



The Financial
Services Club

The Changing Face of Payments 2015

A review of current infrastructures,
drivers for change and implications
for the future



in collaboration with



Cognizant



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Preface

This is the fourth year that the Financial Services Club has collaborated with Cognizant and VocaLink with our annual survey about the state of the world's largest payment processing infrastructures and how market conditions are introducing changes. As in previous years, we have focused on the largest payments infrastructures worldwide – including SWIFT, Visa, MasterCard, CHIPS, Fedwire, STEP2– and the impact that innovation and regulation are having upon these infrastructures.

This year's survey proves particularly interesting as the impact of mobile and payments apps are clearly indicating a rapid cycle change in the industry. With Apple Pay, Blik, iZettle, Paym, Square, Swish, Venmo and Zapp etc, we are seeing most developed markets rapidly adapting to mobile real-time payments and established players facing real disintermediation threats. Which market players are best placed to respond? How will back-end processing and infrastructures adapt to support these front-end apps?

The results of this year's survey build upon the past three annual surveys, and show that:

- Regulation and innovation remain the two primary drivers of industry change
- Innovation through technology is now seen as being far more important to long-term industry structure than regulatory drivers
- There are much stronger opinions about the likely future scenarios in the industry, with mobile payments leading to disruptive innovation and new entrants such as Google and Apple
- Mobile is now seen as mainstream and the blockchain and cryptocurrencies are the 'new disruptive kids on the block'
- Security of payments processing is paramount, and is the Number 1 priority for both retail and wholesale payments processing
- The chances of SWIFT disappearing, and the erosion in the use of plastic cards, now seem less likely than reported in previous years
- There is increased optimism this year about a rationalisation of payment infrastructures over the next ten years

We hope this research prompts frank and productive discussion across the industry about how to make this transformation happen.





Executive Summary

In the spring of 2015, the Financial Services Club ran an online survey, in collaboration with Cognizant and VocaLink, about the nature and state of the world's largest payment processing infrastructures and whether they are fit for purpose.

The survey reviewed the areas influencing payments, the technologies that have the most impact, the ability of institutions to respond to change, the institutions that are most influential in the payments mix, and the likely trends that will most impact payments infrastructures over the next ten years.

The main headlines for this year's survey are:

1. Innovation has moved from being a longer term change driver to be considered as equally important as regulation in impacting the Payments Industry. In our view, this is due to the disruptive impact that innovation is having and the ever reducing time to market. Regulation and innovation are both now impacting the economics of payments business models.
2. Mobile payments are now mainstream, and emerging technology and innovative ideas in this space are creating disruption for both existing payments providers and new entrants.
3. The potential of blockchain technologies to transform Payments Processing and the impact of cryptocurrencies, such as Bitcoin, have become a new and real driver for change this year. The speed at which these concepts have developed from 'new kids on the block' to major agents for change, is unprecedented.

The survey explored key areas such as Technology Priorities, Adaptability to Change and the Future State of the Industry, as summarised below:

Technology Priorities

Technology is a fundamental component of processing payments and the survey evaluated which technology areas have the highest priority in retail and wholesale payments.

In retail payments processing, where Automated Clearing Houses (ACHs) are most likely to be involved in the central processing of payments, mobile payments still have the highest ranking impact on the industry, closely followed by security. In fact, these two areas so dominate the retail payments space that they are the only two factors that are of material relevance.

**Mobile payment services
are still the highest ranked
impact on the industry, closely
followed by security**



This year's top prediction is that mobile devices will become a mainstream option for retail payments

Wholesale payments are a different matter, with the focal point still only on security, security and security. Interestingly, the least important factor in wholesale payments is outsourcing, according to the banking respondents. This illustrates the emerging trend of financial institutions to create more digital enterprises with the ecosystem needing a new breed of security for end customers.

Adaptability to Change

All respondents were more positive this year about their ability to adapt to the unprecedented pace and scale of change in the payments industry. Almost half of the bank respondents stated that they would see few issues in dealing with major shifts in the volume of transactions processed. However, banks believe that their systems are far less flexible than non-banks, with a quarter of banks stating that they cannot respond rapidly to regulatory (28%), competitive (24%) and customer (22%) challenges.

The Future State of the Industry

We asked respondents to provide a view on the number of infrastructures they use today versus what they believe they will need in the future. The great majority of respondents consider that there are between two and five payment infrastructures in use today and that this will remain the case over the next ten years.

However, there was a divergence of opinion regarding consolidation and fragmentation of infrastructures. For example, bankers see more consolidation with a focus upon a few or even a single retail ACH, whilst definitely using fewer wholesale processors thanks to TARGET2 and similar initiatives. The non-banks were not as clear in their feedback; they were of the view that more processors would be needed rather than fewer.

It was also clear from this year's survey that mobile has taken off enormously, with almost every participant (90%, up from 85% last year) stating that *Mobile devices will be a mainstream option for person-to-person or person-to-business payments* within the next five years. As a result, a majority (81%, up from 77% last year) also agreed that *Payments processing will be a key business for innovators and new entrants* and (65%) that *New payments processors will be more successful than current incumbents*.

This year, there was a more positive view of the future state of the industry. For example, each year we ask participants to rate how much they agree or disagree with certain statements about the future. This year, the top two predictions that *Mobile devices will be a mainstream option for retail payments* and that *Payments processing will be a key business for innovators and new entrants* were met with far more agreement than last year. Equally, the least popular statements that *Core payment infrastructure systems, such as SWIFT, will have been replaced* and that *Plastic cards will have disappeared* met with far less agreement than in previous years.

We concluded the survey by asking respondents how long it would take for selected statements to come true. Some of the key findings shaping the future of the industry were:

- When asked about the future of payments, a major new trend was highlighted. In answer to the statement *Google and Apple will dominate mobile payments*, over a third of participants (39%) believed this would be the case within the next five years.
- Intriguingly, no-one believes that core payment infrastructure systems, such as SWIFT, will be replaced in the near-term.
- Respondents are less impressed with the progress of SEPA than they were last year. Only just over half of respondents think that SEPA will be fully adopted across the Eurozone within the next five years, down from nearly two-thirds a year ago, with banks being more confident in adoption than non-banks.
- 28% of respondents consider that account switching will have been superseded by account number portability within five years. Despite the evident challenges and costs that this would present to the industry, this concept is gathering momentum and the new Payments Services Regulator in the UK, for example, clearly has this on their agenda. And if that was not frightening enough from a change perspective, over a third of respondents consider that banking services will be provided by a non-bank utility within five years.
- Finally, our statement that *PayPal will be the largest payments processor on the planet* is proving less and less popular, with 69% saying this will never happen in this year's survey compared to 61% last year. It seems that this argument is now closed, yet clearly other unprecedented changes are very much open and on the agenda.



Four key highlights



Mobile payments have peaked as a mainstream payment channel this year, rather than something new and interesting.



The launch of Apple Pay and other movements towards mobile wallets from Samsung, Google and Microsoft is accelerating disintermediation and has created a strong drive for banks to be part of this new ecosystem. This is especially welcome in the light of structural and regulatory changes in the plastic cards industry reducing the profitability of these payment methods.



Cryptocurrencies and blockchain technologies are gaining mainstream recognition and adoption in all aspects of the payments system, particularly in back office infrastructures.



The development of the regulatory framework of SEPA and the Payment Service Directive has lost some support in the past 12 months. This could be due to the fact that they are not gaining enough traction amongst the corporate community they are intended to serve.

Conclusions

Some key elements of this year's survey have continued the trend of previous years. Security, for example, remains of paramount importance to both retail and wholesale payments providers.

In our previous surveys, mobile payments has been nascent in context and has been viewed predominantly as an emerging technology. It is gratifying to see that this year, with multiple new app launches, reduced time to market and evident customer adoption, it is now considered mainstream. Almost all respondents see major growth in mobile-related payment services such as Square, Zapp and PayPal in the near-term.

As a result of these developments, along with the launch of Apple Pay and related payments innovations in the retail space, innovation has risen far higher up the agenda in 2015 compared to last year. Make no mistake, regulation is still a major driver for change, but innovation now takes equal prominence with regulation in driving near-term change in payments infrastructures, and it is innovation that holds the real key to future success in Payments.

And finally, the rapid emergence of blockchain technologies and cryptocurrencies in the 2015 survey has brought new disruptive kids on the block...literally!

What's changed in the last year?

Unprecedented change drivers are increasing the need for systems change

Each year we ask our respondents how flexible their systems are to deal with the challenges of changing customer behaviour and preferences, regulatory requirements, competition from new entrants, and large changes in the volume of payments. This year the trend (e.g. 68% of respondents consider that regulatory changes will require at least some or a major degree of system change compared to 61% last year) indicates that more systems change is needed to meet these collective - and, in our view - unprecedented requirements.

Some regulatory changes such as the Interchange capping rule introduced by the European Commission, may also result in cannibalisation across payment methods as providers attempt to recover lost revenue through new innovation.

This trend may therefore reflect the combined impact of regulatory change and responses to innovation, the threat of new entrants and customer requirements that, together, will necessitate wholesale systems replacement to enable competitive advantage.

Innovation is now the key change driver for the payments industry

A year ago, regulation was the key change driver. Europe had just completed the Banking Union moves, the Payment Services Directive 2 was being drafted, the UK had implemented the Banking Reform Act and introduced the new Payments Services Regulator, whilst the US continued on its course for Dodd-Frank.

This year, that has all changed. Regulation is still important, but the impact of new players like Stripe, TransferWise, Apple Pay and the hundreds of other FinTech disruptors have hit the markets. This, allied to the rise of cryptocurrencies and blockchain technologies and the inexorable focus on mobile, means that innovation is key in all banks and non-banks. It is now viewed as the key factor impacting the long-term structure of the industry and a critical mechanism for achieving competitive advantage. Innovation not only allows providers to increase the range of payment methods and services offered to customers, but also allows organisational digitisation to reduce cost to serve.

FinTech has hit the industry hard

We did not explicitly explore FinTech as a stand-alone factor this year but, based upon responses, it is clear that the number of new entrants offering payment services is gaining attention within the industry. For example, the fact that new entrants, innovators Google and Apple are all being voted as the most likely



winners in the payments industry over the next five years indicates a significant movement away from the past. This trend becomes particularly important as it represents an ideal opportunity for incumbents to partner with more nimble agile organisations to improve their market offering and future-proof their business model.

81% of banking respondents expected to use five or fewer infrastructures in 2025, compared with 54% in our last survey

Mobile is now mainstream and blockchain technology leads the future path

In previous years, mobile has been seen as a major future focal point. However, mobile is now mainstream. What is intriguing is that the payments radar has now turned to cryptocurrencies and blockchain technology when, just a year ago, they were not even on the

agenda. We believe that, given the significant rise in attention to cryptocurrencies and blockchain technology over the past year, these will be huge areas of focus for the rest of this decade within the payments community.

Consolidation of payment infrastructures is back on the agenda

Last year, we saw only half (54%) of the banking respondents expecting to use fewer payments processing infrastructures in ten years compared with 75% in our 2012 survey. This year, surprisingly, it has swung the other way again, with 81% of bankers stating that they will be using fewer processors for retail payments in 2025. The figure is even higher (86.2%) for wholesale payments. This may be an indication of the movement away from central processors to decentralised structures via blockchain technology. However, if that were the case, we would expect the opposite to be true.

Focus on the Customer

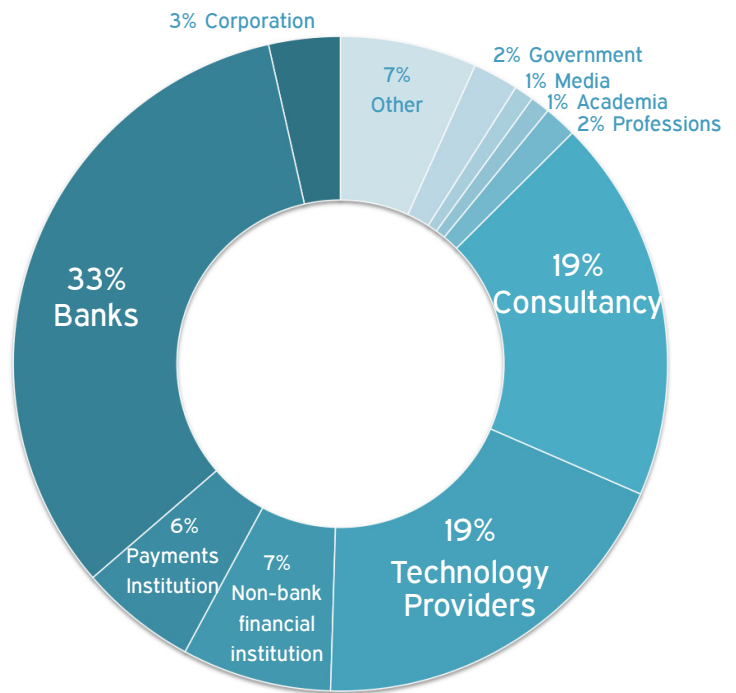
It is interesting that this year's survey highlights that respondents are now seeking to invest more in their customers' experience as the #1 priority for investment, closely followed by resilience and liquidity management. However, the majority of investments in payments infrastructures currently remain in keeping the lights on – maintenance, regulation and efficiency – rather than in innovation. This is something that, to date, has been symptomatic of the industry.

Going forward, organisations will have to rethink the way in which investments are prioritised to align, not only to regulatory change and cost reduction, but also to customer experience which is normally represented by Net Promoter Score (NPS) and of course revenue growth in an increasingly competitive industry. The ability to appeal to the "segment of one", and to supply the ability to highly customise how services are sold and used, implies a new level of personalisation that is expected as a minimum by customers, particularly in the digital space.

Who did we survey?

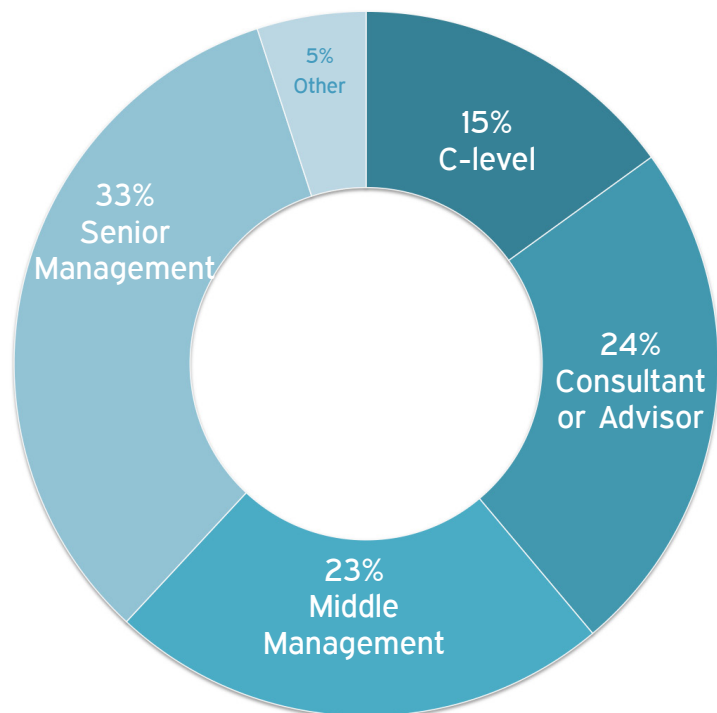
Over 300 professionals took part in the survey, mainly from banks (33%), technology providers (19%) and consultancies (19%).

Non-bank financial institutions and payments processors also made a material contribution to the survey (13%).

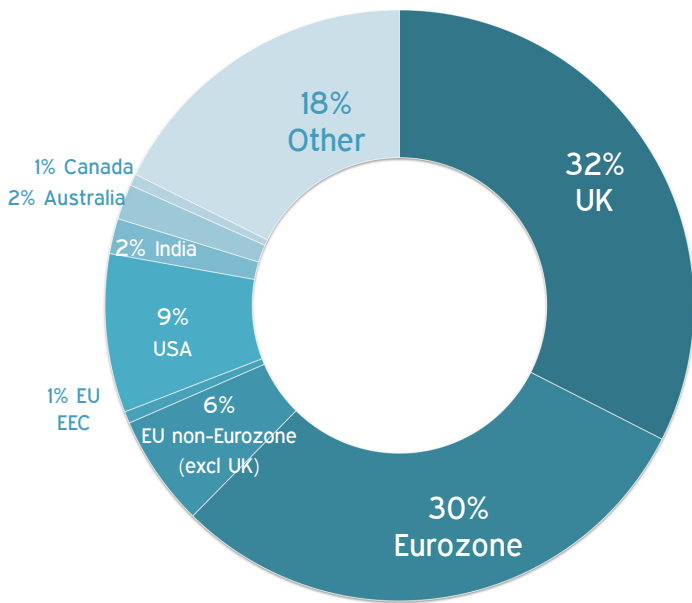


Business type of respondents

These participants represent all levels of operations and management, with 15% at C-level and the majority (33%) being in senior management. This is a slight change from last year's survey, where the majority were in middle management. This year, only 23% are middle management compared to 43% last year. Consultants and advisors form another major constituency of respondents, with 24% of the vote.



Seniority level of respondents

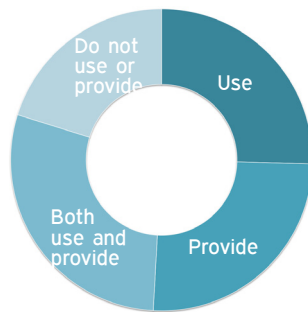
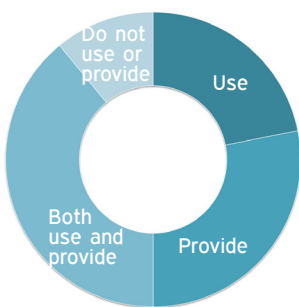


Geographical spread of respondents

In terms of geography, the participants represented a wide diversity of regions and countries, with Europe being the predominant territorial response (72% of respondents, compared to 83% last year). Of this number, the UK had a particularly strong representation (32%), compared with 28% last year.

Banks

Non-banks



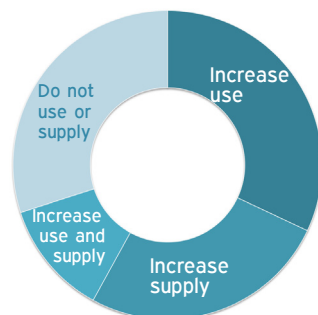
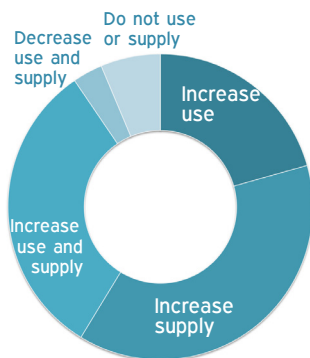
In terms of profiling, 25% of the non-bank participants provide payment services (24% in 2014), whilst 29% use and provide such services (up from 23% last year). Bank participants provide (22%, as per 2014) or use and provide payments services (39%, down from 49% last year).

Provision of payment services

Both banks (70% compared with 77% last year) and non-banks (38% down from 49%) intend to increase their provision of payment services over the next five years. In order to do this, 4% of participant organisations are investing over £500m a year on payment services, although most (66%) have budgets of less than £10m.

Banks

Non-banks

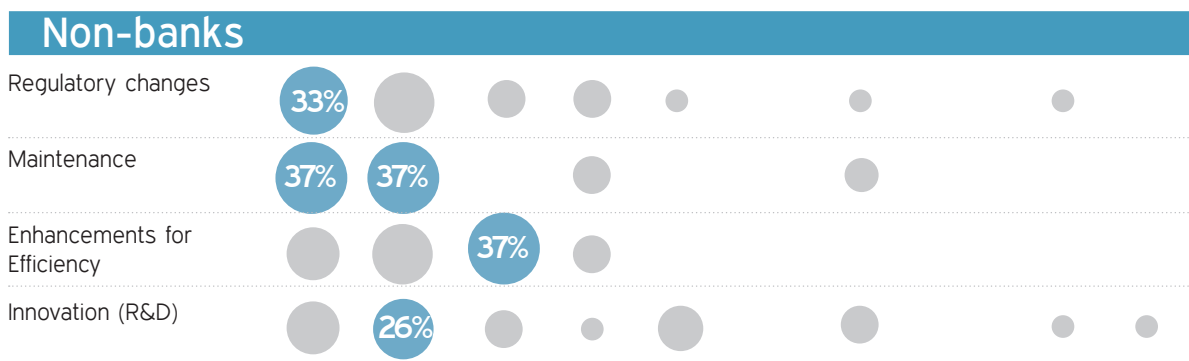
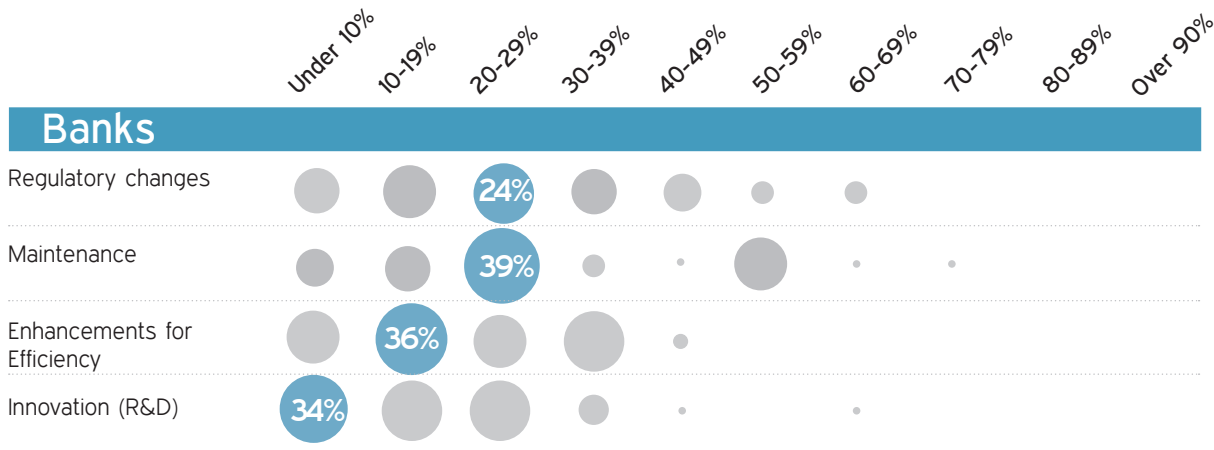


Increase use or supply of payment services

With regard to investment priorities, unsurprisingly most of it is in regulatory change and maintenance for banks, whilst non-bank competitors are more focused upon efficiency. 24% of banks state that over half of their investment is in maintenance whilst a further 10% say that over half is in implementing regulatory requirements. Interestingly, due to the nature of the new entrants in this space, the majority (21%) spend over half of their investment upon innovation.

When asked: *Approximately what percentage of your payments spending is invested in the following areas?*¹, banks and non-bank payment processors responded as follows:

Proportion of respondents' budgets spent by area



Rows add up to 100%

Highlighted circles indicate the highest value per row
 Size of circle represents relative number of responses

Finally, the priority areas for spending are in resilience and better customer service for the bank participants, and efficiency, customer service and security for non-banks. This is noteworthy in that banks did not rate these two areas – resilience and customer service – as high last year, when security, efficiency and SEPA were key. Strangely, SEPA came out as the lowest priority this year for banks, alongside SWIFT, MX messaging and transaction data analytics. SEPA and SWIFT are understandable, as most banks have now implemented these changes, but data analytics is surely an area that should be gathering momentum in order to differentiate customer experience.

Non-banks see SWIFT and regulatory changes as low priority. This is aligned with their focus upon innovation rather than regulation.

¹ Note: participants that did not process payments were asked not to respond to this question



For banks, the priority areas for spending are in resilience and better customer service.

For non-banks, it's efficiency, customer service and security.

WHERE ARE WE TODAY?



Where are we today?

Each year we look at the things that will most impact payment strategies for banks and payment processors in the near and long-term. This year the overwhelming focus is on innovation whilst, last year, it was on regulation.

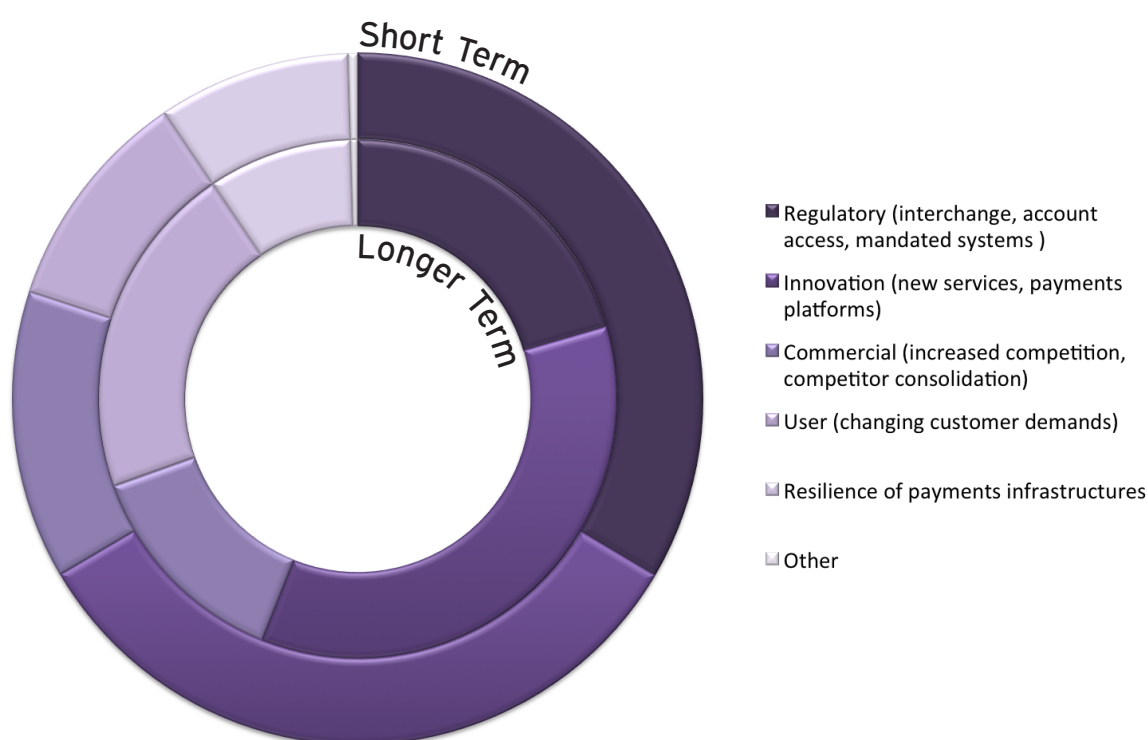
Last year, over half of the banks considered regulation a priority whilst, in the long-term, almost a third of banks (33%) thought that innovation would rate higher in the future. This year, the banks felt that innovation and regulation were neck-and-neck, gaining 32% and 33% of the vote respectively.

Non-banks also rated these factors equally, both regulation and innovation gaining 34% of the vote compared to 39% and 33% respectively last year.

In the longer term, all participants rated innovation as the key (29%) with customer experience coming second (18%) just ahead of regulatory drivers (17%). This is slightly skewed, however, as banks placed innovation first (38%) and regulation second (21%), whilst non-banks voted 33% and 20% with customer experience gaining 24% of their vote.

We have therefore seen a fundamental shift in the payments industry to focus upon innovation this year. This may well be a reflection of the major impact of FinTech and the investment in new payments start-ups like Klarna, Holvi, Square, iZettle, Currency Cloud, TransferWise and all of the headlines related to cryptocurrencies, bitcoin and blockchain technology.

What do you expect will be the most important areas influencing payments in the near and long-term?



The most important technologies impacting payment processing

As technology is a fundamental component of processing payments, we looked at which of the following technology areas were of the highest priority for both retail and wholesale payments:

- Internet
- Mobile
- Social media
- Cloud
- Analytics
- Transparency
- Scalability
- Outsourcing
- Security
- Resilience

There is a significant difference in focus between business-to-consumer retail payments processing, which is usually low value, and bank-to-bank or bank-to-business wholesale payments processing, where high value processing is more likely. We therefore review these segments separately.

Retail Payments Processing

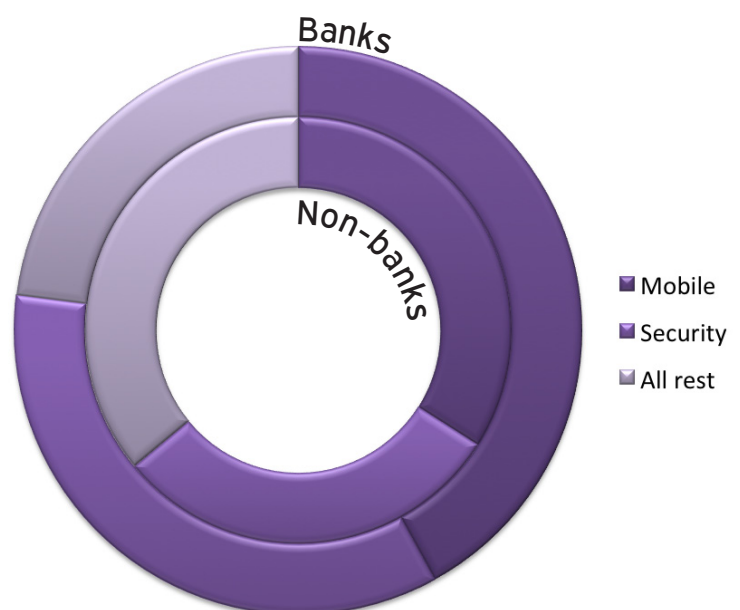
In retail payments processing, the most important technology factors were mobile and security.

Mobile scored highest amongst all participants with 38% of respondents choosing this as their highest priority (34% last year). Banks rated mobile more highly than non-banks. 42% of banks voted that mobile is the highest priority and security second highest, with 30% of their vote. 35% of non-banks voted security the highest priority, with mobile in second place with 34%.

The importance of mobile is continuing to accelerate in 2015 with the launch of more and more immediate payment systems around the world, the incorporation of biometric apps for authentication and the increased volume of wearable systems.

After mobile and security, most other technologies garnered an insignificant vote, less than 10% in each other category, so these are clearly the primary drivers in the retail payments space.

Retail payments enabled by mobile technology will be developed even further with the launch of immediate payment systems, the incorporation of biometric apps and the rising number of wearable systems.



Retail payments processing - priorities

Wholesale Payments Processing

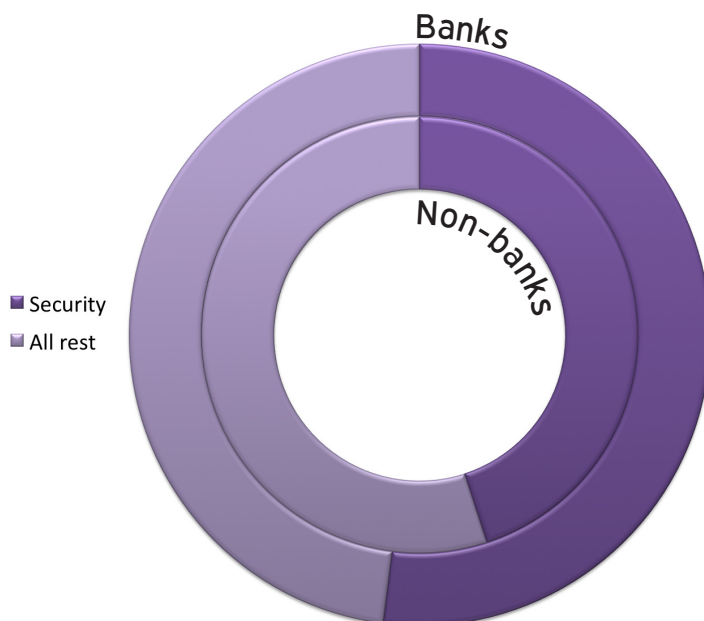
In wholesale payments processing, the most important technology factor was security with 52% of bank respondents choosing this as their top priority, compared with 45% of non-bank participants. Interestingly, last year security was emphasised more by non-banks (43% of the vote) than banks (39%).

Security is the key technology priority in wholesale payments processing with greater emphasis this year in banks compared with non-banks. Resilience comes a distant second.

Banks have significantly increased their focus upon security in the last twelve months, most likely caused by the rising number of cyber attacks reported in the headlines.

Resilience is the second highest priority with 12% of banks and 22% of non-banks rating this as an important technology priority. This disparity was surprising, and possibly indicates that banks are seeing resilience in their operations as being more of a hygiene factor rather than as an overt technology priority. Scalability and mobile technologies rated quite highly here for the banks also, with 10% and 8% of their votes. The latter is

very surprising, as this gained only 3% of the vote last year. This could perhaps be the result of the need to convert wholesale infrastructures to real time, in order to support the needs of mobile developments.



Wholesale payments processing - priorities

WHAT'S DRIVING CHANGE?



What is driving change?

The survey reviewed the key processors of payments and asked participants:

"In order of priority, what are the key infrastructures you process payments through today?"

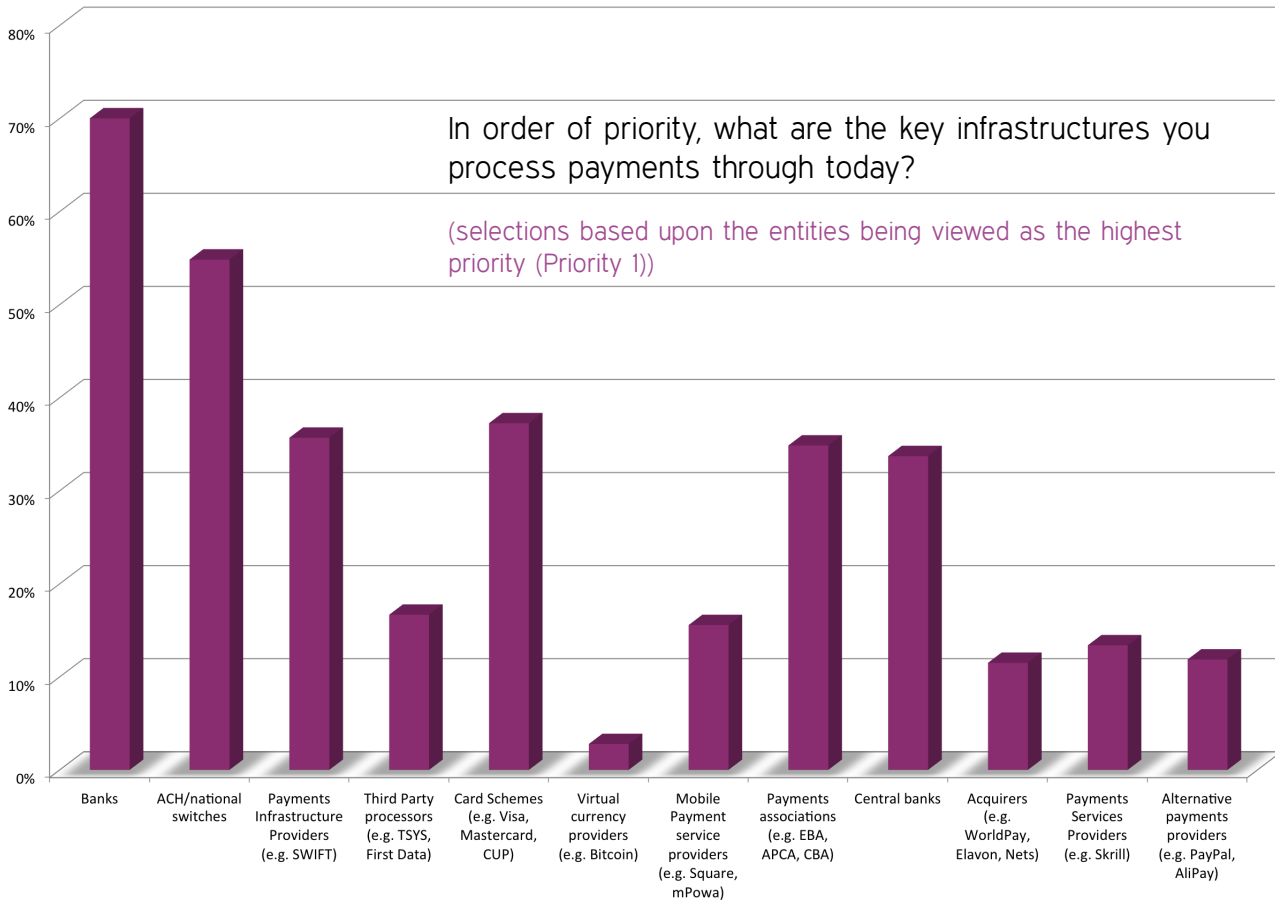
The answers proved interesting, with banks viewing counterparty banks, the clearing houses, central banks and payments infrastructures such as SWIFT as being most critical. Unsurprisingly, non-banks viewed banks as their key payments processors, with far fewer having access to or use of clearing houses, central banks and payments infrastructures.

The most surprising results appeared in the lower priority answers. For example, Bitcoin was included in the survey for the first time last year, in order to see whether any respondents viewed this as key. No-one held virtual currencies to be of a high priority: only 11% of banks and 8% of non-banks hailed this as being

of interest as a secondary priority. This year, 6% of banks considered Bitcoin as their highest priority infrastructure for processing payments today, with a further 11% seeing it as a secondary priority. This may well reflect the growing activity centred upon using blockchain technology in payments infrastructures. For example, not only has Nasdaq, BBVA, USAA and NYSE Euronext started to invest or use cryptocurrencies and blockchain technologies in the past year, but the regulators and governments are now actively involved. The regulation and use of cryptocurrency markets and Bitcoin is a major issue in 2015 for all payments regulators and participants.

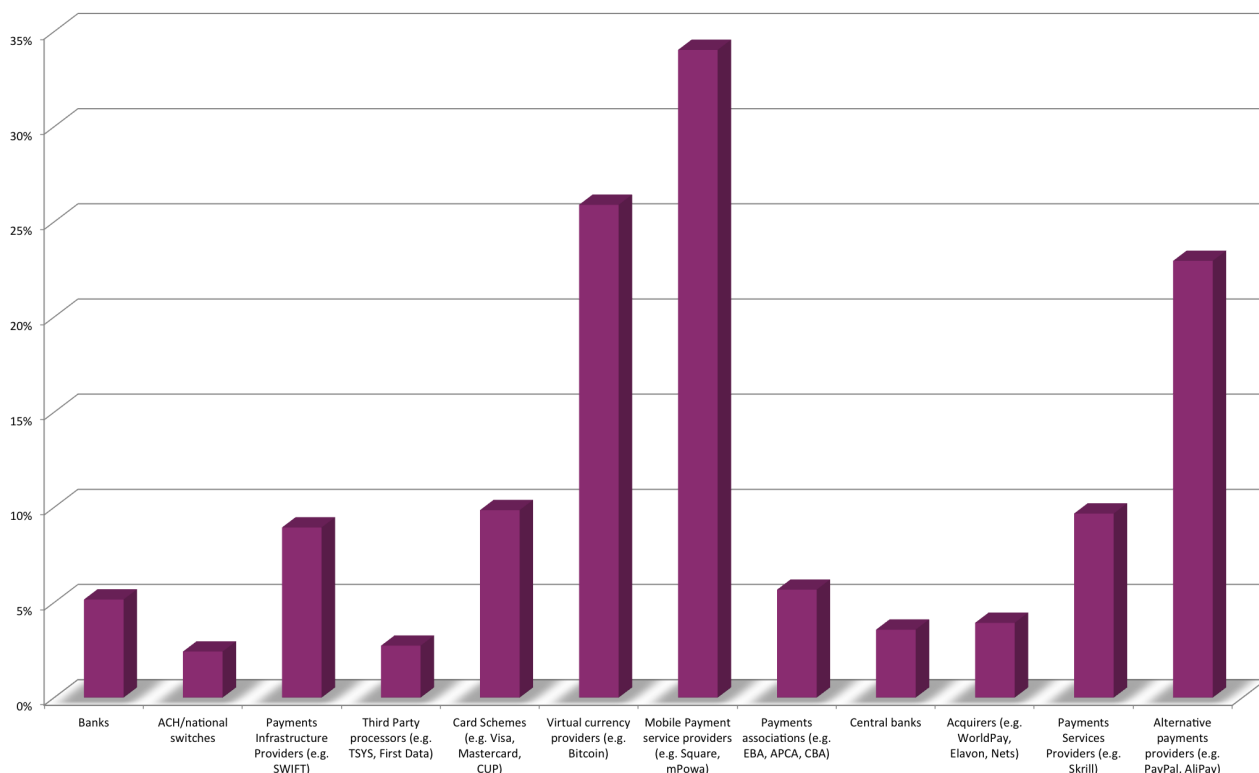
This year has seen a startling increase in interest and action related to cryptocurrencies driven by Bitcoin and blockchain technology





As a corollary to this question, we asked people to provide a view of how innovative their payments providers are being in leading change. Some participants are clearly innovators, especially the mobile, alternative payment scheme providers and virtual currency developers; others are dragging their heels in the changing landscape, especially the banks, ACHs, acquirers and third party processors.

The Change Leaders were:



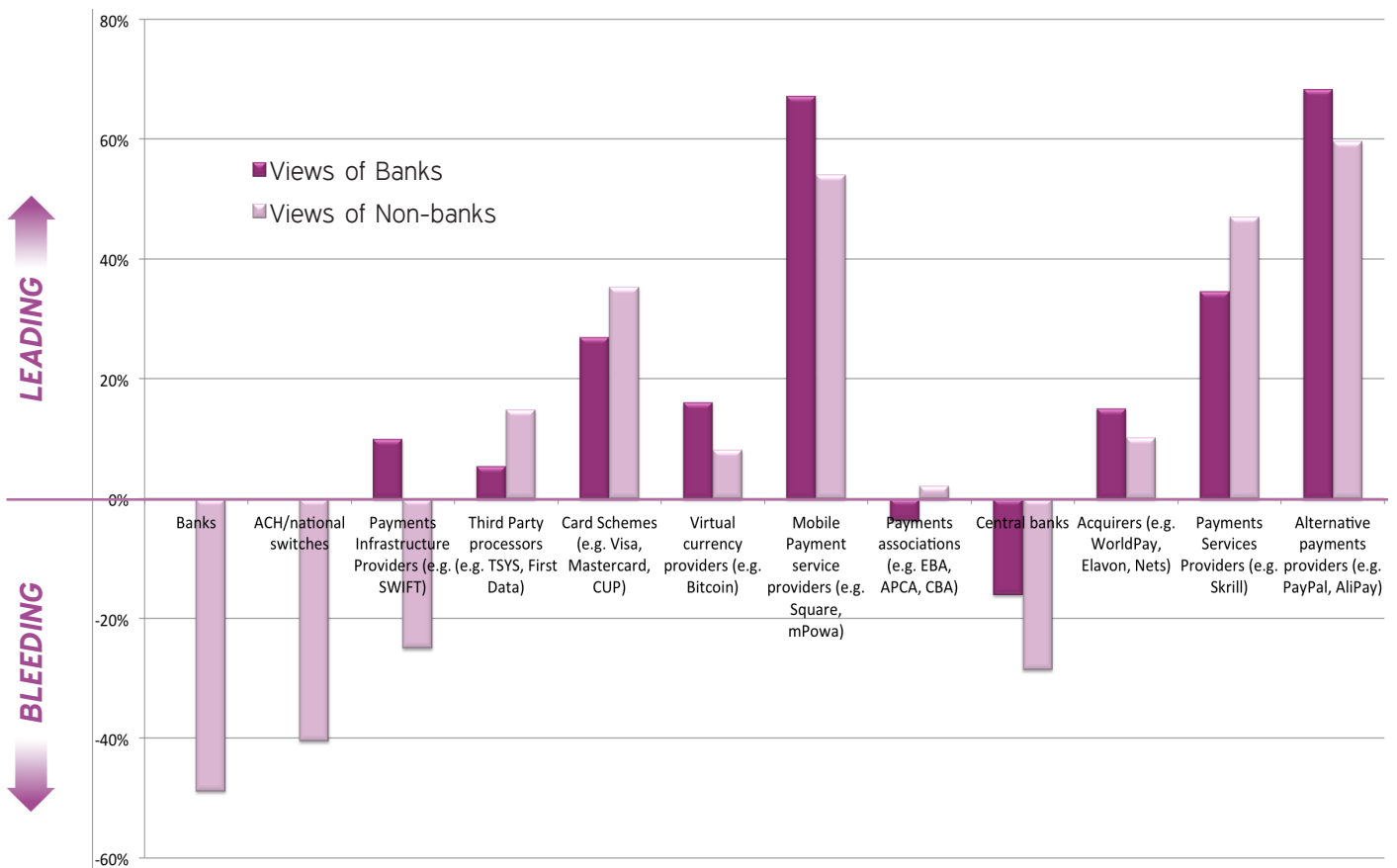
Opinions on the Payments change leaders and laggards have changed this year. The leaders are seen as the mobile payment service providers (e.g. Square, mPowa), alternative payments providers (e.g. PayPal, AliPay), and virtual currency providers (e.g. Bitcoin). However, there was a considerable difference in emphasis between banks and non-banks around how much these three categories are leading change. Banks voted mobile providers (36%), alternative payments providers (27%) and virtual currencies (23%) as leading change whilst non-banks voted 32%, 19% and 29% respectively.

Similarly (and interestingly in the case of virtual currency schemes), banks voted for virtual currency schemes (40%), central banks (36%), payments associations such as the EBA (31%), SWIFT (30%), clearing houses (29%) and even themselves (banks received 28% of the vote) as bleeding change (change laggards). Non-banks were even more polarised, voting clearing houses (57%), banks (54%), virtual currency providers (45%), central banks (45%) and SWIFT (41%) in this category.



Please rate the following participants in the payments “ecosystem” using the description which best fits:

- **Leading** incorporates the votes of participants who selected the participant as “Leading development in the industry” or “Actively driving change”
- **Bleeding** incorporates the votes of participants who selected the participant as “Not fully fit for purpose” or “Out-of-date”



How easy is it to change?

The next section of the survey looked at how responsive and agile payments processors are when it comes to change.

Change created by customer behaviours, regulation, competition and unpredictable processing volumes are all triggers for refreshment or renewal of the payments infrastructure, and the challenge is how rapidly processors can respond to such change requirements.

In this section, banks all believe that their systems are far more flexible than non-banks when dealing with spikes and peaks in volumes of processing, with almost half (49%) voting this as no issue (although 15% believe it is a problem). This is a reflection of the immense scalability of most payments infrastructures to cope with demand. Banks see themselves as the least flexible when dealing with regulatory change, with 28% of banks saying that this is where they have their major challenge.

Banks still believe that their systems are far less flexible than non-banks, with a quarter of banks stating that they cannot respond rapidly to customer and regulatory needs

These results differ from last year, when only 39% of banks thought they could cope with large volume changes easily, and 25% felt that regulatory change was a challenge, whilst 28% were struggling to meet customer demands.

Similarly to last year, a fifth of respondents believe that responding to competition, customer and regulatory change is a challenge, with banks far more negative than non-banks about these. Banks believe that their systems are far less flexible than non-banks, with a quarter of banks stating that they cannot respond rapidly to regulatory (28%), competitive (24%) and customer (22%) challenges.

In a related question, we asked participants: *What will be the impact on payments infrastructures of recent and impending regulatory initiatives?* 93% of participants believe that these requirements result in significant or major change to systems. The majority (40%) believe that new regulations affect all of their systems and operations with 16% stating that it will require the introduction of completely new services. Only 7% think that new regulation requires small changes.

Nevertheless, the banks are not as concerned as the non-banks in this space. Only 13% of banks expect that regulation will require new systems compared to 20% of non-banks, whilst 10% of banks think this is small change compared to just 4% of non-banks. In other words, non-banks believe that regulatory change has a greater impact on their core systems and services.

WHERE ARE WE HEADING?



Where are we heading?

We then looked at the evolution of payments infrastructures over the next decade. Will there be more or less infrastructure in the future?

The survey indicates that most respondents believe that between two and five payment infrastructures are likely, with some counter-balancing of consolidation and fragmentation the likely cause.

For example, over 77% of banks and 84% of non-banks use one to five retail and wholesale payment infrastructures currently. 81% of banks and 79% of non-banks expect this to be the case in ten years for retail payment infrastructures, and 86% of banks and 82% of non-banks for wholesale payment infrastructures. In other words, banks expect more consolidation of payment services in both retail and wholesale markets, whilst non-banks expect less consolidation.

The more a market moves to immediate payments, the more likely they are to consolidate towards a single retail payments processor.

Perhaps the most surprising answer here is for a single retail payments processor, with 11% of banks saying that they use a single processor today rising to 18% believing this to be the case in ten years. Why would this be the case? Probably because we are seeing a natural movement to centralise these services in some markets, such as UK, Poland, Sweden, Mexico, Australia and Singapore. These are the markets moving towards immediate real-

time payment systems for their Automated Clearing Houses (ACHs). The more a market moves to immediate payments, the more likely they are to consolidate towards a single processor.

On the other hand, an interesting quirk is that some banks expect more payments processors to appear, especially for retail payments. 7% of banks responding to this year's survey use more than ten retail payments processors today and they anticipate this rising, with 11% of banks expecting to use more than ten processors in ten years' time. For non-banks, 14% use more than ten retail processors today and they expect this to decline, with only 9% expecting to use more than ten in ten years.

This nuance is perhaps a reflection of the diversity of payments infrastructure, as this year's survey has noted the rise of cryptocurrencies and Bitcoin. Therefore, banks expect to have more diversity of retail markets whereas non-banks have not seen this so clearly yet.

We asked our participants whether they agreed or disagreed with the following statements:

- *New payments processors will be more successful than current incumbents*
- *Payments processing will be a key business for innovators and new entrants*
- *Mobile devices will be a mainstream option for person-to-person or person-to-business payments*
- *PayPal will be the largest payments processor on the planet*
- *Google and Apple will dominate mobile payments*
- *Cash usage will have declined to below 10% of retail transactions by value.*
- *Non-card payment volumes (whether mobile or other) will be comparable to card-based payments on-line*
- *Non-card payment volumes (whether mobile or other) will be comparable to card-based payments at the physical point of sale*
- *Cheques will no longer be used at all*
- *Plastic cards will have disappeared*
- *SEPA will be fully adopted in the Eurozone*
- *The majority of retail payments will transfer value in real-time between payer and beneficiary*
- *National ACHs will be superseded by consolidated regional ACHs*
- *Core payment infrastructure systems, such as SWIFT, will have been replaced*
- *Payments will no longer be viewed as a core revenue stream by banks*
- *ISO20022 will have been implemented across domestic ACH payments*
- *Account switching will have been superseded by account number portability*
- *Customers will be able to retain the same account number when they change banks*
- *Basic banking services will be provided by a non-bank utility company*
- *Banks will have been replaced in the payments business by non-Bank PSPs*
- *Most banks and payment institutions will have direct access to payment clearings.*
- *Payments Transaction Data Analytics will be a major source of payments-related revenue*

If they agreed, we then asked in what timeframes they expected these changes to occur.

Interestingly the most likely statement expected to occur is that:

"Mobile devices will be a mainstream option for person-to-person or person-to-business payments."

Mobile payments are mainstream this year

90% of respondents believe that the statement will be true within the next five years (85% last year), with 47% believing this will be the case within two years (43% in 2014). Interestingly, banks are more bullish about this than non-banks, with 92% of banks believing this will be the case within five years and 49% within two (84% and 46% in 2014). Non-banks voted 90% within five and 46% within two years (85% and 42% in 2014). Regardless, it is clear that mobile is mainstream this year.

The next most likely statement that participants agreed with this year, as last year, is that: *"Payments processing will be a key business for innovators and new entrants"* with 81% considering this will be the case within five years (77% in 2014) and 43% within two years (39% in 2014).

One of the most interesting areas is what respondents believe may *not* happen. These are the least likely things to happen according to banks, with the figures in brackets showing the percentage voting that the statement *'will never happen'* this year versus last:

- *PayPal will be the largest payments processor on the planet (69% overall [65% banks, 70% of non-banks] versus 54% in 2014)*
- *Banks will have been replaced in the payments business by non-Bank PSPs (44% overall [49% of banks, 37% of non-banks] versus 40% in 2014)*
- *Core payment infrastructure systems, such as SWIFT, will have been replaced (34% overall [42% of banks, 26% of non-banks] versus 37% in 2014)*
- *Google and Apple will dominate mobile payments (40% overall [42% banks, 39% of non-banks], not asked in 2014)*
- *Payments will no longer be viewed as a core revenue stream by banks (33% overall [31% of banks, 34% of non-banks] versus 35% in 2014)*

What is interesting is that, apart from PayPal dominating, over half of all survey respondents think these things will eventually come true.

Meanwhile, some assertions have moved in time and belief over the past year. For example, the statement *Cash usage will have declined to below 10% of retail transactions by value* had a majority vote 31% believing this would happen within ten years in 2014 and more than ten years was 27%. Despite Denmark's moves to become a cashless society, in our survey this year the majority (32%) think that this statement will be more than ten years out and only 28% thinking it could happen within ten years.

Last year, the majority of participants (27%) thought that the idea that *Customers will be able to retain the same account number when they change banks* would

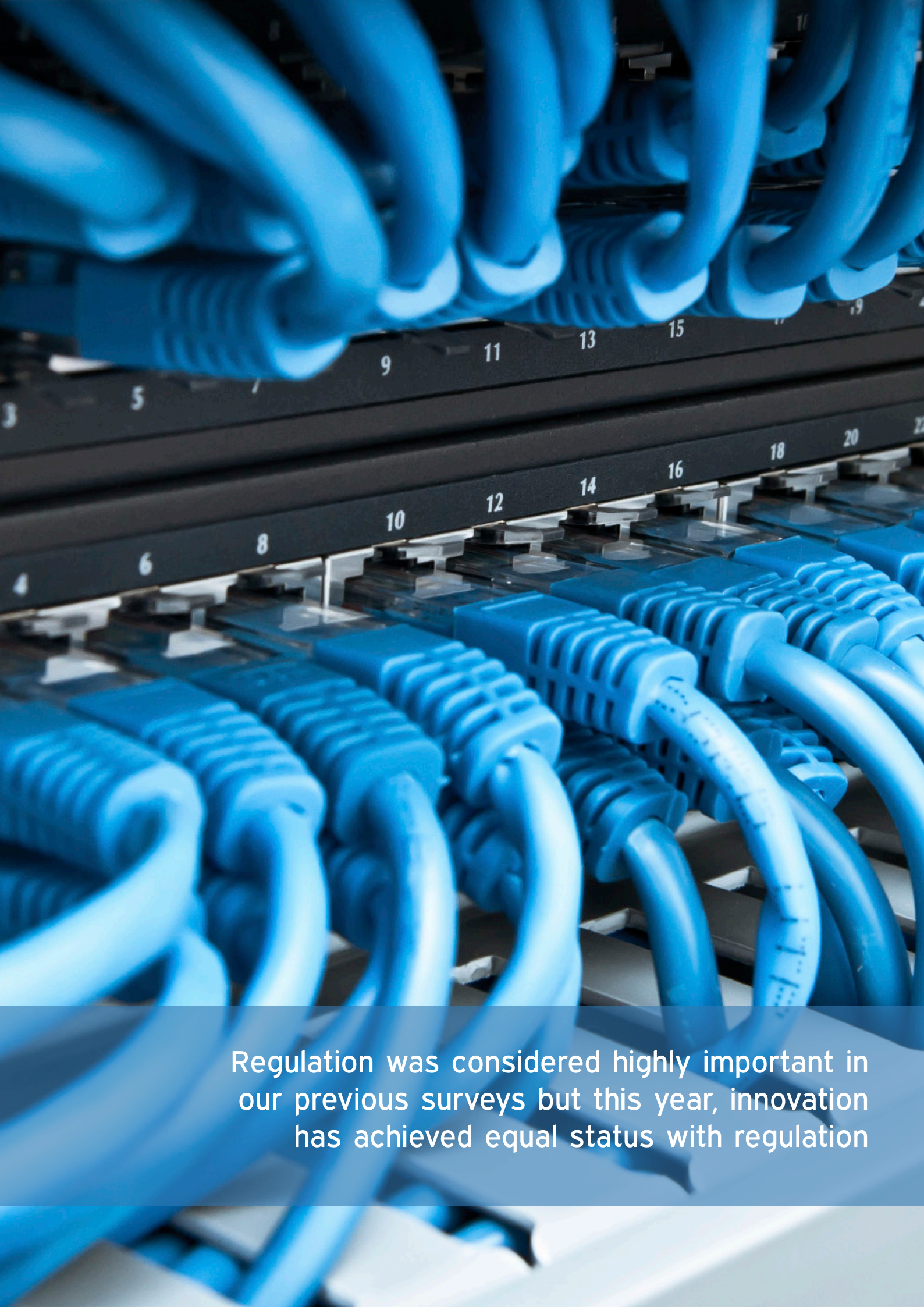
never happen. This year the majority (29%) think it will happen within ten years.

This year we also tested the additional statement that *Account switching would be replaced by account number portability*. 28% of respondents

consider that this will be the case within five years. Despite the evident challenges and costs that this would present to the industry, this concept is gathering momentum and the new Payments Services Regulator in the UK, for example, clearly has this on their agenda. And if that were not frightening enough from a change perspective, over a third of respondents consider that banking services will be provided by a non-bank utility within five years. Finally, the majority of participants (37%) felt that the statement *Core payment infrastructure systems, such as SWIFT, will have been replaced* would never happen, whereas the majority this year (37%) think it could happen but more than ten years away.

The spectre of account number portability is growing





Regulation was considered highly important in our previous surveys but this year, innovation has achieved equal status with regulation

VIEWPOINTS



Viewpoints

Chris Dunne, Payment Services Director, VocaLink

We are delighted to once again to sponsor the Financial Services Club research, as we have done over the past four years.

One fascinating insight from the report is the apparent dethroning of 'regulation' as the single most important consideration, with 'innovation' now attaining equal importance. In the past there was a pretty clear battleground. Innovators regarded regulators as the enemy, and regulators viewed innovators with mistrust bordering on suspicion. But the world has changed and both sides are starting to work together.

The Payment Systems Regulator was given a specific objective set out in legislation to promote innovation, and at the time it was the first economic regulator to be given such a task. The FCA has now also taken up the challenge with the launch of Project Innovate and its consultation on regulatory barriers to innovation.

The PSR is taking a pragmatic approach to innovation. For innovation that can be launched by a single player, known as unilateral innovation, then the PSR's job is to get out of the way and let that player bring that innovation to market. But where an innovation relies on the industry working together on collaborative developments, particularly where network effects are important, then the regulator will take an interest. To facilitate this collaborative innovation the PSR has already announced that it will launch a Payments Strategy Forum to drive the big industry developments that result in benefits to all participants in the network.

The survey also reinforced the view of many in the industry that the incumbent banks will face strong competition from new entrants; they are called challenger banks for a reason. This will not happen overnight. Customer inertia is high and there are still perceived barriers to switching despite the actual process becoming almost pain-free with the launch of the Current Account Switching Service. A key requirement for these new entrants to be able to compete on a level playing field is access to the payment systems, particularly Faster Payments, on an equal footing to the existing banks.

This opening up of access is now well underway as a result of changes introduced by the payment schemes, the PSR and the Bank of England. For the first time, low-cost hosted solutions such as PayPort will bring access to FPS to new entrants and banks who have not previously been able to justify the cost, allowing a range of new providers to come to market. The importance of this change is immense and the impact will be apparent once these new players start competing.



Chris Dunne
Payment Services Director
VocaLink

The final points that struck me in the report are the continued focus on security of payments, and the emergence of mobile payments as a mainstream channel.

Security will forever be at the top of the agenda in an environment where at one end of the scale you have low-cost cyber attack kits available on the dark web, and at the other end you have well-resourced organised crime gangs. Defence against cyber attack is an ongoing battle and one that absorbs a huge amount of resources that could otherwise have been spent on improving services, but that is the cost of living in a highly connected world.

On a more positive note, mobile payments have come of age. In the UK we can now make payments simply and easily to each other using only mobile phone numbers thanks to Paym, and we are now seeing mobiles enter the retail mainstream with services such as ApplePay and Zapp.

So where will we be in a year's time? There will be more banks vying to win current account business; more payments being made by mobiles and tablets, and we will all still be worrying about security. Are we finally seeing the terminal decline of cash? Possibly, but with the Bank of England continuing to print ever more notes, and more cash machines in the UK than ever before, the folding stuff looks set to have a long life, despite the incredible new ways to pay we are all now enjoying.



Tony Virdi
Vice President
Banking and Financial Services
Cognizant

Tony Virdi, Cognizant

The Payments industry continues to face an unprecedented pace and scale of change, driven by a potent mix of social, technological, political, competitive and regulatory drivers for change.

Over the next ten years financial services and the Payments industry will face significant disruption and will evolve to be radically different to the one that exists today. For example, the role of traditional banks and financial institutions is becoming blurred as demographic trends make financing options from new sources a more viable option.

Recent research (*Socialization of Finance, Goldman Sachs, March 2015*) shows that 33% of millennials believe they won't need a bank by 2020. 14% of millennial small business owners use alternative (non-bank) financing and 50% are counting on technology startups to overhaul banks.

The survey highlights that 2015 was the year when mobile payments became mainstream and the mobile firmly established as the banking channel of choice for consumers. Innovation continues to be seen as a major change driver in the long-term with the pace of short-term change increasing. The survey also highlights that innovation, for the first time, is rated of equal importance to regulation, in the near-term development of the payments industry.

Re-inventing yourself is the Game

Innovation is now a non-stop conveyor belt with the need to deliver ever-richer customer experiences driving the ever-increasing need to deliver a faster time to market. New entrants and even individuals developing apps at home are major sources of disruption in creating new ways to pay, to disintermediate or differentiate in a fluid market landscape. The focus is on optimising customer journeys which are cost efficient, safe, flexible and secure.

In this year's report we see clear evidence that some trends have reached their "tipping-point" and that others are fast approaching tipping-point. In addition to mainstream mobile, wallets have undergone a makeover (with Apple Pay making them "cool" again) and cryptocurrencies and blockchain technologies seen as important catalysts for change.

The key to winning in the 'Innovation Game' is to play in it - most organisations now have a dedicated Innovation Team - and to be able to diagnose, adapt and respond with agility to solve business outcomes. As such, traditional players with legacy systems need to adapt quickly. This will include strategic consideration of how legacy infrastructure can be modernised in a cost-effective way, as well as re-wiring and re-engineering the underlying application landscape and supporting operating models.

Regulation remains the Theory of Everything

Regulation of the past, present and future continues to present enormous challenges to Payments' business models. This has resulted in a substantial drain on resources and particularly impacts those with ageing and inflexible legacy systems.

Complex regulatory change, allied to innovation and the other forces affecting the payments industry, means that it is becoming difficult to predict how the market will look in 2025. What impact will Ring-fencing have, not just on payment infrastructures, but on the market participants? How will PSD2's open access to payment infrastructures and the access to account information impact the competitive landscape?

This year's report explored the potential for Account Number Portability (ANP) and an Industry Utility for the first time, yet despite the enormous anticipated cost of that change, there is a groundswell of opinion that these initiatives will come to fruition. Payments regulators are keeping a close watch on the effectiveness of competition interventions such as Account Switching, and are likely to lose patience in the event of ongoing payment outages which we perhaps thought were behind us. Resilience remains paramount. Perhaps the march towards ANP and Utility is also underway.

Similarly, the recent legislation on interchange capping on cards, allied to the disintermediation threat of Apple Pay, is forcing Card Issuers and Acquirers to reconsider their business models and adjacent market opportunities for profitable growth. Some are even re-examining sub-prime lending.

Stargazing is the new Strategy

The wind of change is here. This year's report signals an ever important need to keep a close watch on all the change catalysts and to use scenario planning and sensitivity analysis to understand the impacts. Charting a course through the minefield of Payments regulation is vital, but that alone is no longer sufficient. Successful Payments organisations will understand that trust is critical and adopt more innovative, resilient, agile and secure technology to improve their business models and ultimately deliver a better customer experience.

Further Reading

For more information or a copy of any of the following points of view please contact Simon Drury, simon.drury@cognizant.com or visit cognizant.com/cardsandpayments



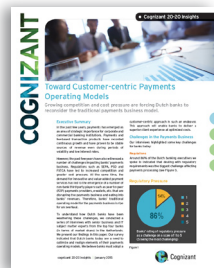
Bye-Bye Plastic: How New Digital Payment Mechanisms Will Forever Change Shopping

For consumers and retailers, the future of contactless payments is now. Will Apple Pay eventually do to credit cards what the latter did to cash: overtake it as the preferred payment method?



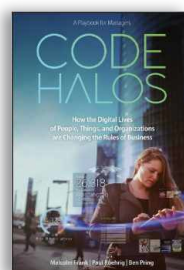
The New Payments Platform: Fast-Forward to the Future

To successfully navigate Australia's New Payments Platform initiative, banks must rethink their entire payments portfolio, and embrace a holistic approach that addresses requirements from internal, regulatory and payments perspectives.



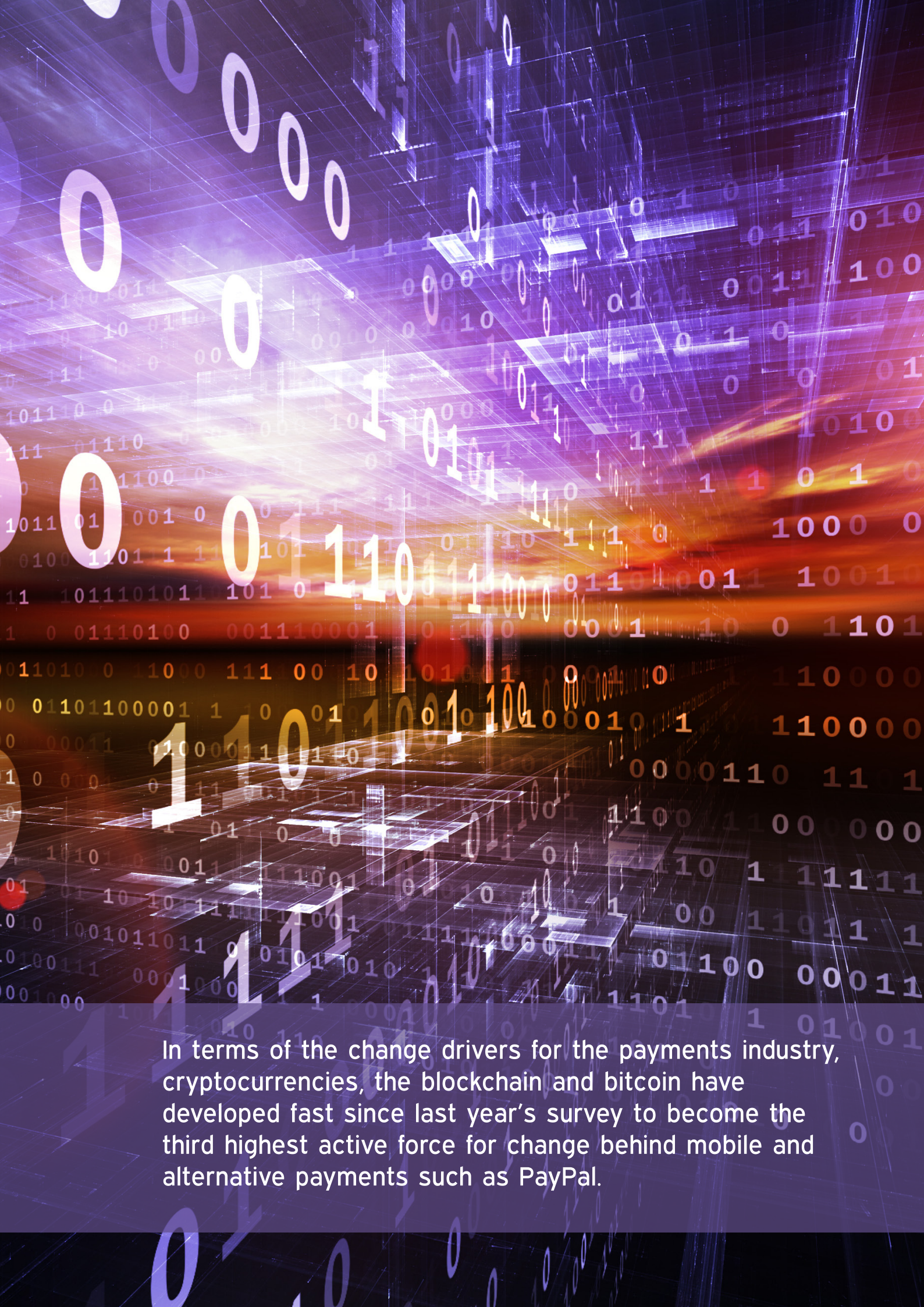
Toward Customer-centric Payments Operating Models

Based on a survey of Dutch banking executives, we identify the strengths and weaknesses of payments operating models (including selective outsourcing) in a demanding, highly regulated business sector and recommend a customer-centric model



Challenge Convention with Code Halo Thinking

Every digital click, swipe, "like", buy, comment and search produces a unique virtual identity – something we call a Code Halo™. Read the book: Code Halos: How the Digital Lives of People, Things, and Organizations are Changing the Rules of Business. Malcolm Frank, Paul Roehrig and Ben Pring, 2014. John Wiley & Sons. <http://www.cognizant.com/code-halos>



In terms of the change drivers for the payments industry, cryptocurrencies, the blockchain and bitcoin have developed fast since last year's survey to become the third highest active force for change behind mobile and alternative payments such as PayPal.

This report was independently written by the Financial Services Club, and commissioned by Cognizant and VocaLink.

Financial Services Club

The Financial Services Club is the largest networking group in Europe covering a range of countries from Poland and Slovakia to Sweden and the UK. With over 12,000 registered subscribers to the free news services provided by the Financial Services Club's blog, the Finanser (www.thefinanser.com), and daily news via www.fsclub.net, the Financial Services Club has become one of the most influential organisations in finance. Led by author of Digital Bank and international adviser to banks and governments, Chris Skinner, the Financial Services Club boasts an exemplary record of networking since its establishment in 2004.

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VocaLink

VocaLink designs, builds and operates world-class payment systems and ATM switching platforms. We operate the UK national payments infrastructure, a national grid for payments. VocaLink's innovative, sustainable, and highly efficient payment services touch the lives of almost every person and business in the UK. Through our systems we process over 90% of UK salaries, more than 70% of household bills and almost all state benefits. VocaLink technology powers the BACS and Direct Debit schemes as well as connecting the world's busiest network of over 65,000 ATMs through the LINK scheme. Our platforms have made it easier to make payments confidently, securely and cost effectively. Last year we processed over 10 billion UK transactions with a value of £4.9 trillion. VocaLink, with its vision and proven capability, is leading the way in payments. We provide the infrastructure for the Faster Payments Service, which helps businesses and individuals realise the value and benefit of real-time payments. VocaLink is at the forefront of mobile payments, driving a new era of ultra-convenient commerce.

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