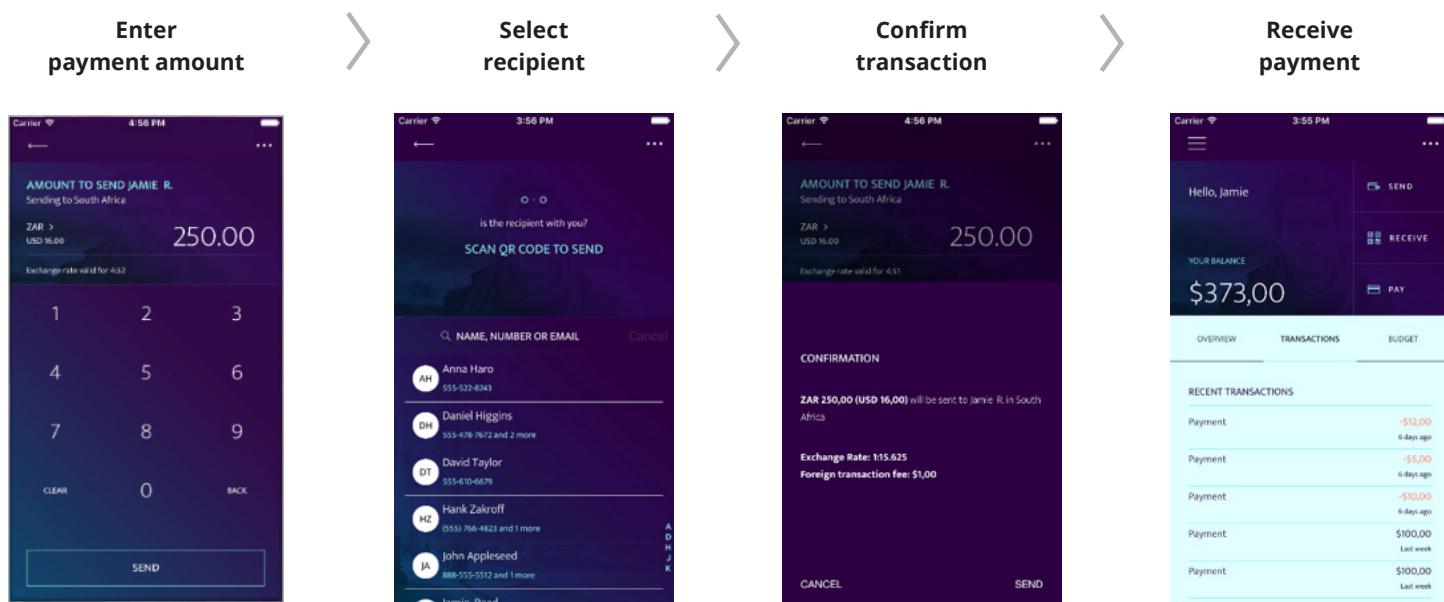
- **Frictionless** — Paperless front-end; Competitive rates delivered by pathfinding algorithms
- **Immutable** — Tamper-resistant record creates a single source of truth for reporting
- **Transparent** — Provide end-to-end visibility of fund and ownership
- **Secure** — Protected by cryptography and multi-key authorization

Deloitte has developed a proof of concept and accelerators to facilitate cross-border payments over blockchain platforms. Applicable use cases include: B2B Wholesale/Supplier Payments and International Remittances. Deloitte's has partnered with existing blockchain platforms for enhanced integration, such as Stellar and Ripple.

See below for a sample of Deloitte's Cross-Border prototype in action:

Customer-to-customer payment: Cross-border

Customer journey



Enablers

Federation lookup

Resolve recipient information based on recipient's unique address on blockchain network

FX rate pathfinding

Find the most optimal FX rate available on network from pre-selected providers

Information handshake

Share rich data (e.g., invoice number, terms) and sender/receiver information between transacting banks to pre-authorize transactions

Encryption/security

Secure transactions using public-private key cryptography

Distributed ledger

Reach consensus and confirm transactions on the distributed ledger

Notification and receipt

Notify recipient of incoming transaction and post payment to recipient account

So what's next?

Blockchain technology is poised to have an impact across industries, not just payments, as companies are discovering innovative ways to leverage the technology to improve operations. Blockchain technology is still relatively new, but it has already demonstrated the potential to help businesses provide faster, cheaper, safer and more reliable transactions and it will likely play an increasingly important role in the evolution of the payments landscape.

Deloitte Digital Bank

Digital banking is about getting back to basics, connecting people and money to make life happen,

Our Digital Bank solution is about delivering the 'art of the possible' through a forward looking, customer-focused vision. It is a scalable and high-performing core account and digital identity platform that can significantly reduce cost of delivery, improve customer experience, enable a future digital-only bank, and provide flexibility for the future. Deloitte's Digital Bank offers proof of concepts, prototyping, and product development capabilities.

Why a digital bank?

The culmination of a number of internal and external pressures are driving the need for a digital bank, including:

- Customers have become more sophisticated with their acquisition and use of financial service products
- Regulatory changes have opened markets and opportunities (e.g. access to payment switches from non-traditional players — mobile operators, technology firms, retail stores personal finance platforms)
- Continuous pressure on cost for traditional banking providers

The Digital Bank's design operates under a core set of design principles, with an emphasis on simplicity, including:

- Design for "usefulness": Design principles that not only ensure quality but also deliver products, services, processes and functionality useful to both the customer and the bank. Remove complexity and "process waste".
- Digitally enabled: Embrace recent technology advancements (web, social, video, public cloud, mobile and modern core componentized banking platforms) to deliver an improved anywhere anytime customer take-on and service through an automated self-service digital experience.
- Banking anywhere, anytime: Fully automated acquisition, service and closure processes to improve cycle times, drive down operational costs, and improve overall effectiveness and usefulness.

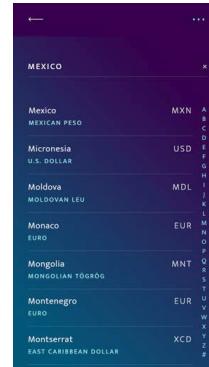
Payments processing is core to the design of the Digital Bank, especially around:

- **Performance and scalability:** Efficient scalability is essential for competing in today's digital environment. The Digital Bank provides effortless and rapid scalability without an exponential increase in cost
- **Frictionless processing:** The Digital Bank allows for efficient processing in light of its seamless User Interface, removing friction from each transaction
- **Automation:** Fully automated acquisition, service, and closure processes to improve cycle times, drive down operational costs and improve overall effectiveness

The Digital Bank radically transforms the relationship between people and money, relying on a customer-centric user experience, and nimble architecture in anticipation of a radically changing industry.

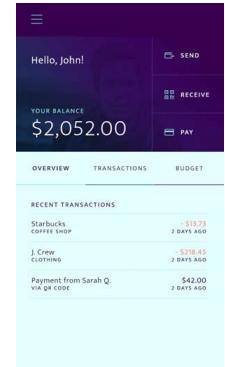
See below for a sample of Deloitte's Digital Bank Prototype offering in action:

Currency search



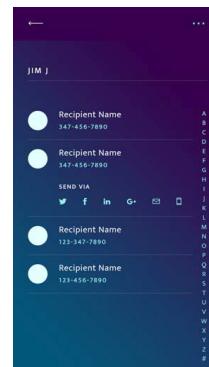
Ability for instant/micro-cost of cross boarder payments

Account home



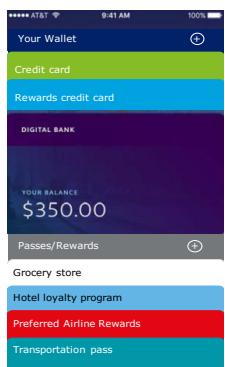
Reimagining a banking "account" to be simple and intuitive

Recipient search



Frictionless payments in or out of the Digital Bank network sent by phone or social media contact information

Voucher in wallet



Wallet and loyalty in one location make payments at merchants easy

Moving to real-time

The mass movement towards real-time payment systems around the globe has contributed to an environment in which consumers, merchants, and financial institutions expect to be able to pay friends and customers, settle bills, and transfer money at the drop of a hat. While the concept of “paying now” is not a new one — cash is an immediate payment transaction instrument after all — the growth of “real-time payment” options has helped build a new standard among consumers and in the market. This new standard is driving change for traditional payment types — checks, credit, debit, prepaid, and the like — as consumers have generally come to expect faster settlement periods, notifications and consolidated reporting.

Additionally, the growing ubiquity of smart devices and booming online retail commerce is driving the rapid adoption of real-time payments, globally. Increasingly, consumers may be turning to their smartphones when they need to pay merchants, billers, peers and others.

The private sector has typically driven adoption to promote commerce and governments have tended to lag behind, but now, global governments are taking active roles. In example, The United States Federal Reserve has released Strategies for Improving the US Payments System and has since engaged a Faster Task Force (as well as more Secure) to support the revolution of the United States payments system.

How do real-time payments work?

Most existing real-time payment systems offer an instant, 24/7, interbank electronic fund transfer service that can be initiated through one of many channels: smart phones, tablets, digital wallets, and the web. In such a scheme, a low value real-time payment request is initiated that enables an interbank account-to-account payment fund transfer and secure transaction posting with immediate notification features.

So what's next?

Real-time payments are likely to significantly impact the way we transact and conduct business. Real-time payments can benefit merchants, consumers, financial institutions, and society by offering enhanced visibility into payments, enabling better cash management and helping businesses better manage day-to-day operations by improving liquidity. The liquidity improvement could be especially impactful to small merchants who may be used to waiting days for their settlement, possibly creating a positive impact on their cash flow. Further, Consumers could enjoy the convenience of paying their bills at the last minute without penalties and financial institutions could provide better services. Economies around the globe could be more fluid than ever before.

While challenges remain to reaching this utopian future state, we predict that real-time payments will likely generate new consumer behaviors and spending patterns, thus increasing revenue for the payment players who are well-positioned to capitalize on this evolution.

For more information please access:
<http://www2.deloitte.com/us/en/pages/consulting/articles/real-time-payments-changing-reality-of-payments.html>

Real-time payments can benefit merchants, consumers, financial institutions, and society by offering enhanced visibility into payments, enabling better cash management and helping businesses better manage day-to-day operations by improving liquidity.

Default payments: The digital marketplace reset you did not see coming!

There is a new trend in the consumer payments space that will impact payment providers' position in the market place as customer spend shifts increasingly to all forms of digital, from e-commerce to m-commerce to in app payments. This is the increasing behavior of consumers storing card and bank account payment details to make payments for future transactions. We call this "default payments." If you have stored your credit card on a ride sharing app, or linked your bank account to pay for utilities, or tapped your smartphone at a point-of-sale (PoS) terminal to pay with a card stored on a mobile wallet, then you are a default payment user!

Default payments bring new challenges for incumbents, changing the dynamics of customer acquisition and retention as payment decisions become less proactive. Not every card that a consumer owns is used for default payments, for example: respondents in our survey (described next) had an average of three credit cards, of which only 1.5 were used for default payments on websites.

The Deloitte Center for Financial Services' Default Payments study is a first-of-its-kind study, incorporating a mobile diary that tracked 31,000 payment transactions over a month, augmented with a 3,000-respondent survey. With the rich results from these two primary research tools, we answer five questions: *Why* do consumers choose a default payment option? *Where* do they use them? *When* do they use them? *Which* types of payment vehicles do participants feel most comfortable storing as default payment choices? And finally, *who* uses default payment choices and *who* does not?

Our study reveals that as a percentage of digital transactions, default payments were a staggering 82 percent by number and 88 percent by value! They made up 74 percent of websites' payment traffic and 87 percent of digital apps. Of all transactions made for e-commerce retail items, 85 percent were default, and this figure was 81 percent for financial services.

In our view, it is not a question of whether default payments will alter the fortunes of payment providers in the future but of how soon. The acceleration of digital commerce and the merging of the physical world with the digital world will all but ensure that default payments will become the norm in the very near future.

One outcome of the default payment trend is likely to be increased competition among card issuers to become the default payment option. Now is an opportune time for card issuers, payment providers and retailers to think of strategies to take advantage of the default payment behavior, and become the "top-of-wallet" choice.

Deloitte — auditor of the future

Today's business leaders deserve an auditor who has a deep understanding of their business and industry — one who can deliver higher quality and less resource intensive audits that provide greater insight and drive more business value. This is where Deloitte excels, and we are delivering the audit of the future — today. Today Deloitte leads the Big Four audit and accounting firms in the auditing of payment processors (as defined by JPMorgan Data Processing Outlook, 2016), nearly twice as many as the next closest competitor.

Representative payment processor audit clients include:

- Alliance Data Systems
- Blackhawk Network Holdings
- Discover Financial Services
- Evertech, Inc.
- Fiserv, Inc.
- Global Payments
- Heartland Payments Systems, Inc.
- MoneyGram International, Inc.
- Vantiv
- WEX, Inc.

Our multidisciplinary approach and full complement of business capabilities within the Payments industry — including audit, enterprise risk, tax, and consulting services — enhance the quality of our audits through knowledge sharing and the broad lens of perspective and resources we can bring to address your business challenges. The unique business and related financial reporting risks within the payments industry drive our approach to the audit. We:

- Assess risk based on the structure and operations of your organization.
- Develop a refined view of risk that pinpoints what could go wrong to cause a material misstatement in the underlying account balances and disclosures for the financial statements of each reporting entity.
- Customize the nature, timing, and extent of the control and substantive procedures we perform by matching the level of risk identified for each significant account, class of transaction, and disclosure with the relevant assertions.

At Deloitte, audit innovation enables our auditors to provide greater insight into your financial risks, internal control risks, and strategic challenges. Deloitte is the leader in audit innovation, and our robust tools and technologies allow us to effectively and efficiently support the audit and respond to your unique and complex environment. We have successfully leveraged new technologies, using big data analytics, and improving the audit delivery process in response to the needs of our payments clients and the ever-changing environment in which we operate. Specific examples include:

Actual application	Benefit to the client
 Visualized revenue transactions recorded during the year and identify any transactions that signify an anomaly or additional risk	A more meaningful discussion with management regarding trends and anomalies
 Obtained data extract of volume by day and recomputed volume by category that was important to apply by fee category	Eliminated the need to perform detailed selections of 75 volume transactions
 For an entire loan portfolio: <ul data-bbox="169 825 1062 952" style="list-style-type: none"> Visualized multiple segments by location across the United States (e.g., average balance, FICO score) to identify concentrations of risk Visualized average delinquencies and number of accounts by FICO score Created maturation of losses by vintage 	More robust risk assessment in order to pinpoint significant risk more thoroughly and reduce substantive testing for certain aspects or assertions of the account balance Eliminated the need to perform detailed selections of charge-offs by year originated
 Used our Argus tool, which is an audit application that leverages advanced machine learning techniques to easily process and extract key information from documents, to: <ul data-bbox="169 1058 1013 1241" style="list-style-type: none"> Assist with our evaluation of Service Organization Controls ("SOC") 1 reports received for SOX-relevant outsourced service providers Compare the user entity controls ("UEC") between the SOC 1 reports received for 2015 and the SOC 1 reports received during our 2014 audit of the company Quickly evaluate any changes in UECs as well as any general changes to the SOC 1 reports year-over-year 	Ability to complete work in a shorter timeframe and earlier visibility to follow-up questions

Our commitment to audit innovation has been recognized with Deloitte's acceptance of the 2015 Audit Innovation of the Year award from the International Accounting Bulletin.

We believe an audit is more than an obligation for our clients; it's an opportunity to see further and deeper into their business. We strongly believe executing a fresh service delivery and innovative approach is a true differentiator for Deloitte.

Illustrative results, Deloitte's qualifications

We have extensive capabilities and experience assisting issuers, processors, associations, and networks in their efforts to address a broad range of business transformation and operational excellence challenges.

	Representative capabilities	Select engagement examples
Strategy		
Payments strategy		<ul style="list-style-type: none"> Global hotel and leisure company: Developed a comprehensive global payments strategy that enabled customer growth, increased spend across payment channels, improved revenue recovery from fraudulent bookings, strengthened payment security, and reduced operational overhead for property owners. The payments business case demonstrated a \$130M+ net benefit over 5 years, transforming payments from a cost center into a revenue driver for the client. Credit payment company: Identified and analyzed pain points in the industry for their Magnitude, Timing, and Likelihood within the framework of a three year time horizon. Assessed latest trends arising out of these pain points, presenting deep-dive analyses of their development in addition to mapping the magnitude of their impact on issuers and acquirers. Major credit card company: Aligned card network's B2B product offerings with prioritized commodities and identified potential value propositions across target markets. Developed go-forward action plans and use cases to highlight potential significance and applicability of insights and recommendations in real-life scenarios. Major card issuer: Analyzed pain points in the industry for their Magnitude, Timing, and Likelihood within the framework of a three year time horizon. Assessed latest trends arising out of these pain points, presenting deep-dive analyses of their development in addition to mapping the magnitude of their impact on issuers and acquirers.
Cross border B2B payments		<ul style="list-style-type: none"> Global corporate payments company: Identified the relative attractiveness of the cross-border B2B payments opportunity across the six target markets, enabling card network to prioritize and build a focused strategy. Recommended potential additions and refinements to card network's value proposition across target markets.
EMV migration		<ul style="list-style-type: none"> Top 50 regional bank: Leveraged international payments practice to bring EMV expertise from countries that had undergone EMV migration already, helping to future proof client's EMV strategy against possible scenarios that could play out post liability shift. Built a card deployment strategy that remained flexible to allow for uncertainties in merchant acceptance and vendor supply, targeted high-value, high-risk, and regularly traveling customers first.
Blockchain loyalty		<ul style="list-style-type: none"> Global lodging company: Established burning platform for exploring blockchain applications and articulated how the blockchain would create value for Marriott, hotel owners, and guests. Created blockchain impact scenarios for socialization, including high-level roadmap, pilot design principles and a vendor list. Developed future state vision of transformative reward liability management ecosystem.
Text and speech analytics assessment		<ul style="list-style-type: none"> Super regional bank: Assessed the text and speech analytics program to generate a roadmap that accelerates the development of a system that detects potential noncompliance within complaints. Interviewed the complaints governance, compliance, product root cause analyst, and marketing analytics teams to understand requirements of the system and existing policies / procedures. Defined technical constraints by involving analysts, architects, and information technology teams. Performed a maturity assessment of the complaints program against the Deloitte complaints maturity model. Defined a blueprint for the technical design of the text / speech analytics system. Prioritized opportunities and recommendations into a plan / roadmap that clearly outlines the next steps to implementation and defines benefits of a multi-generational plan. The potential noncompliance complaint analysis system will keep the number of manually sampled complaints manageable, even as the bank defines a complaint as "any expression of dissatisfaction".
Market assessment		<ul style="list-style-type: none"> Major online payments platform: Provided market specific recommendations that helped the client identify key action items for each market (i.e. collaborating with local networks, enabling prepaid, e-wallets with significant usage) to help maximize market share uplift. Based on Deloitte's assessment, the client initiated RFPs for payment vendors across target countries leveraging capability assessment maps to refine potential partnership options.

Representative capabilities	Select engagement examples
Technology	<p>Mobile payment wallet, new product launch</p> <ul style="list-style-type: none"> Travel and leisure company: Identified current documentation and potential gaps, developed new documentation for Business rules, Data sources, and Reporting requirements, and designed and documented 27 new processes. Coordinated with system vendors to resolve Day 1 launch issues and supported the clarification of deliverables post launch.
	<p>Enterprise-wide complaint reporting and analytics system</p> <ul style="list-style-type: none"> Top 4 bank: Deloitte built an enterprise-wide complaint reporting and analytics system which helped the bank address customer complaints and identify root causes more efficiently. Enhanced the data model for the common complaint capture system with the Deloitte complaints logical model. Developed five enterprise dashboards for complaints tracking. Built a lexicon for 25+ regulations related to citations using the Deloitte process to citation mapping. Designed and implemented machine learning models to reduce false positives from 95% to 50%. Streamlined complaint aggregation to reduce processing time and reporting window. Standardized complaint attributes and provided clear view of top problems.
	<p>Post-merger integration, revenue growth strategy</p> <ul style="list-style-type: none"> Global leading financial technology firm: Established a central integration management office that focused on the integration strategy and long-term growth opportunities. Developed a structure for identifying and validating the main revenue growth drivers based on trends identified in the major markets as well as the customers' markets and segments, and an estimate of their influence on the post-merger company's sales.
	<p>Healthcare advantage modernization</p> <ul style="list-style-type: none"> Major US regional bank: Mapped 2015 priorities against a repeatable business value/urgency framework and created the "order board" of priorities across teams. Designed and deployed metric dashboards to advise leadership to product and platform performance.
	<p>Consumer and merchant credit expansion</p> <ul style="list-style-type: none"> Large payments player: Positioned client to compete in the global consumer credit market by building a flexible credit platform that can be rapidly and efficiently scaled to new markets. Enabled over \$100M worth of credit purchases by almost 50K customers within one year of launch in US. Simultaneously launched in UK, where it scaled to \$60M purchases by a similar number of users in the same time frame. Established and owned a comprehensive quality management organization focused on customer experiences end to end across the full portfolio, which was then leveraged by the client in multiple future large scale programs.
	<p>Complaint data and reporting system</p> <ul style="list-style-type: none"> Regional bank: Designed a complaint data and reporting system that serves as a foundation to expand the enterprise complaints program to include asset management and business banking LOBs. Applied the Deloitte complaints logical model as a blueprint for the complaints warehouse which significantly shortened the time to build the warehouse. Designed and validated a monthly complaints dashboard that includes an overview, trending by complaint issue, trending by source, and regulatory complaint SLAs. Developed a heat map method to prioritize complaint areas relevant to citations. Established ad hoc analysis framework to investigate hotspots and map to processes. The framework for conducting ad hoc analysis extended to support root cause analyses for customer experience and non-consumer product use cases.
	<p>mPos conceptualization and implementation</p> <ul style="list-style-type: none"> Global sports equipment and apparel retailer: Designed, delivered, and implemented national, in-store mPOS pilot application unifying the customer experience, improving retail growth, and enhancing customer service. Deloitte Digital conceptualized and implemented the best-in-class solution in under three months, laying the groundwork for enhanced cross-channel inventory tracking, consumer insights and sales force optimization.

	Representative capabilities	Select engagement examples
Operations	Payments strategy and implementation	<ul style="list-style-type: none"> India-based telecom player: Deployed a 40+ member integrated team of consultants from the US, UK and India firms across strategy, operations, technology and human capital/talent paired up with India based global delivery center. Developed a holistic strategy to address needs of all key stakeholders in the ecosystem - consumers, merchants, agents, govt. and banks. Led selection and integration of 20+ vendor platforms to provide a complete digital payments solution for customers. Completed implementation from strategy through pilot in — 8 months. Set up a payments business that will revolutionize payments in India with a goal of digitizing 500M+ transactions in the first year of commercial operations.
Operations	Core payments re-design and re-platforming	<ul style="list-style-type: none"> Large global payments processor: Set up and led a program that focused on improving operations and underlying technology and infrastructure to process payments of all major instrument types with particular focus on Credit Card Payments. Defined end state Business Architecture, Production Ramp Strategy, and led E2E Quality Assurance Testing. Program successfully improved the availability and system uptime to 99.99% and reduced end-to-end payment processing latency to <2s.
Operations	Compliance program assessment and regulatory mapping	<ul style="list-style-type: none"> Top 4 bank: Obtained and analyzed Servicemembers Civil Relief Act (SCRA) related complaints to identify the level and severity of SCRA regulatory compliance risks and enhancements to existing controls. Identified SCRA assessment stakeholders, gathered required complaints data, and other applicable information to perform assessment activities. Analyzed existing complaints data and SCRA complaints controls to assess the level and trend of complaints related to SCRA, including identifying complaints by source/channel, product/business unit, and potential SCRA regulatory issues. Developed and conducted an SCRA testing plan. Recommended process / control improvements to reduce the incidence of SCRA related complaints.

	Representative capabilities	Select engagement examples
Financial Advisory	M&A — financial due diligence and integration planning	<ul style="list-style-type: none"> Payments service provider: Efficiently leveraged a cross-service-area (Consulting, FAS, Tax) and cross-border team (US, Canada, UK) to deliver complicated due diligence, synergy assessment, and integration planning efforts.
Financial Advisory	Fraud risk assessment	<ul style="list-style-type: none"> Global bank: Performed a fraud risk assessment for account enrollment, debit and credit card transactions, and ACH transactions (including corresponding returns and refunds). Developed prioritized recommendations for strategic enhancements across people, process, and technology to mitigate risk.
Financial Advisory	Sell-side advisory	<ul style="list-style-type: none"> International stored-value and alternative payment solutions provider: Assisting the management team and shareholders in providing a full range of sell-side advisory services, including: developing marketing materials, identifying and contacting potentially interested parties, managing the due diligence process, and advising on transaction negotiations.

	Core business	Representative clients		
Audit	Payments	<ul style="list-style-type: none"> Alliance Data Systems Blackhawk Network Discover Financial 	<ul style="list-style-type: none"> Services Evertec Global Payments 	<ul style="list-style-type: none"> Vantiv WEX Inc.
Audit	Payroll	<ul style="list-style-type: none"> Automated Data Processing 	<ul style="list-style-type: none"> Trinet 	
Audit	Core FSI processors	<ul style="list-style-type: none"> Broadridge 	<ul style="list-style-type: none"> CDK Global 	<ul style="list-style-type: none"> Fiserv

Endnotes

1. Kennedy Consulting Research & Advisory; Consulting to the Banking Sector: Cards & Payments; Kennedy Consulting Research & Advisory estimates
© 2013 Kennedy Information, LLC

2. Deloitte Consulting Banking and Payments team, July 2011.

3. Source://www.mobilecommercedaily.com/2011/12/21/sears-is-2011-mobile-retailer-of-the-year?rr44b=no

4. Kennedy Consulting Research & Advisory; Consulting to the Financial Services Industry; Kennedy Consulting Research & Advisory estimates; © 2013.
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