PIONEERING PAYMENTS –
RENEW THE CORE, BUILD THE NEW
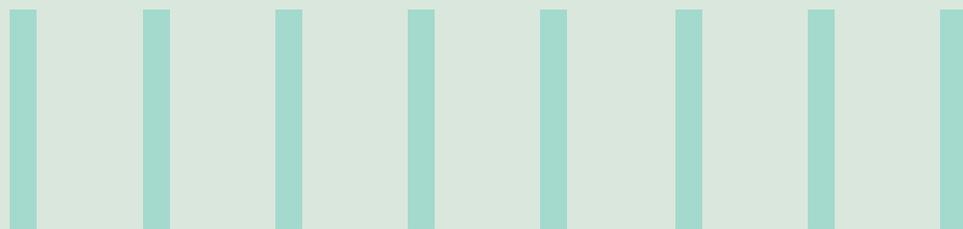
Abstract

Payments is a difficult industry to innovate considering it needs scale in a fragmented market. Nevertheless, Digital Technologies are helping banks innovate with new products and services. In this article Nans Sivaram and Abhisek Bhowmik discuss a few such case studies and possibilities.

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A large share of bank's business is payments – constituting around 35%–40% of their revenue. However, banks are grappling to keep their edge in the payments business – low interest rate, faster payment regime, and competition from nonbank payment players are shrinking both their interests and fee margins. But at the same time, digital technologies are offering cost reduction (straight through processing and automation), new revenue streams (new markets and value-added services), and volume growth opportunities (move from cash and paper to digital payment methods).

Our payment strategy survey (in association with ATM Marketplace and Mobile Payments Today) found that payment players are adopting a two-way strategy. They are renewing their core through legacy platform modernization, batch process acceleration, card management platforms, payment services hubs, and more, in an attempt to cope with faster payments, perform real-time risk management, and address ever-changing regulations. This is the precondition for survival when competing with digitally enabled banks and fintech startups. However, merely adhering to 'best practices' won't suffice. To thrive, banks will need to find creative solutions for their customers – both new and old; known and unknown. They would need to adopt new technologies (such as big data analytics, machine learning, etc.) that offer new ways to understand customer needs as well as ones (such as Design Thinking, co-creation, etc.) that help formulate new business models to address those untold needs.

Payment innovation

A true payment innovation should be of an order of magnitude better than the incumbent product or service. Payment is a difficult business to scale and innovate – the network effect required from all stakeholders (payer, payee, and rails) makes it very difficult to disrupt. In the future, value transfer over the Internet and use of the distributed ledger can play a potentially significant role in payment innovation. Many of our clients and partners are experimenting in this space. We are seeing interest spiking in the use of math-based currencies and distributed ledgers in real-time international remittances, P2P micro-payments, system of records management and ownership transfer, digital identity management, and ultimately, disruption of the trusted central intermediary model. One leading player in this is Ripple Lab. Ripple provides global financial settlement solutions to enable the world to exchange value like it already exchanges information – giving rise to an Internet of Value (IoV). Ripple solutions lower the total cost of settlement by enabling banks to transact directly, instantly, and with certainty of settlement. Many banks and payment players are adopting Ripple and similar platforms.

We are also seeing innovation by improving the use of human senses and emotions to facilitate a customer journey and increase spend. Some examples are: use of gamification in loyalty space; use of wearables and specific colors, sounds, and other senses to increase the likelihood of spend; etc. Payment players such as American Express, Visa, MasterCard, and Bank of America are investing heavily in wearable wallets, biometrics, and Internet of Things (IoT) technologies to make payments invisible. We are seeing new partnerships of payment players with device players such as Ringly, Nymi, Jawbone, GM (key fob), TrackR, and more. We are seeing trendy ways of payment authentication such as pay-by selfie facial authentication by Mastercard. We believe these machine-human interaction trends will continue and amplify in the coming days.

We have formed a fintech innovation group called Infinite which addresses emerging technologies such as distributed ledger (Bitcoin, Blockchain, Ripple, etc.), big data analytics (for fraud detection, marketing, etc.), exploration of API ecosystem, and Internet of Things, etc. We have partnered with our payments clients for defining nonlinear growth areas through co-creation and the AiKiDo innovation framework (E.g., Innovation Day and Hackathons, Innovation Fund, training programs, etc.). We are also working with fintech startups to help build and promote their solutions (investing in fintechs, providing Sandbox for fintechs, connecting their solutions to our client needs, etc.). Some areas where we are seeing the most interest are Crypto currency and distributed ledgers (Ripple, Blockchain), security (cybersecurity, data center, incident response), risk, compliance and fraud (using big data), mobile payments, biometrics, etc.

Key findings from an Infosys survey

- Legacy systems and processes are the key barriers to digital investment (35% of respondents)

- Key priorities – customer acquisition (69%), increasing customer satisfaction (35%), unified experience (40%), understanding customer dynamics (37%), faster transaction processing (40%), increasing security (35%), and maximizing revenue growth (20%)

- Technology refresh, platform migration, moving to secure cloud environment, and adopting open source are seen as investment priorities

- Digital partner fitment priorities – payments experience (63%), system integration experience (39%), technical expertise (37%), creative capabilities (33%), end-to-end turnkey solutioning (23%), and leadership and right ecosystem (22%)

*For details please refer to our Payments Strategy Survey

Digital enablement

Online-offline convergence and making the payment process invisible (E.g., through wearables) will be two key themes for digital payments. Smart Point of Sale (PoS) terminals will now be able to understand your untold needs from your mobile / online / social searches and offer instant discounts. Connected devices (Internet of Things) such as a smart freezer can understand that you are going low on milk and automatically order and pay for it on your behalf. We believe we will see artificial intelligence and programmatic marketing on the fly for maximum effectiveness. API-fication will be another growing trend – banks and payment organizations will partner with open source / fintech community by opening up APIs to help build new services on top of their platforms (possible case in point is distributed ledger APIs).

In fact, many leading players have already begun their digital enablement journey. American Express is joining the express checkout war with AMEX Express Checkout. MasterCard is rolling out digital enablement service for issuers and merchants to manage tokenization and digitization for every transaction initiated from a variety of devices. Citi is investing in channel services such as Citidirect BE, Citi Straight Through Reconciliation, and more. Visa CyberSource and Verifone are partnering to promote omni-commerce and accelerate cross-channel payments infrastructure.

Infosys is a frontrunner in digital enablement with multiple offerings in digital technologies, consulting, and creative services. Our Edge suite of products such as InteractEdge, AssistEdge, BrandEdge, and more, and technology platforms such as SkavaONE, SkavaSTUDIO, and Smart Zones support mobile commerce, provide in-store digital solutions, omnichannel and e-commerce marketing solutions. Our solutions have helped companies enhance their customer engagement, drive operational efficiencies, and transform to a digital business.

Big data and analytics

Real-time payments analytics, machine learning, business activity monitoring, and data visualization will continue to gain traction. Distributed ledger can be the next logical extension of big data. With an open and federated oversight model, we may see a lot of reduction in redundant infrastructure – consider consensus-based KYC, elimination of the central authority, oversight and risk management, etc.

Today, we are witnessing heavy investments by many leading financial services companies. American Express is investing heavily in open source technologies such as Hadoop to improve data-science-based decision making to make targeted offers (E.g., AMEX offers). They are also using machine learning for fraud detection, customer and loyalty management, etc. Visa is also using analytics and machine learning to detect fraud more effectively (reducing false positives and false negatives by scanning and analyzing millions of data points).

At Infosys, big data and analytics is a key focus area. Leveraging the expertise garnered through multiple engagements, we have developed the Infosys Information Platform (IIP) to help our clients build an enterprise-wide analytics platform that provides real-time insights, reduces total cost of ownership, and improves enterprise-wide data security. The platform supports out-of–the-box facility for data ingestion, data extraction, data pipeline, data science, and visualization. This platform is built on open source technologies with customization and integration opportunities for specific client needs.

Payment security

EMV, tokenization, etc. will continue to see traction. With the introduction of faster mass payments, we expect to see stronger real-time authentication and fraud detection as there will be a very short window to catch the bad guys. We will also see social-local-mobile check-ins being used for fraud alerts. E.g., if there is an ATM withdrawal in NYC and after a few hours, the same card is used in Phoenix, the system will validate if the card member has made any check-ins in social network for such travel, otherwise it will trigger an alert for possible fraud.

Security is a major cause of worry and at Infosys, we are always on the lookout for newer ways to ensure complete security. We offer consultancy services around PCI-DSS, tokenization, EMV migration, host card emulation, fraud management, 3D secure, and more. In fact, we have built an authentication engine that uses customer spend data and location to manage fraud for a card issuer. In another key engagement, we implemented payment gateway services for a global e-commerce giant.

Operational excellence

Business agility, straight through processing, centralized payments processing, single view of the customer, real-time risk management, procure-to-pay process electrification, and more will be the key themes for operational excellence. Cross-border B2B payments will get a lot of attention and we expect many new players, such as Ripple, competing against the conventional correspondence banking model with much better operational processes and liquidity management.

Operational excellence is an outcome that we, at Infosys are always striving for. To achieve this, we offer end-to-end program management and change management, product evaluation, selection and implementation of third-party products for card management platforms, payment hubs, loyalty platforms, quality assurance services, reporting engine, and dashboard implementation.

Technology modernization

We expect to see legacy payments platform modernization, batch process acceleration, and domestic and international payments rails upgrade. Banks will endeavor to find new ways to recoup the cost by building value-added products / services on top of these new platforms.

At Infosys, we offer a broad range of services to achieve modernization. Our key service offerings include current platform assessment and developing target state view and roadmap to refresh for card management platforms, payment hubs,and loyalty platforms. Our services improve speed-to-market, eliminate redundancy, improve flexibility, and lower maintenance costs. In addition, we offer:

- Migration / re-hosting
- Support for migration from in-house platforms to third-party processor or vice-versa
- Re-host mainframe-based card platforms onto lower TCO stacks (Linux and Windows)
- Replacement of legacy platform
- Rationalization of multiple platforms into a single unified platform
- Third-party package implementation to replace legacy card management platforms, payment hubs, and loyalty platforms
- System integration services to build single unified platform

The Infosys way of pioneering payments – AiKiDo and Mana™

Infosys has introduced AiKiDo and Mana™ that bring machine learning together with the deep knowledge of an organization, to drive automation and innovation – enabling businesses to continuously reinvent their system landscapes. Mana, with the Infosys Aikido service offerings, dramatically lowers the cost of maintenance for both physical and digital assets; captures the knowledge and know-how of people, and fragmented and complex systems; simplifies the continuous renovation of core business processes; and enables businesses to bring new and delightful user experiences leveraging state of the art technology.

This innovative approach follows the Japanese philosophy of effectively capturing knowledge and energy, thus enabling our clients to find and define their own unique path forward to identify unique areas to renew using the Design Thinking methodology. This is not about best practices or fitting known solutions to well-understood problems. Instead,

it is about identifying and prioritizing the right problems and solving them in a rapid, iterative, innovative, and differentiated manner.

Our payment SMEs have built on this concept in the payments arena by developing an approach that defines the 'Ai' as the intellectual power or the energy brought to its clients through platforms and platform services. 'Ki' is the ability to extract, curate, and use non-disruptive technology, to renew enterprise knowledge for optimization. 'Do' stands for the path or the way forward powered by the potency of a Design Thinking approach.

In our view, pioneering payments needs fresh thinking and a culture change rather than just the adoption of latest technologies. In fact, pioneering payments is all about execution of a well-thought-out strategy, collaboration with the right partners, and taking calculated risks.

About the Authors

Nans Sivaram

Vice President and Global Head – Cards and Payments, Infosys

Nans has nearly two decades of experience in the IT industry across delivery, consulting, and client services. He has extensive leadership experience in sales and client service roles. Nans has led several innovative, platform-based offerings to the Cards and Payments space. Nans has undertaken several market-focused activities with industry analysts and media for Infosys, covering transformative trends in digital, big data, cloud, and technology modernization.

Abhisek Bhowmik

Lead Consultant – Cards and Payments, Infosys

Abhisek has around twelve years of technology and domain consulting experience and has advised some of the top banks and payments companies in the world. His interests are varied – payments services hub, risk management, information asymmetry, TRIZ, etc. He is a certified Project Management Professional (PMP®) and Financial Risk Manager (FRM®).

For more information, contact askus@infosys.com

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