KPMG

cutting through complexity

Mobile Banking 2015

Produced in collaboration with and using primary survey data supplied by UBS Evidence Lab

Global Trends and their Impact on Banks

July 2015

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This report has been produced using primary survey data provided by UBS evidence lab. UBS have also published a report leveraging this primary data source.

UBS AG (UBS) and KPMG LLP, the UK member firm (KPMG), have cooperated to produce their separate reports on Mobile Banking which use data from the UBS Evidence Lab, amongst other sources. Whilst KPMG has had access to the results of the UBS Evidence Lab research, it has produced its report separately from UBS and each report is subject to the disclosures and disclaimers set out therein. Accordingly KPMG and UBS are each responsible for their own respective reports and not for the report of the other. KPMG has not had access to drafts or to the final version of the UBS report and analysis prior to publication. KPMG is not responsible for UBS's conclusions and / or recommendations. KPMG's report does not constitute investment advice and KPMG has not seen, input to or endorsed any investment advice provided by UBS in its report.

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1 Mobile Banking Overview

1.1.1 Written by KPMG leveraging UBS Evidence Lab survey data

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1.2 Key findings

Beginning this major piece of research, we had no doubt from our existing knowledge of the market that mobile banking is a phenomenon that is having a profound effect on the global financial services industry. However, we had not anticipated some of the more significant findings of our research, which were startling, and have significant implications for national, regional and global banks alike.

Some important findings:

On growth:

- Mobile is already the largest banking channel for the majority of banks by volume of transactions.
- The growth of global mobile banking users is in an exceptionally rapid phase. We forecast the next 5-10 years will see effectively exponential growth before ubiquity flattens the growth curve.
- Adoption rates are highest in so-called developing countries – reaching 60-70% in China and India – rather than developed nations, such as the US, Canada and the UK.
- Adoption growth rates within individual countries show wide variation, even across similar economies.

On customer profile and behaviour:

- The mid- to late-thirties is currently the key demographic for mobile banking, reflecting a sweetspot of technological comfort and relatively high economic activity, driving very high relevance of mobile banking services, and, therefore, the highest adoption rates.
- Mobile capability is already a key factor in the selection of a new bank by switchers.
- Paradoxically, while UBS primary research data shows the link between effective mobile banking services and higher rates of customer satisfaction and advocacy, it also suggests that – at least in certain developed economies – there is a negative correlation with the likelihood of mobile banking users remaining with their current institutions. We hypothesise that this may be because relatively early adopters of mobile banking services are typically more economically active and more technologically savvy, and, therefore, more demanding of their providers.

On business models:

- As a generalisation, mobile banking services are led by banks in the developed world and largely by telcos in the developing world, an example of the latter being Vodacom in Africa and South Asia.
- We identify a typology of three defensible mobile banking strategies, illustrated with banks that fall into each category, by our analysis:
  - Incremental (cautious and conservative) ;
  - Transformational (high levels of investment, pockets of genuine innovation);

Three defensible mobile banking strategies: 1) incremental; 2) transformational; and 3) pioneering

- Pioneering (repeated first-of-a-kind services, primacy of mobile channel with overall customer experience).

- While each of the three approaches delineated above can be effective in their own right, we believe that accelerating adoption rates mean banks should generally have clear reasons if they are not adopting at least a transformational approach in this area. The long-term benefits that accrue from the residual capability that generally flows from transformational investment cannot be ignored in an increasingly digital world.
- We see clear and growing evidence that sound mobile strategies, combined with effective execution, are leading to clear and significant financial benefits for those banks that have developed them, such as JP Morgan and BNP Paribas. We have included case studies to illustrate this.

On the offering:

- We highlight the increasing "layerisation" of functionality in digital applications that has created a positive feedback loop, with greater consumer adoption – driven by improved functionality, user experience and security – justifying hugely increased investment, which, in turn, leads to high degrees of innovation, as banks and other companies desperately seek differentiation from the competition.

Increasing "layerisation" of functionality in digital applications has created a positive feedback loop

- Mobile banking functionality is quite varied, reflecting both the desire to differentiate and specific in-market banking characteristics (e.g., image-based cheque deposit in the US market, such as that provided by JP Morgan).
- Banks are increasingly shifting to a 'mobile first' approach. There are several strands to this:
  - Designing new services first for mobile with other channels subsidiary to that;
  - Designing new services that are uniquely for the mobile channel;
  - Using mobile banking to complement other services, such as improved in-branch experience;
  - Providing 'branded utility' applications, such as cloud-based data storage and home-buying research support.
- Banking and other financial services – much like "social" or "local" (GPS powered mapping software) – will rapidly simply become an available "layer", to be added to any application that may benefit from them and probably quite a few that do not. This trend means that the rewards of success – namely, market domination by a very small number of players – are exceptionally high, and, conversely, the price of failure may well be the relatively fast decay of the business.
- Security concerns are cited by a large group of consumers as an inhibitor to the adoption of mobile banking services. We highlight the salient issues around this, and how banks and other players are attempting to address this critical issue.

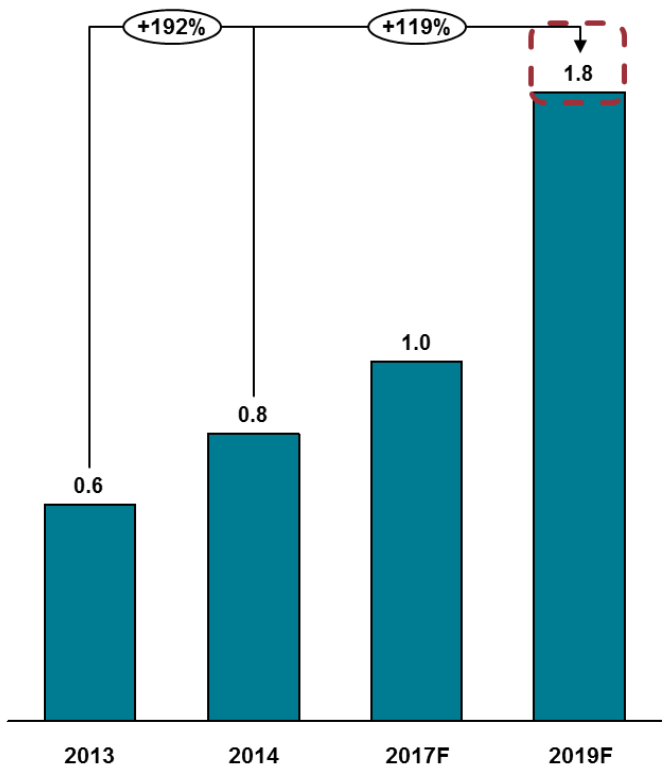
1.3 Global user adoption trends and growth projections

There is little doubt that mobile banking – defined as the execution of banking services and transactions using a mobile device, such as a telephone or tablet – has seen extraordinary adoption rates since the earliest SMS and WAP offerings. However, in the period 2000-2005, these services remained fairly marginal and were highly limited in terms of the scope of the functionality offered (typically just balance enquiries and mini-statements). Today, almost all banks have some kind of mobile banking offering, either developed in house or by making use of third-party specialist vendors, such as Monitise or Clairmail (now merged).

In the developed world, the rapid proliferation of smartphones and latterly tablets has poured fuel on the mobile banking fire, such that in 2014, Juniper Research reported total global mobile banking users standing at 0.8 billion. A startling finding is that this already impressive level of adoption is set to continue growing very rapidly over the coming years with Juniper predicting a global mobile banking user base of some 1.8 billion people by 2019 (source: Juniper Research, KPMG analysis).

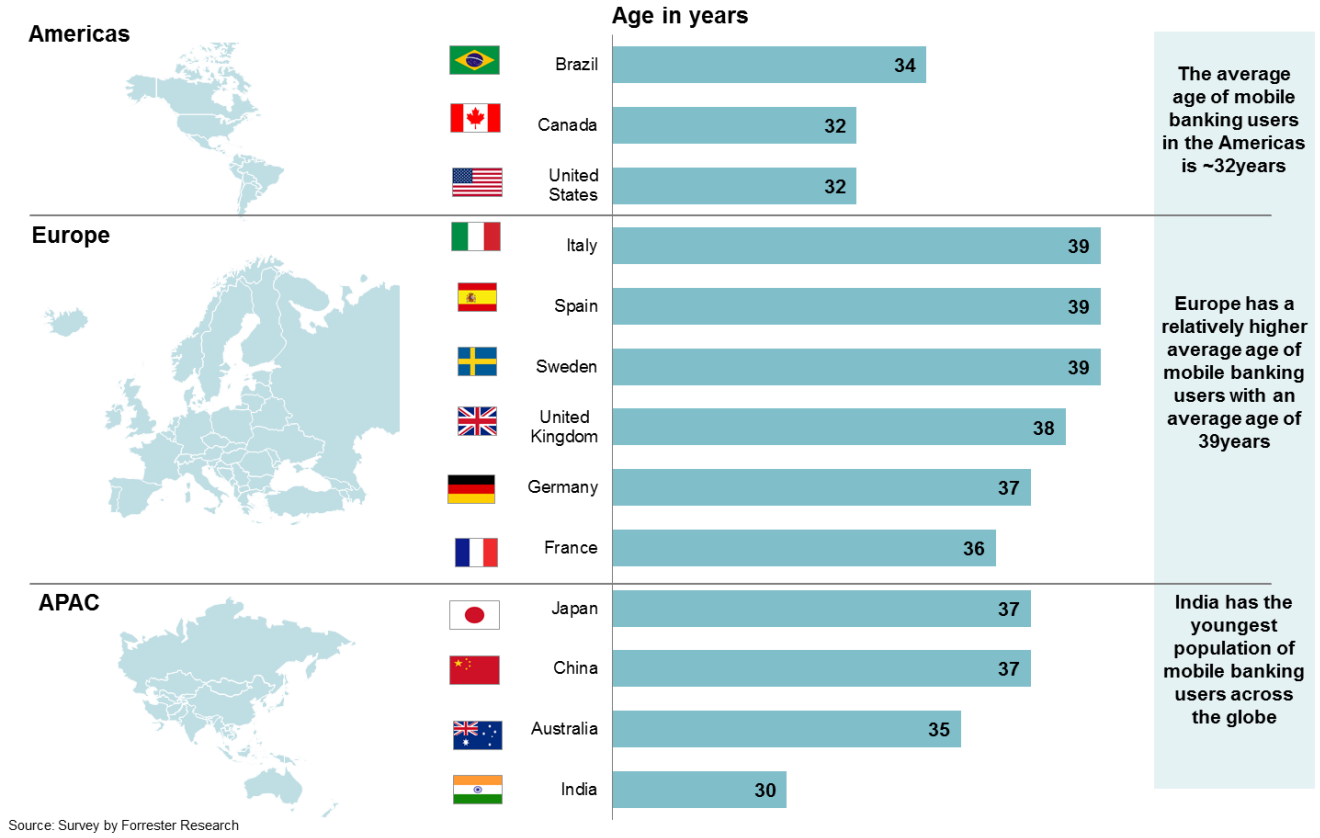
Number of mobile users set to rise from 0.8bn in 2014 to 1.8bn by 2019

Figure 1: Global mobile banking users



Source: Juniper Research; KPMG analysis

Figure 2: Average age of mobile banking users, by country



Source: Survey by Forrester Research

In recent primary, survey-based research, UBS Evidence Lab have provided further insight on the comparative demographic profiles of mobile banking users versus non-mobile banking customers of banks across different geographies. This research provides further evidence for the increasing primacy of mobile as the channel of choice for younger, more economically active consumers, as the following tables illustrate.

Figure 3: National age differences between mobile and non-mobile banking customers

Country	Non-mobile customer average age	Mobile customer average age	Age difference (years)
Australia	56.4	38.5	17.8
United States	53.0	37.7	15.3
Canada	58.1	42.8	15.3
United Kingdom	50.6	37.5	13.1
Sweden	56.8	43.9	12.8
China	38.8	35.1	3.7
Russia	38.3	34.8	3.5
Nigeria	33.2	32.1	1.1
Thailand	32.6	31.7	0.9
Kenya	30.0	29.9	0.1
Global	**46.1**	**36.1**	**9.7**

Source: UBS Evidence Lab

Figure 4: Median income differences

Country	Mobile customer median income bracket	Non-mobile customer median income bracket	Median income bracket difference
Brazil	5	3	2
India	6	4	2
Kenya	6	4	2
Nigeria	5	3	2
Australia	5	4	1
Russia	6	5	1
Singapore	5	4	1
South Africa	8	7	1
South Korea	4	3	1
Thailand	8	7	1
Global	**5**	**4**	**1**

Source: UBS Evidence Lab

Median income bracket differences are particularly striking and highlight the ongoing importance to banks of 'mobile first' consumers. We are seeing a clear recognition of this by banks across the globe, as reflected in the increasing amounts of investment being dedicated to building new and better mobile experiences.

The massive demand for mobile banking and the attendant rapid adoption of even fairly poor services by current standards have increasingly driven a shift in investment strategies by banks. Despite the political challenges and frequently hostile media coverage of branch closures, we see a clear and pronounced shift from investment in branch networks to more and more overt 'mobile first' strategies. Some banks have gone as far as being 'mobile only', such as Jibun bank in Japan, a joint venture between Bank of Tokyo-Mitsubishi UFJ and KDDI mobile phone network, launched in 2009. The service was subsequently expanded to include online (web) and telephone services, but has never sought to build a branch network.

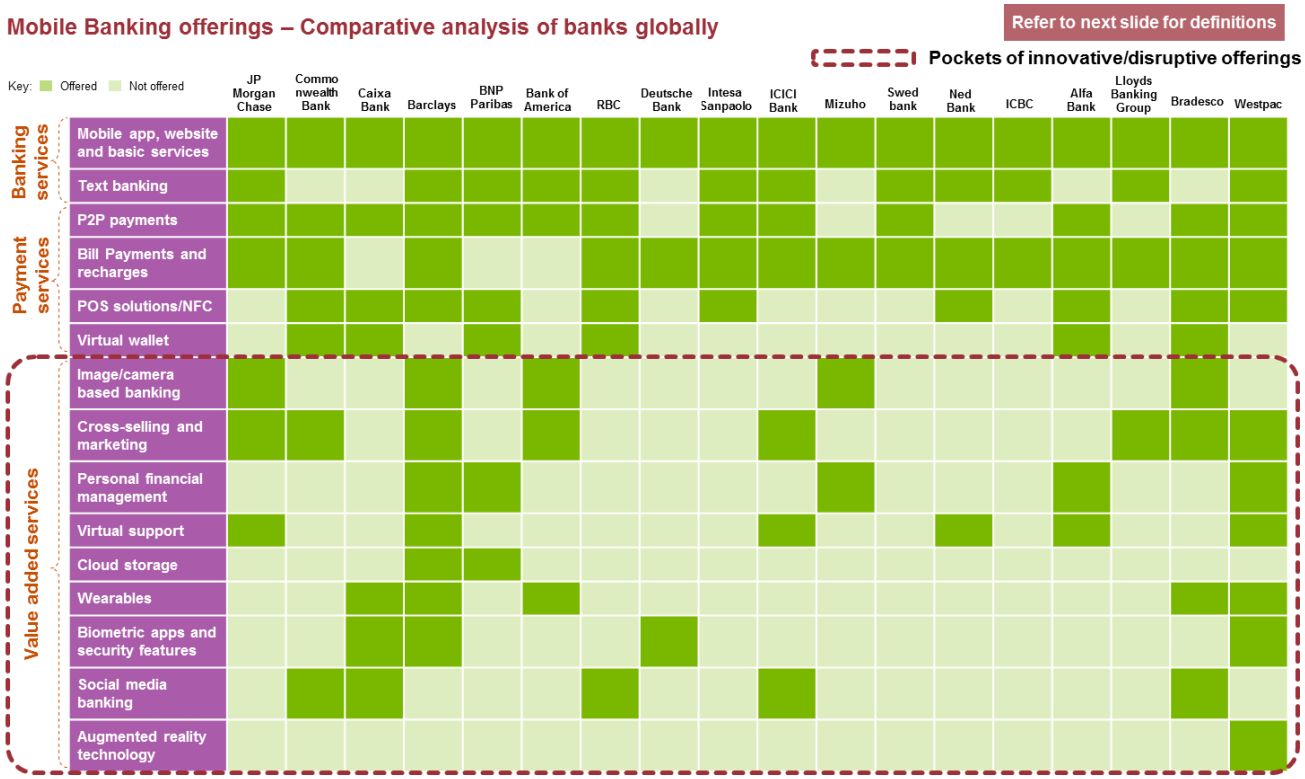
We see a clear and pronounced shift from investment in branch networks to more and more overt 'mobile first' strategies

We do not see mobile banking cannibalising the branch network completely, but rather an increasing fluidity of bank-customer interaction with devices used in branches to facilitate more efficient services, and person-to-person sales discussions frequently taking place around a touchscreen and teller transactions conducted through tablet computers. We believe that the very high degree of transaction migration from traditional channels to mobile channels will ultimately lead to fewer, smaller digitally-enabled branches and larger hub 'banking centres' in densely populated areas. Again, the socio-economic implications of this are beyond the scope of this paper.

Transaction migration from traditional channels to mobile channels will ultimately lead to larger hub 'banking centres' in densely populated areas

The following chart illustrates the breadth and variability of mobile banking across some of the global leading players.

Figure 5: Mobile banking offerings – comparative analysis of banks globally



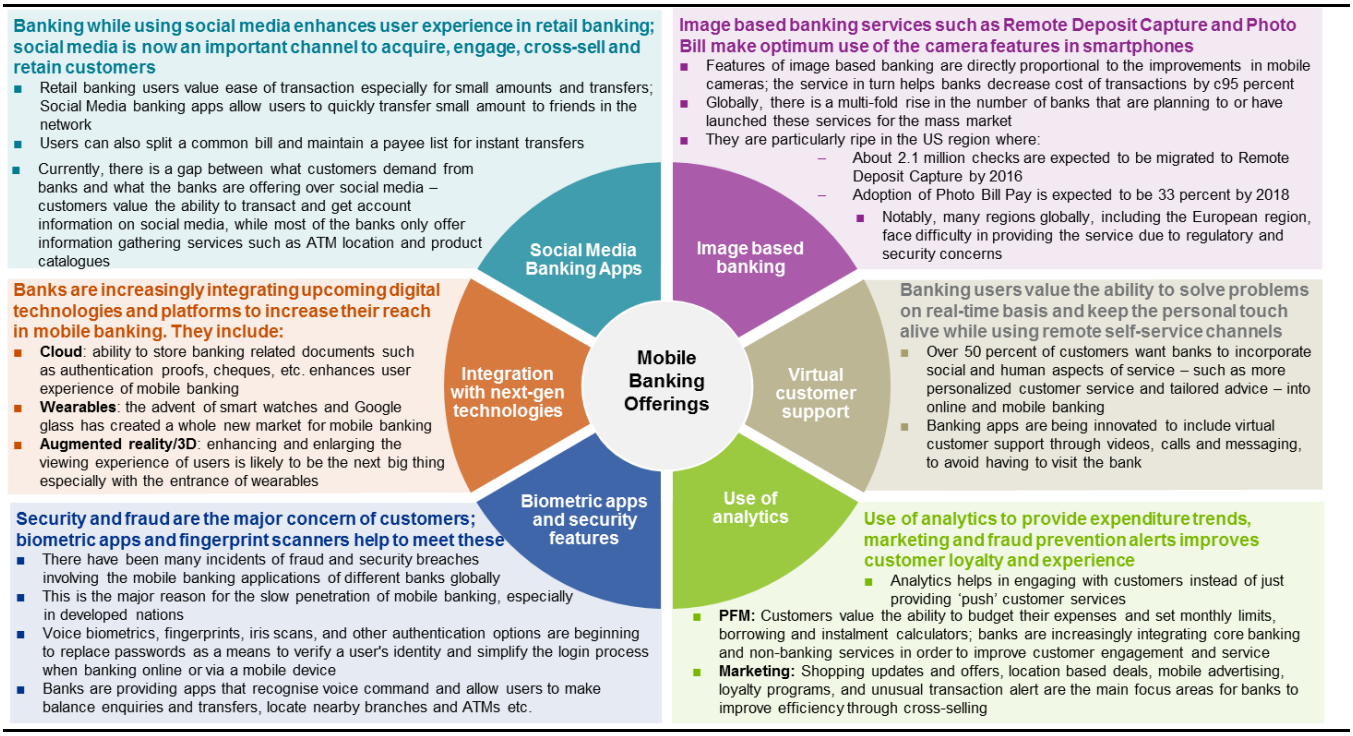
Source: KPMG Analysis

Figure 6: Definitions of terms in comparative functionality analysis

Mobile banking services	Definitions
Mobile app, website and basic services	Viewing account statements, current balance and historical transactions, locating ATM/branch, receiving bank alerts, etc. on mobile website and/or mobile app
Text banking	Allows non-smartphone owners to conduct banking via mobile. Customers can send a text to check account balance, review transaction history and check the payment date and amount of next credit card bill
P2P payments	Make direct payments to others via phone number or email address; includes functionality to split bills amongst themselves
Bill Payments and recharges	Make prepaid and postpaid payments in advance, view upcoming bills, create and modify payee list
Image/camera based banking	Take a picture of the paper cheque/bill to deposit/send to/from the bank. In addition, capture account opening information via an image of the customer's identity cards such as their driver's licence
POS solutions/NFC	Tap and pay: customers can store their account/card details on a chip to use mobile devices directly for payments at POS and ATMs
Virtual wallet	Banks provide virtual equivalent of a wallet to store digital cash for payments and purchases
Cross-selling and marketing	Customers can buy banking products directly via mobile; they can also view offers and deals from other retail partners. For example, bank provides housing loan deal in collaboration with a real-estate builder, free coffee, etc
Personal financial management	Tools to keep track of expenses and set budget limits, manage monthly expenditure, view spending trends as graphs and charts and get alerts if account balance dips below the set limit
Virtual support	Virtual interaction for real-time customer assistance 24/7 via videos, emails, tutorials and calls
Cloud storage	Store documents such as bills, account statements, etc. on the cloud to view while on the move
Wearables	Perform banking services on smart watches, Google glasses and other such wearable devices
Biometric apps and security features	Allows users to make balance enquiries and transfers, locate branches and ATMs, using voice commands on mobile devices; also includes fingerprint scanning to log in for additional security measure
Social media banking	Send money, view account balances and transactions and receive customer service assistance via Facebook and Twitter
Augmented reality technology	Customers can view in a 3D format their account balances, historical transactions, etc. by placing the phone camera over their cards

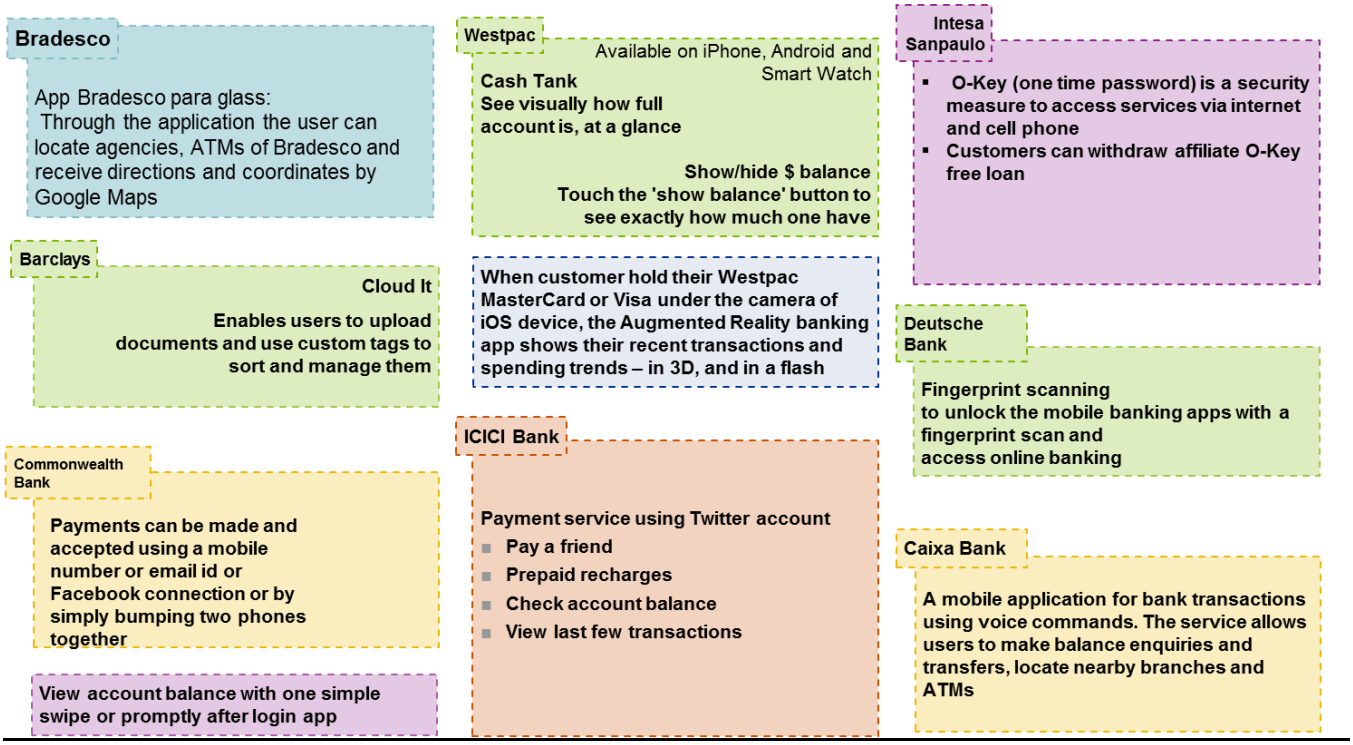
Source: KPMG Analysis

Figure 7: Further evolution of mobile banking services



Source: KPMG analysis; company websites

Figure 8: Further evolution of mobile banking services – bank examples



Source: KPMG analysis; company websites

1.4 Mobile banking security issues

Organisations delivering banking services on mobile devices currently face difficult choices over the right solution, balancing: (1) shorter-term business objectives with a longer-term strategy for the mobile channel; (2) the capabilities of their end-to-end transaction monitoring and risk-scoring architecture; (3) the proliferation of security vendors; and (4) their own capability.

A balancing act: organisations need to match the roll out of functionality to perform riskier transactions with their ability to authenticate the device

As customers demand frictionless online experiences, especially on mobile devices where there is a particular demand for speed and responsiveness, organisations need to match the roll out of functionality to perform riskier transactions with their ability to authenticate the device, the application and the user, in ways preferred by the customer, and permitted by local laws and regulations.

Fraud controls are matched to the risk of specific customer actions, and necessarily depend on the authentication, integrity and secrecy of both customer credentials and identity, as well as the assets stored on the device itself. The mobile device in which the control or asset resides/executes needs to be considered a hostile environment, both from the perspective of reverse engineering attack and ultimately compromise.

Today, for the cautious user with a non-tampered (or "jailbroken") device, who uses apps from official stores, the threat is currently relatively low. Few vulnerabilities in underlying platform security have been exploited by banking malware. Nevertheless, the risk remains that as mobile becomes the predominant channel for accessing banking services, malware (and increasingly, targeted social engineering) will appear. Consequently, organisations will need to make the choice as to whether to invest for the current threat landscape, or in a more strategic architecture that will survive and evolve as threats materialise.

Designing an end-to-end mobile channel architecture is no different to any other architecture in a fast-changing, technology-driven domain. However an organisation that has implemented a more monolithic or poorly structured solution may find itself in an architectural dead-end and may not be capable of an effective response to a change in the external landscape. An architecture that is most likely to survive into the future and protect the investment is one that can evolve in response to the different threat vectors and new technologies in a more incremental, reliable and agile manner.

A channel architecture must be able to response to the different threat vectors and new technologies in a more incremental, reliable and agile manner

Other critical drivers affecting mobile security strategy and, in turn, architecture arise out of the following complex, dynamic, overlapping and interconnected eco-systems, covering:

- Online and digital identity providers
- Payment providers and dis-intermediaries
- Banking
- Mobile platforms and services

The last of these is complex and significant enough to warrant mention in its own right, but it is also (of course) an enabler of the other three. Boundaries are blurring, so we already see the delivery of identity and payment capabilities forming a strategic objective among the mobile platform providers, Google, Apple, and Microsoft.

While still a significant challenge, the creation of an effective, modular mobile architecture, supported by a mature capability, will help an organisation to both reuse IT assets and

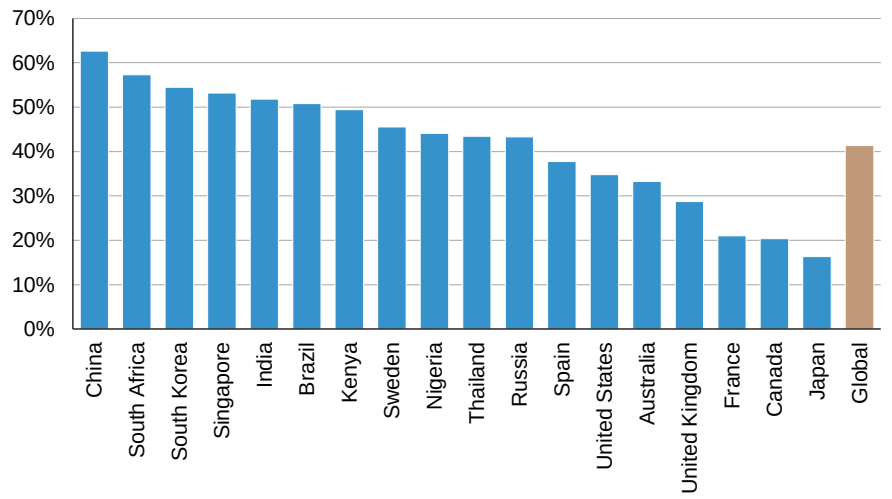
- Incorporate new technologies and components e.g. Trusted Execution Environment, and Mobile Platform Security as a service;
- Reduce the barrier to the Test & Learn activities of new security mechanisms e.g. biometrics, and wearables;
- Allow customer self-selection of security mechanisms, to fit needs and concerns e.g. geo-location privacy;
- Respond to the increasing risk of complex, fragmented and restrictive legislation and regulation, covering specific types of data, jurisdictions and nationalities, e.g., the tapestry of complex extra-territorial laws governing the privacy of personal data irrespective of the country in which it is processed.

The journey to a mature architecture and capability in mobile security can be very complex and lengthy, and should not be underestimated. Organisations should be open to the need to make a step-change in their security architectures, and to invest to provide the necessarily modularity to future-proof their investment in mobile and digital channels.

1.5 Regional and national mobile banking trends

1.5.1 User adoption patterns by region and country

Figure 9: Mobile banking penetration by country



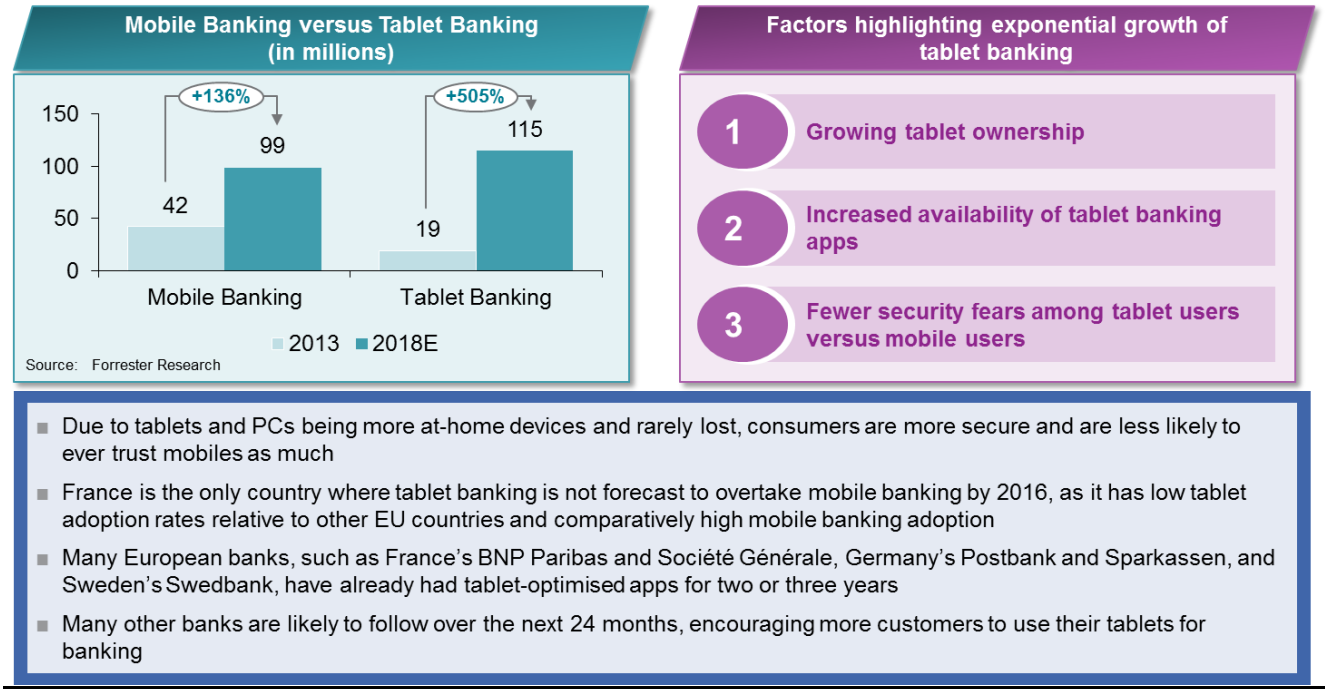
Source: UBS Evidence Lab

1.5.2 Europe

Adoption of mobile banking services currently at 38% in Europe and the UK

Across Europe, we see the current adoption of mobile banking services at 38%, with on average modest growth year on year (Source: Press Articles, KPMG Analysis). There are some notable differences between specific countries in Europe. Adoption in the UK however, exactly matches the average at 38%. The UK can be seen as something of a bellwether for both the rest of Europe, and also parallels other developed economies such as the US and Australia, although there are also both qualitative and quantitative differences in adoption patterns.

Figure 10: Europe

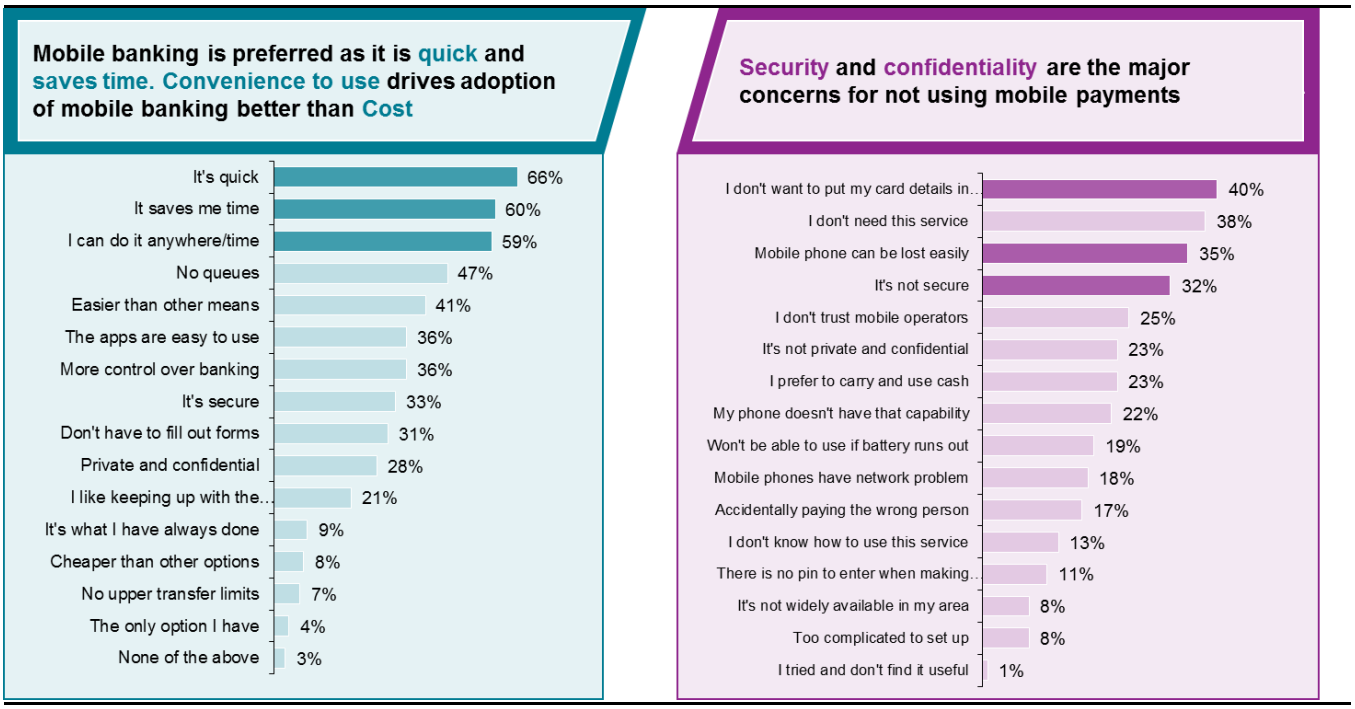


Source: Web search, KPMG analysis. Note: (a) Forrester estimates

In the UK, mobile banking is preferred as it's quick and saves time

The UK is a relatively mature market for both online (web) banking services and mobile banking, with most major banks having launched these services in around 2010 or 2011. We have observed a typical 'S' curve of adoption, with an initial very rapid take-up of services by early adopters. An interesting characteristic of this was that – at a number of banks KPMG has worked with – prior to launch of designed-for-purpose mobile banking services, a significant minority of users were already accessing online (web) banking services from mobile devices , despite the compromise in user experience that this involved – examples being tricky log-in processes via a phone, sessions closing when the 3G signal was temporarily lost, and pages that were harder to navigate on a mobile device as they had not been designed for that purpose. Initial adoption of dedicated mobile banking services by such users was very rapid, and resulted in a cannibalisation of digital banking activity away from online (web) – effectively these users had already been mobile banking users, but their banks had now caught up with them by providing dedicated mobile services.

Figure 11: United Kingdom



Source: Vocalink 2013 mobile payments research

Security and confidentiality are major concerns for non-mobile banking users

As indicated above, there followed then a fairly standard adoption curve that mimicked the pattern seen in online (web) banking services some 10 or 12 years previously. The plateau of adoption was reached at c38% for mobile banking and c44% for online (web) services (Source: KPMG Analysis). Further growth is now somewhat inhibited by the very high existing penetration of smartphone devices and the wide availability (at least in densely populated urban areas) of 3G and frequently 4G connectivity which makes the wireless banking experience as good as or better than using a wired computer.

Functionally speaking, early mobile banking services were almost exclusively service – as distinct from sales – propositions. This represented something of a challenge for the banks, since cross-sales through the online (web) channel had been growing very rapidly and the nature of these services – the ease of designing pages with distinct 'service' and 'sales' zones in the larger digital 'real estate' of the web, for example – was conducive to a clear and prolonged focus by Digital teams within banks on driving sales through their channel. From an economic perspective, this made a huge amount of sense, since once a customer has authenticated themselves into the digital bank a very good sales experience can be offered – for example instant loans to customers with an acceptable credit score and the ability to indicatively quote a loan to a customer while they are doing a related service activity such as paying a credit card bill. These kind of contextual offers already point the way as to how sales of financial products will be driven through emerging technologies such as smartwatches.

A minority of banks made errors in the minimum functionality they chose to offer when launching their mobile banking services. In one example, a bank that was behind the competition in launching a native banking app, decided to address this weakness by launching an app through which essentially all the customer could do was check their balance – there were no transaction services. Apple App Store reviewers were extremely harsh in their response. The underlying cause of this misstep – an uncompetitive, slow

app development cycle at the bank – provides a salutary lesson to those who think they can get away with continuing to use multi-year, 'waterfall' development methodologies and expect to beat or even match the competition. Furthermore, once a bank has fallen behind, it is incredibly difficult to catch up – some kind of game-changing leapfrog or the pioneering launch of a high-quality service in a new device (such as a smartwatch app) would appear to offer possible, but risky, routes back to competitiveness.

We have now started to observe limited sales messages – if not normally true 'straight-through' sales processes – being included in mobile banking offerings, and we note the caution with which banks are approaching this area, preparing the ground with extensive pre- and post-launch customer validation of sales functionality. We believe this is a sound approach, as there is a fundamental difference in how customers perceive their relationship to mobile devices versus wired computers. The mobile device is, to a high degree, seen as an extension of the individual – many smartphone users interact with their devices more than 150 times per day (Source: Press articles). Unwanted sales messages can be seen to invade that 'device intimacy' and lead to complaints and or a cessation of or reduction in usage. Clearly, neither is desirable for the bank and so their caution is warranted.

1.5.3 ASEAN

ASEAN mobile users are less loyal, eager to try new things, demand personalised services and expect a broad range of products

The 10 countries that make up the Association of South-east Asian Nations (ASEAN) – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam – have a combined population of 625 million, and several member countries are experiencing rapid economic growth. Many parts of the region have young populations – in Vietnam more than 60% of the 91 million citizens are under the age of 30.

Although economic prosperity is unevenly distributed – from the rich city state of Singapore to the newly emerging economy of Myanmar – technology trends are impacting all of ASEAN in very similar ways, especially when it comes to financial services.

Young ASEAN consumers are more open than ever before to considering non-traditional alternatives for their financial services, while the number of users of core services such as banking are set to double by 2020 across South-east Asia as the 'unbanked' begin to be served through their new mobile devices.

Across ASEAN, parts of the population that have previously never been well served by financial institutions, together with the many new adults entering the consumer society every year, are now becoming new banking clients – and they are quite different from prior generations of banking customers. They are less loyal, eager to try new things, demand personalised services and expect a broad range of products suited to their lifestyle and personal circumstances. They are not intimidated by technology, can be easily influenced by their peer group, and expect high levels of transparency, convenience and mobility in the services they consume.

Mobile phone penetration approaches 100% of adults in most of ASEAN…

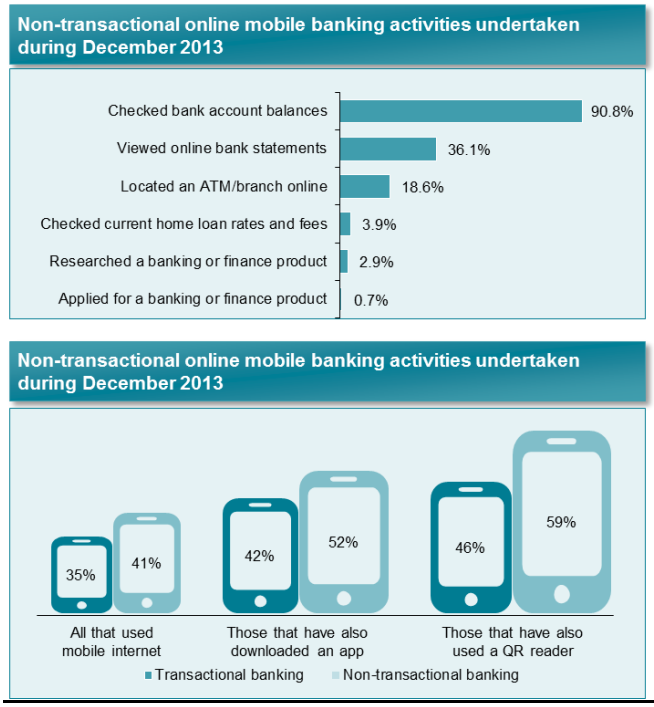
The explosive growth of smartphones –mobile phone penetration approaches 100% of adults in most of ASEAN – together with increased comfort in using mobile commerce and improved regional connectivity, are setting the scene for major disruptions among the established ASEAN players in the banking sector – some of whom have perhaps been too comfortable within their respective home markets, assuming they were in some way immune to external competitive forces.

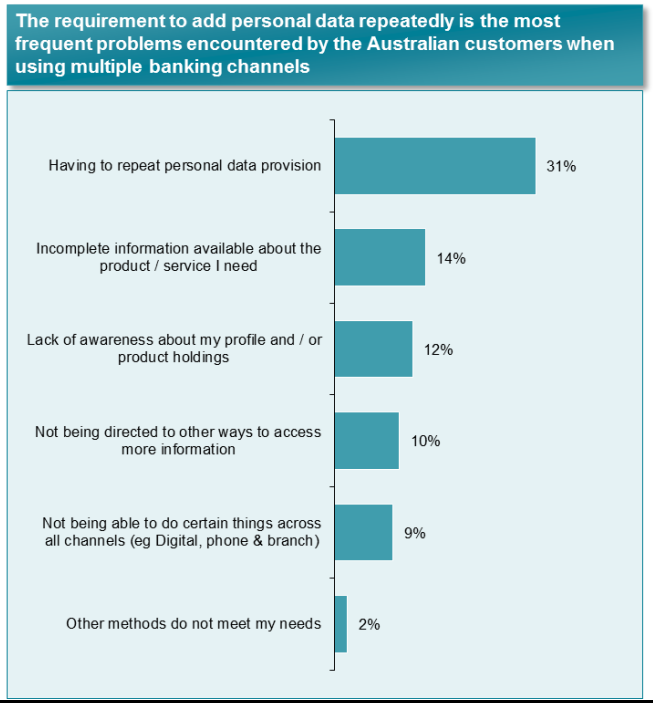
And competition is suddenly everywhere. It is coming from within the region, as ASEAN banks jostle and manoeuvre in preparation for increased economic integration as part of the ASEAN Economic Community (AEC). In recent years, several regional telecommunications firms (such as Globe Telecom in the Philippines) and retail companies have successfully launched digital banking services – especially around mobile payments and foreign exchange. They, too, are looking at how they can repeat these experiences more broadly in the region as the AEC approaches.

… And this is stimulating competition from within and outside the region

Competition is also coming from elsewhere within the Asia/Pacific region – in recent years, Japanese and Australian financial services firms have either moved into the region directly or through M&A, and Chinese banks are sure to follow. Competition is also coming into ASEAN from across the globe, as the world-leading banks size up their options to enter ASEAN markets in a low-cost, low-risk 'pure digital' operating model: large established banks can take as much advantage of new digital operating models as any small start-up can. And, of course, FinTech start-ups abound – from within the Asia/Pacific region from hubs in Hong Kong, Singapore and Sydney, and from across the world – all determined to 'unbundle' banking services and carve out business in some of the established banks' most profitable business lines.

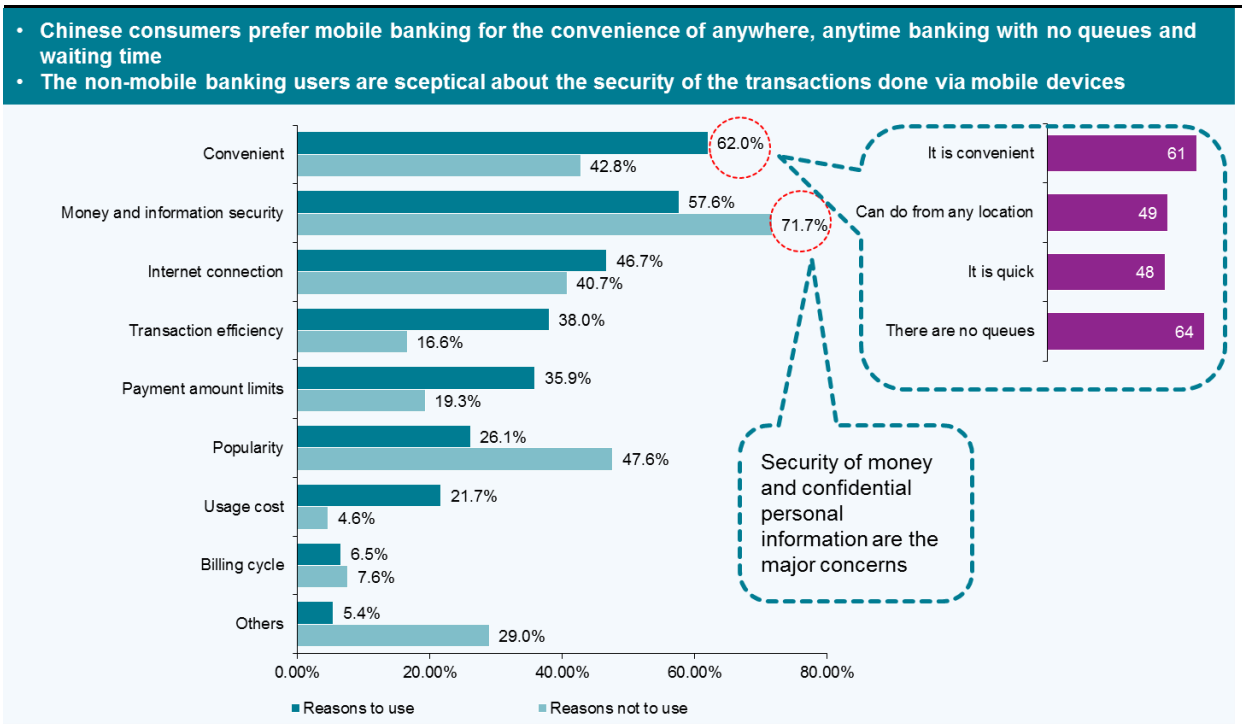
Figure 12: Australia





Source: Roy Morgan Research Survey and Australian Communications and Media Authority. Note: Percentage of Australians aged 18 years-plus who used the internet on their mobile phone. Mobile online banking includes mobile banking and bill payments

Figure 13: China



Source: iResearch 2013

1.5.4 United States

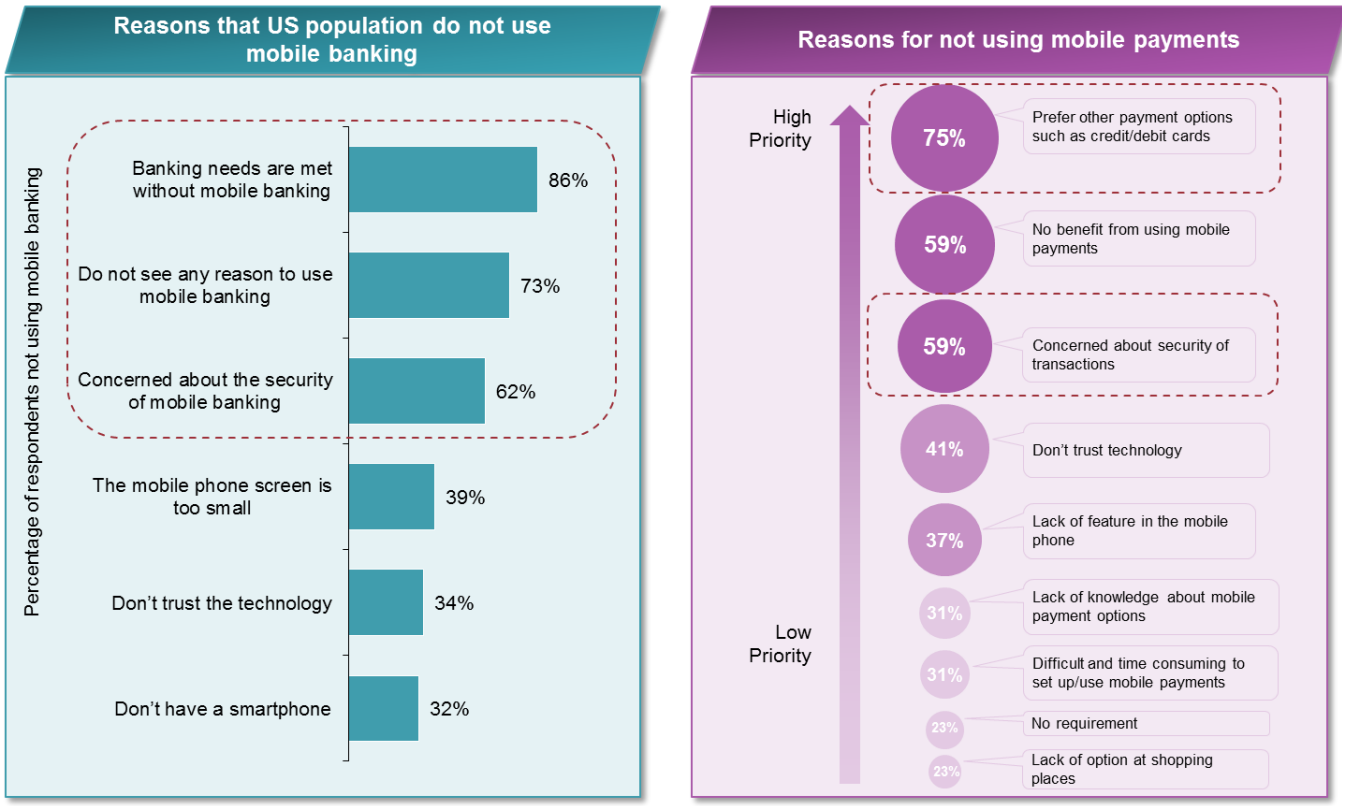
Regional and national banks in the US have begun to supply apps with new functionality that has made the mobile channel a preferred one for many consumers. 'Table stakes' have shifted from basic features like alerts and remote deposit capture (MRDC) to more advanced login and account management features.

Many of the advancements made in mobile banking functionality can be attributed to banks' ability to leverage existing smartphone features in their apps. For example, banks have used GPS to notify customers of nearby deals, and have engaged Apple's Touch ID for biometric authentication. Several banks have even extended the use of the smartphone camera beyond just MRDC, enabling customers to pre-populate enrolment forms and pay a bill with just a picture. Some 56% of North Americans surveyed reported interest in video chat with bank representative using a mobile/tablet device.

A major concern for US banking users is security and confidentiality of information

While banks' mobile apps have met basic consumer demands, third-party providers are sometimes being favoured in other facets of mobile financial technology. Solutions like Intuit's Mint have maintained an edge in the personal financial management space with their ability to show financial activity across accounts. Additionally, some consumers have found third-party person-to-person (P2P) payment apps like Square Cash and Venmo to be most convenient when transacting with peers from a different bank. Security and confidentiality of information while performing banking transactions on mobile device is the major concern of the US banking users. Almost half of US consumers surveyed report that they do not trust the security of mobile devices.

Figure 14: US



Source: A survey conducted by the Federal Reserve, 'Consumers and Mobile Financial Services 2015'

One in six customers would likely consider mobile banking offerings as a key factor in choosing a new bank if they were to switch from their current bank. This is particularly true among younger customers.

Industry-leading banks are focused on delivering features that appeal to 'mobile-first' consumers, such as mobile account opening (MAO). This type of forward thinking is critical for all banks if they are to continue to meet consumers' high mobile banking demands and avoid third-party disintermediation.

1.5.4.1 Latin America and Africa

In LatAm, Mexico, Brazil and Chile are showing the highest penetration in mobile banking

Latin America is seeing very fast adoption of mobile services, with Mexico, Brazil and Chile showing the highest penetration to date. Brazil, in particular, is seeing explosive growth, at a rate of c100% per annum. We are seeing the highest adoption rates in the mid-30 age bracket, with the average age of users being 34. Brazilian banking customers are already using mobile phones more than other channels such as branches and call centres to access statements and account balances.

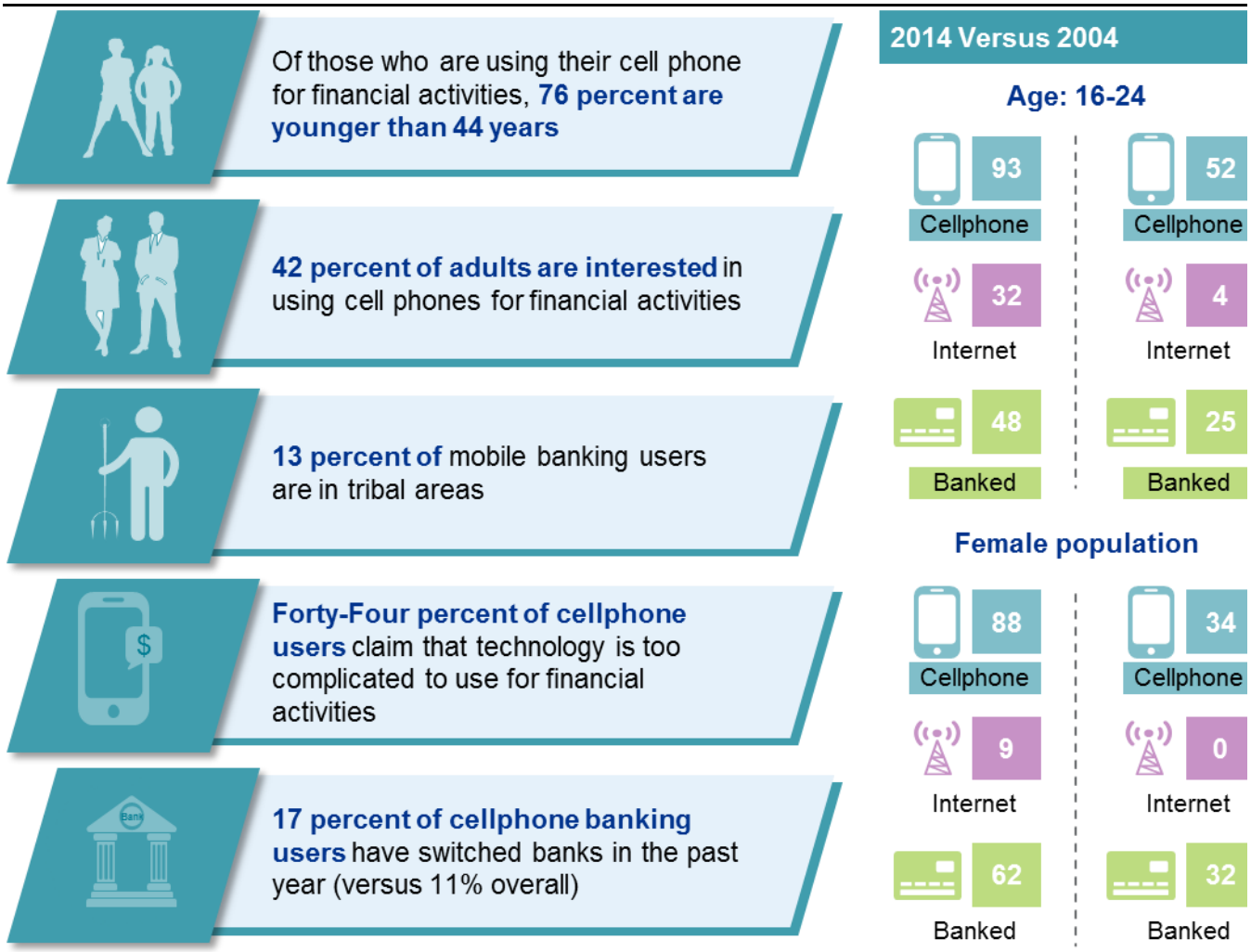
If smartphone proliferation has certainly helped to drive the market in the developed world, this has not been the case in the developing countries of the African continent. In these countries, a confluence of two significant factors has spawned a different – and, arguably, more interesting – growth pattern. These nations have been characterised by a large under- and un-banked population coupled with high adoption of basic, cheap 'featurephones' (frequently refurbished older models from developed markets).

The result of this has been extraordinary innovation in financial services with pioneering propositions, such as M-PESA in Kenya and other African nations, developing a completely new kind of banking where banks were largely not involved. These propositions were largely developed by the telecommunications industry, and have shown such rapid and sustained growth that estimates suggest a significant proportion of the entire Kenyan economy goes through M-PESA.

In Kenya and other African countries, mobile banking largely developed by the telecommunications industry rather than by banks

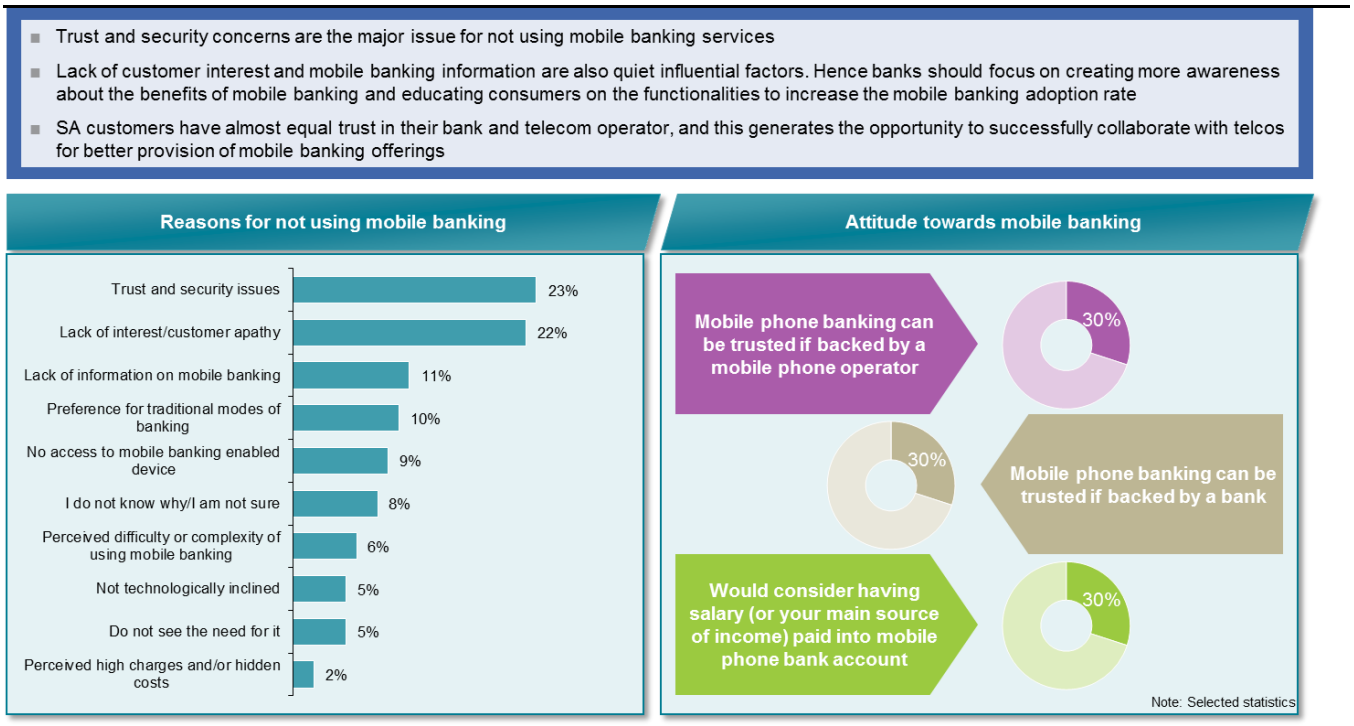
Examples are legion of village entrepreneurs whose businesses have taken off due to the ability to transact and, indeed, store money electronically, using their mobile telephones. Airtime has effectively become a currency in its own right within many developing nations. The broader socio-economic implications of this and the response of some of the larger African economies, such as Nigeria, in terms of trying to retain control of banking and payments within the economic and finance ministries, is beyond the scope of this paper.

Figure 15: South Africa



Source: FinScope SA Consumer Survey, 2014 and 2013

Figure 16: South Africa – behavioural intention towards mobile banking



Source: Survey by Daniel K. Maduku; Behavioral intention towards mobile banking usage by South African retail banking clients

1.6 Impact of effective mobile banking strategies and execution on key bank performance metrics

We identify three defensible mobile banking strategies, each of which may yield satisfactory results for the banks within their own terms. We suggest that, given the massive growth of mobile banking adoption and its increasing primacy as the channel of choice for consumers, the biggest drag to profitable growth would come from not having a clear mobile banking strategy or being ineffective in execution – through lack of capability or under-investment.

The biggest drag to profitable growth would come from not having a clear mobile banking strategy

The categories of Incremental, Transformational or Pioneering are not intended to represent a judgement of whether these are good or bad strategies – each are presented as defensible approaches. Some banks lead on experience, some lead on price, and some lead on product innovation. Equally, local market conditions, current and target customer demographics and risk appetite all play a part in determining what may be the best strategy for any individual bank.

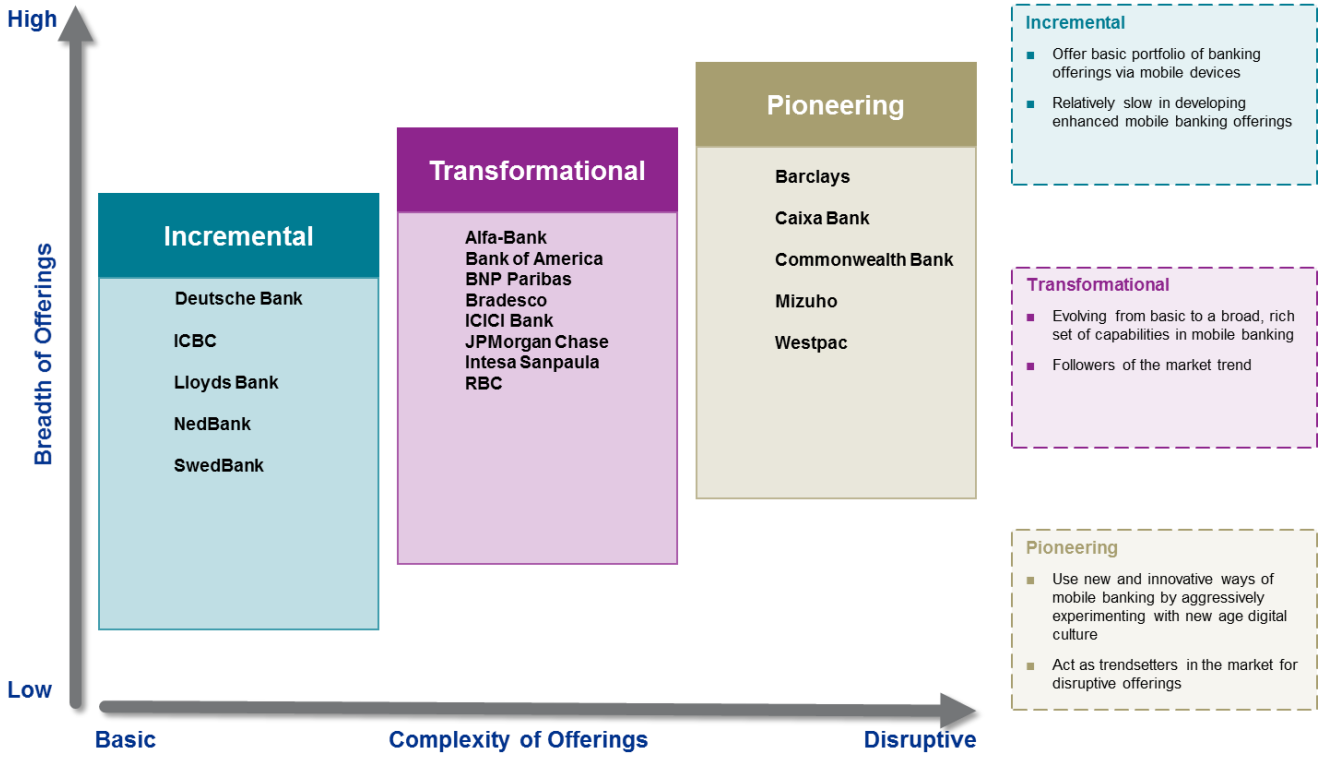
At the same time, in any given planning cycle a bank may adopt a new strategy and indeed that would be logical in a fast evolving market. We see the relative positions below as a snapshot of a fluid position and highly likely to change. For example, banks who are initially cautious and conservative may see shareholders or customers demanding a bolder approach or the market conditions themselves changing and this may lead to sometimes dramatic changes in approach.

Comparing the KPMG secondary research output shown below with the recent UBS Evidence Lab survey output, there are some interesting anomalies. For example Japanese bank Mizuho scored relatively highly in

the KPMG research compared to Swedbank whereas the UBS Evidence Lab survey found the position essentially reversed.

Our assessment of this is that the market is moving fast and as the previously noted high levels of investment reach fruition it will be characteristic to see banks leapfrogging each other in terms of offerings. This is particularly the case where a bank launches a major release of functionality or a completely new app, as distinct from banks who adopt a more Agile release approach of small additional functionality on a regular basis.

Figure 17: Typology of mobile banking strategies



Source: KMPG Analysis

Figure 18: Customer satisfaction – based on "recommending your bank to a friend"

Country	Mobile customer "recommend to a friend" score	Non-mobile customer "recommend to a friend" score	"Recommend to a friend" difference	Mobile net promoter score	Non-mobile net promoter score	Net promoter difference
Japan	5.2	4.5	0.7	-70	-82	11.8
China	7.0	6.3	0.7	-9	-35	26.3
Thailand	6.9	6.2	0.6	-17	-33	16.2
United Kingdom	7.5	6.8	0.6	6	-10	16.0
South Korea	6.2	5.6	0.6	-45	-60	15.4
India	8.0	7.4	0.6	30	11	19.5
Spain	6.2	5.6	0.6	-35	-47	12.1
South Africa	7.7	7.2	0.5	22	3	19.0
Kenya	7.7	7.2	0.5	18	7	11.3
Nigeria	8.2	7.7	0.4	36	23	13.0
Russia	7.4	7.0	0.4	5	-7	12.0
Singapore	6.8	6.4	0.3	-21	-33	12.5
Brazil	7.4	7.2	0.2	10	4	5.4
Canada	7.3	7.1	0.2	3	4	-1.0
Australia	7.1	7.0	0.1	-8	-6	-1.5
United States	7.8	7.7	0.1	19	20	-1.5
Sweden	6.7	6.6	0.0	-14	-11	-2.4
France	6.6	6.5	0.0	-26	-23	-3.1
Global	**7.1**	**6.6**	**0.5**	**-3**	**-17**	**14.1**

Source: UBS Evidence Lab and UBS research analysis

1.6.1 Effective Mobile Banking Strategies drive Customer Advocacy and Cost Savings

Data from a range of sources clearly indicate that effective mobile banking strategies drive transaction migration from traditional higher cost channels to the lower cost mobile banking channel, thereby driving cost savings for the banks. The UBS survey data highlights that in most countries there are significant customer advocacy benefits (as measured using Net Promoter Score) through driving uptake of mobile banking services, however it is notable that in several more mature markets such as Canada, Australia, France and the United States, small negative changes in Net Promoter Score are seen in the mobile banking user base – further research is required to properly explain this data.

Effective mobile banking strategies drive transaction migration from traditional higher cost channels to the lower cost mobile banking channel

1.6.2 Despite positive impact on Advocacy, Mobile Banking Users more likely to change Bank

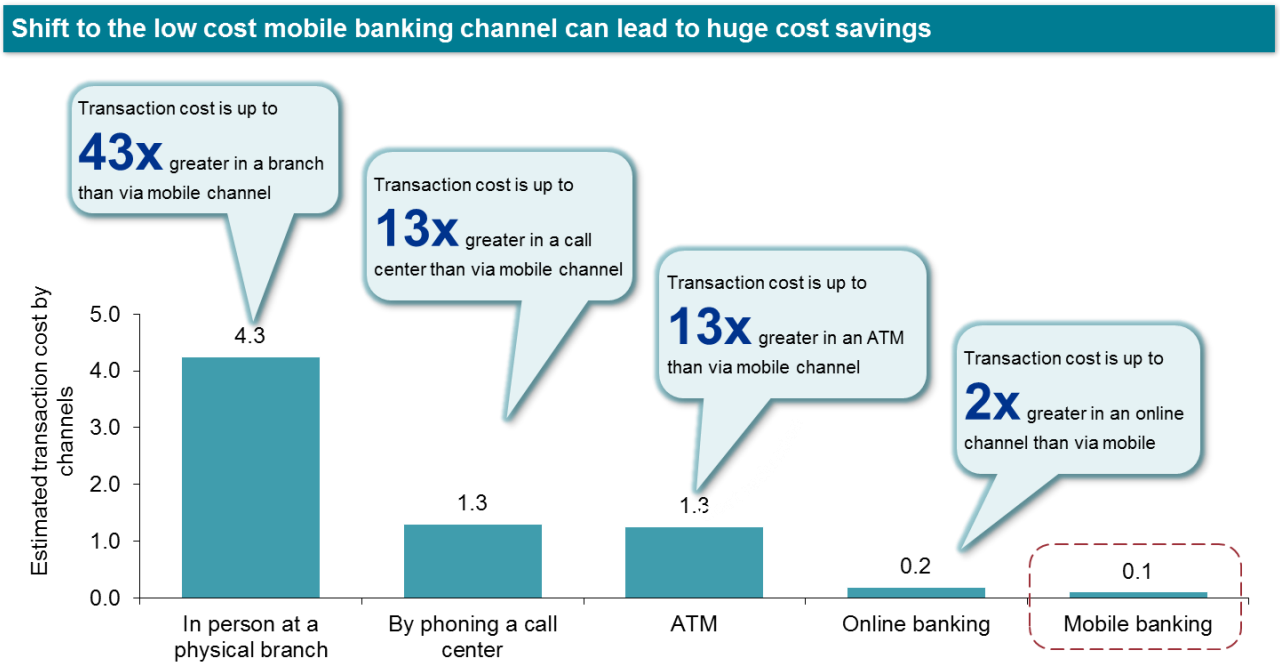
UBS Evidence Lab has identified that – almost uniformly – mobile banking users report an increased likelihood of changing banks, despite their higher advocacy scores. We hypothesise that this may be for underlying demographic reasons with mobile banking users being more economically active and potentially more demanding in the expectation of banking services and products, and therefore demonstrating less apathy and increased willingness to change bank in pursuit of a better deal. Clearly the data suggest that simply having an effective mobile banking offering is insufficient by itself to retain higher value customers.

Figure 19: Likelihood of customers to change bank – by country

Country	Mobile customer "likelihood to change bank" score	Non-mobile customer "likelihood to change bank" score	"Likelihood to change bank" difference
India	4.6	3.4	1.2
United States	3.6	2.6	1.1
France	3.6	2.7	0.8
Brazil	3.5	3.0	0.5
United Kingdom	3.3	2.8	0.5
Canada	2.5	2.0	0.5
Japan	2.7	2.3	0.5
Australia	2.6	2.2	0.4
Thailand	3.5	3.1	0.4
China	3.6	3.3	0.3
South Korea	3.8	3.5	0.3
Singapore	3.1	2.8	0.3
Russia	3.4	3.1	0.2
Sweden	2.6	2.4	0.2
Spain	3.6	3.4	0.2
South Africa	2.6	2.5	0.1
Kenya	2.9	2.9	0.0
Nigeria	2.5	2.5	0.0
Global	**3.3**	**2.8**	**0.5**

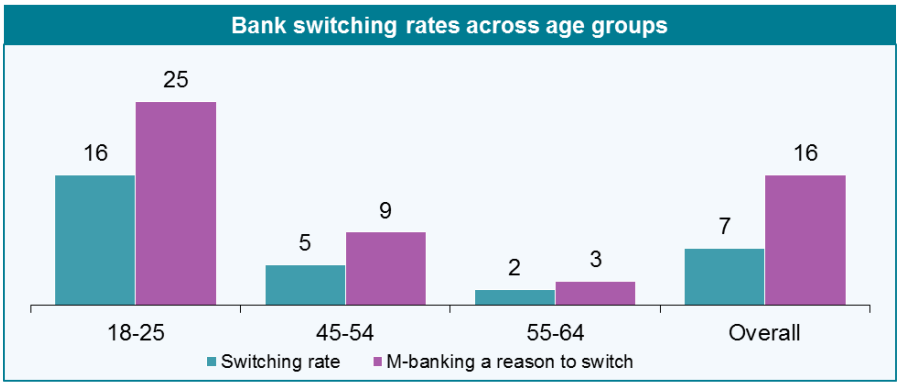
Source: UBS Evidence Lab and UBS research analysis

Figure 20: Impact of bank costs of transaction migration to mobile channel



Source: Javelin Strategy and Research, 2013; KPMG analysis

Figure 21: Mobile banking services as a reason to switch banks and a driver of increased product cross-sales



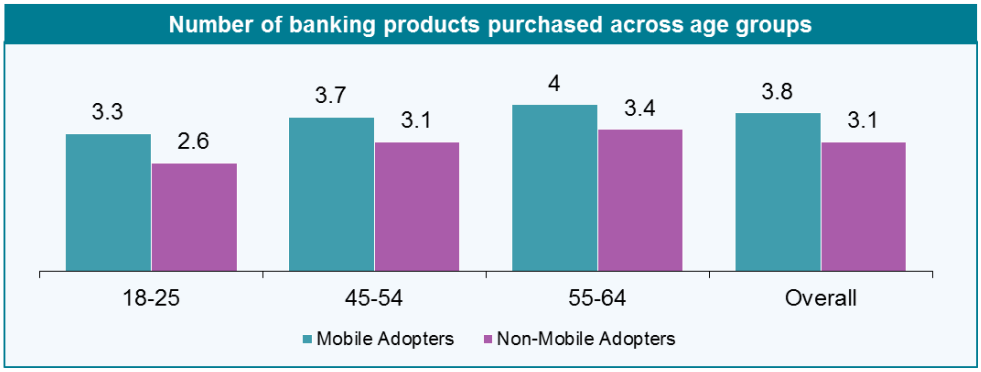
Banks can not ignore the mobile banking channel and have to update their m-banking offerings regularly to retain their customers and prevent them from switching banks

16 percent of consumers feel mobile banking is an important factor for switching bank

25 percent of the younger population (who are the biggest switchers) find mobile banking important

Mobile banking users buy more banking products than non-users

This gives banks an opportunity to cross-sell their products via mobile banking channel



Note: US respondents only
Source: Survey by AlixPartners, 2013; Press articles and Journals; KPMG analysis

1.6.3 Case study: JP Morgan (USA)

Figure 22: Snapshot of mobile banking initiatives

Initiatives	Description/features
Chase commercial online mobile site	▪ Check account balances or pay bills on the go ▪ The Chase Commercial Online mobile site keeps customers connected to their company's accounts
Chase mobile app	▪ Chase customers can access their accounts using Chase.com on their mobile phone's browser, or with the Chase Mobile App ▪ It allows customers to authorise payments, check transactions and view account balances on iPhone, iPad, Android, KindleFire and Windows
Quick deposit	▪ Customers can take a picture/scan paper check and send the scanned images electronically to Chase for deposits in their accounts
Quick pay	▪ Customers can send money to another person without cash or checks using Chase QuickPay with the recipient's email address or mobile number
Text banking	▪ The customers can check account balance, review transaction history and check the payment date and amount of client's next credit card bill by sending a text to the bank
Chase my new home mobile app	▪ Mobile app launched in 4Q2012 to help customers find and finance a home. 360,000 app downloads by end 2013

Mobile comparison chart

	Apps	Mobile web browser	Text banking
Check balances			
View transaction history			
Transfer funds			
Pay bills			
Send wires			
Pay credit cards			
Deposit checks			
View investment and market data			
Locate branches			

JPMorgan ranked

Number one mobile banking functionality

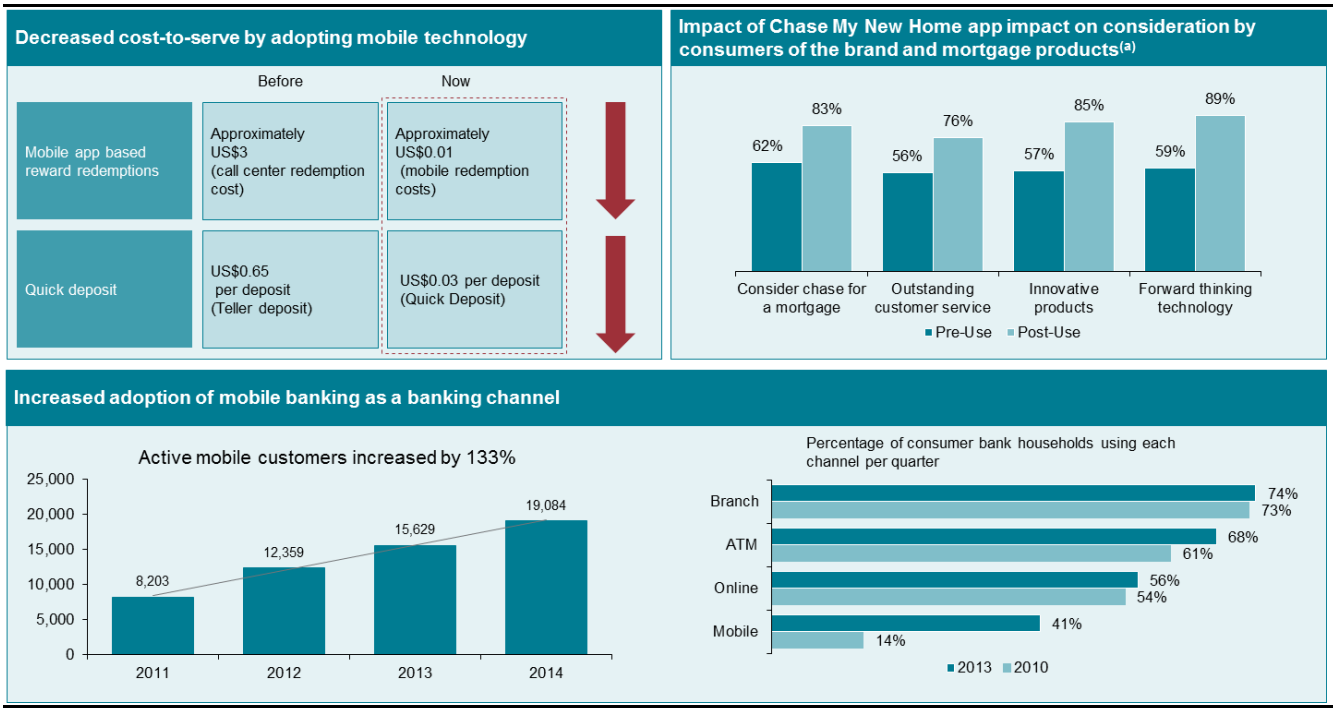
(Forrester Research's 2013 global and US rankings)

Some examples of mobile banking Initiatives

- Customers can check account balance, pay bills and also call customer care representatives from the app
- Payments can be made and accepted using a mobile number. No need to share bank account details
- Customers can perform banking transactions by sending a text command to the bank via their mobile
- Customers can find and finance a home using the Mobile app
- Customers can scan a paper check using mobile phone to deposit money

Source: Company website; press articles and journals; https://www.jpmorgan.com/pages/mobile-apps

Figure 23: Impact of mobile banking initiatives on JP Morgan performance metrics

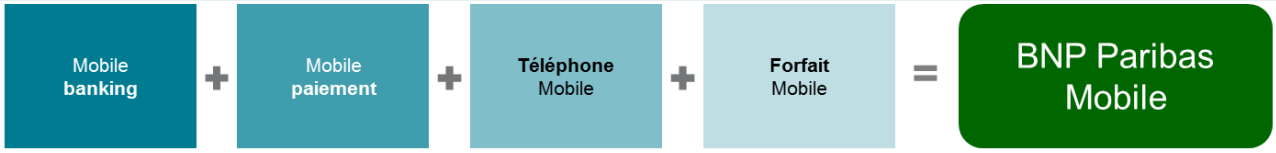


Source: Company website; press articles and journals. Note: (a) 2012 profile of home buyers and sellers from the National Association of Realtors

1.6.4 Case Study: BNP Paribas (France)

Figure 24: Snapshot of mobile banking initiatives

Initiatives	Description/features
Hello bank	■ A mobile bank launched in Belgium, Germany, France and Italy ■ Users can manage their budgets and put their spending into categories ■ Transfer money in three clicks
Web banking apps	■ Apps 'My Transfers', 'My Portfolio' and 'KIX' to pay directly with mobile ■ 'Express View' to statement of accounts without having to enter any code at all ■ 'My Accounts' to manage account ■ History of automatic transfers and cancellation of automatic transfer ■ Secure messaging, callback request ■ Change of PIN ■ Give feedback and contact a specialist ■ Quickly locate the nearest cash point and branch ■ A 'Markets' tab gives access to information on indices, funds, commodities, news, etc. ■ My Chest: To store documents ■ Intuitive search engine for easily finding a transaction
PayLib, easy Transfers	Mobile payments solution via the use of smartphone or tablet, and without the need to enter account details. Person-to-person transfers via a smartphone using the other person's telephone number
Mobo	Hardware plugged on smartphone allowing merchants to accept card payments on the move
Six dots (Wallet)	A mobile wallet enabling customers to pay online in total security. It offers a multitude of additional services, such as managing discount coupons, electronic ticket storage, etc.
YouPass	Contactless payments mobile app using NFC (Near Field Communication) technology, a short-range wireless link. Customers need only to hold their mobile phone over a POS terminal to make the payment
Cetelem	■ Simplified customer journey from full online loan application to a digital signature ■ Customer satisfaction is also being served by making budget management tools available



Hello Bank
100% digital mobile bank

Hello Bank

Favorite Website Award for Hello Bank! Mobile Application

- A full-service mobile-native bank adapted to smartphones and tablets
- Advisers available via online chat, email, Twitter, Facebook and telephone for extended hours six days a week

A cost-effective set up

- No legal entity created
- Extensive use of existing infrastructures and resources

177,000 clients at end 2013 and more than €1.8 billion collected

Simplify life

Allows customers to have multiple mobile users on one device

My chest: Store documents on a server (1GB) securely

Accounts coupons: Manage and share expenses with friends

Expense: Enter and follow reimbursements of business and personal expenses

My transfers: Adjust and refund using mobile phone

Travel'r: Planning trip

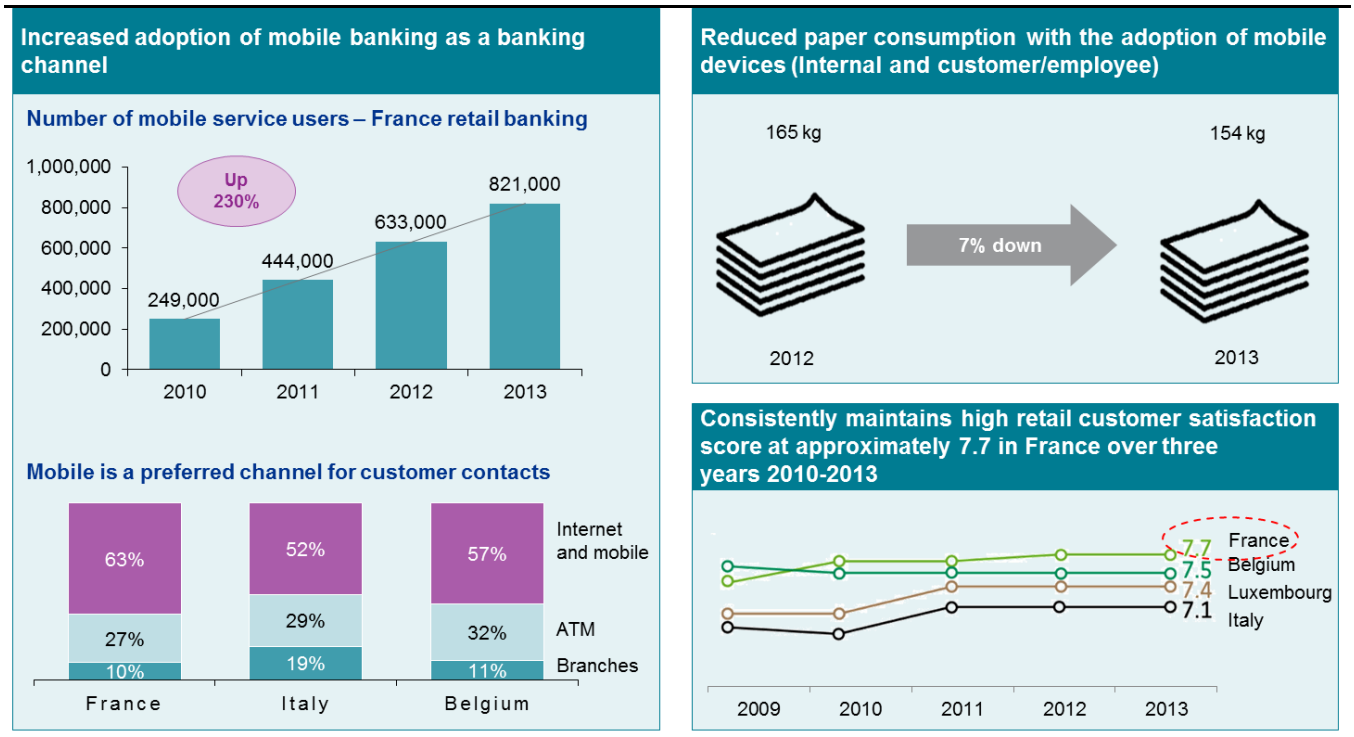
KIX

- **Pay via mobile phones at merchants who accept contactless payments**
- **NFC SIM card compatible with app**

Contactless mobile payment app via NFC

Source: Company website, press articles and journals

Figure 25: Impact of mobile banking initiatives on BNP Paribas performance metrics



Source: Company website, press articles and journals

1.7 Conclusions

The banking industry is entering a hugely exciting phase of development but one that will also present major challenges to profitable growth. As data from numerous sources make clear, usage of mobile banking services will continue to grow, and at an accelerated rate, over the next five years until they become essential ubiquitous. Additionally, we see the emergence of an era of 'open banking', in which financial services become just one layer in a multiplicity of familiar, novel and as yet unconceived consumer experiences.

We see the emergence of an era of 'open banking': financial services becoming g just one layer in a multiplicity of familiar, novel and as yet unconceived consumer experiences

In such an environment we believe banks will face ever greater challenges to their traditional primacy in consumers' financial dealings. Unencumbered by legacy IT infrastructure, frequently with no aspiration for full banking licenses and often with stronger capital positions and consumer brand trust than the banks themselves, non-traditional players will certainly continue their march across the banks' turf.

However, as we have shown, many banks have already begun their response to this challenge with unprecedented investment in mobile and other technology-led capabilities and newer, digitally-enabled branch networks remain a powerful draw for consumers in search of advice at key stages in their lives. For a large group of consumers, banks remain the preferred choice for mobile banking from a security perspective while at the same time perceptions of security weaknesses in this channel are inhibiting adoption for a substantial minority.

From a functional perspective, we believe the coming years will see an explosion in the proliferation of highly innovative re-configurations of banking and other financial services allied to emerging technologies such as augmented reality, wearable technology and contextual services. Well established but still maturing technology trends such as open- standards-

We believe the coming years will see an explosion in the proliferation of highly innovative re-configurations of banking

based platforms will only serve to underpin the ability of entrepreneurial companies to rapidly develop very high quality consumer experiences with a financial layer. Subject to the aforementioned constraints, we see no reason why traditional banks cannot be just as entrepreneurial as start-up companies.

Boldness and commitment will be required to prosper in the 'Open Banking' era where the only sure fire winner will be consumers, whose choice and quality of experience will only get better.

2 Appendix

2.1 Selected comparison of breadth and complexity of mobile banking offerings

IMPORTANT NOTE: Mobile banking is an exceptionally dynamic and fast-moving market. Therefore, it is possible, indeed likely, that many of the banks may have launched new features or, indeed, new apps while the present report was being written. Presented below is a snapshot and should not be interpreted as a long-term assessment of the efficacy of an individual bank's mobile banking strategies or execution.

	Breadth of offerings		Complexity of offerings	
Caixa Bank	Caixa Bank provides a wide range of mobile banking services for the retail segment. Its services include: ▪ More than 70 mobile apps, which cover all basic banking functions such as viewing account balance, transaction history and ATM locator, etc. ▪ NFC and E-wallets that help by avoiding the need to use and carry physical cash and cards ▪ Application to view and perform transactions on social media ▪ Contactless devices such as wristbands to make payments at retail stores ▪ P2P payment system that allows users to share, split and transfer money		Caxia Bank's mobile app has a icon-based login screen. Other innovations of the bank in the mobile space include: ▪ **Separate app store** for viewing all other individual apps at one instance ▪ **Branch finders via all social media rooms – Facebook, Twitter, YouTube and Flickr** ▪ **Biometric app** for performing banking transactions using voice commands. The service allows users to make balance enquiries and transfers, locate nearby branches and ATMs	
Deutsche Bank	Deutsche Bank mobile offerings include: ▪ App that offers basic banking services such as account balance, transfers, ATM/branch locator, security trade transactions ▪ Mobile website that provides latest news updates, access to investor relations segment		Deutsche Bank's innovation in mobile offerings mainly focuses on security. The offerings include: ▪ **PhotoTan app** that creates a graph for every transaction that requires an authorisation ▪ **Fingerprint login** ▪ Separate mobile banking app for separate entities in Italy, Spain and Portugal	
JP Morgan Chase	JP Morgan has a wide range of mobile services, including: ▪ Mobile app and website ▪ Check account balance and make payments on-the-go ▪ Deposit checks and authorize payments ▪ P2P payment system via email id or mobile number ▪ Apply for loans ▪ Text banking ▪ View market data ▪ Locate branches and ATM		JP Morgan was one of the first banks to launch innovative mobile banking functionalities, including ▪ **Image based banking** for depositing checks ▪ **Marketing offers** – find and finance a home through the app	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

	Breadth of offerings		Complexity of offerings	
Lloyds Bank	Lloyds Bank provides basic services on its mobile banking platform: ▪ View balance statements, transaction history ▪ Make payments and transfers ▪ Manage your standing orders and Direct Debits on the move ▪ Find the nearest branch or ATM ▪ View and activate marketing offers while on the go ▪ Pay a phone contact directly ▪ Push and pull text banking		Lloyds' mobile banking app allows users to manage standing orders and direct debits. New Payees can also be set up and authenticated using the mobile app.	
Westpac	Westpac has a wide range of mobile banking apps and its mobile web browser. ▪ Manage accounts ▪ Make payments and transfers ▪ Biometric recognition ▪ Manage your standing orders and Direct Debits on the move ▪ Find the nearest branch or ATM ▪ View and activate marketing offers while on the go ▪ Pay a phone contact directly ▪ Text banking to view account balance and make payments		Westpac offers PFM tools, wearable banking apps. Some examples are: ▪ **Budget Planner app** for iPhone**:** Analyse spendings, provide summary of how much money left over, can set own goals to help achieve budget target. ▪ **Cash tank:** Available as a widget on phones and SmartWatch. See visually how full account is, at a glance. Touch the 'show balance' button to see exactly how much one have got. ▪ **Impulse Saver** app : with one touch of the Impulse Saver button, one can save a pre-selected amount from the chosen transaction account to the chosen savings account ▪ Let customers unlock their mobile banking apps with a fingerprint scan	
Bradesco	Bradesco provides only basic services on its mobile banking platform: ▪ View balance statements, transaction history ▪ Make payments and transfers ▪ Manage your standing orders and Direct Debits on the move ▪ Find the nearest branch or ATM ▪ View and activate marketing offers while on the go ▪ Pay a phone contact directly ▪ Push and pull text banking		Bradesco provides complex services on its mobile banking platform, including: ▪ The user can locate agencies, ATMs of Bradesco and Banco24Horas Network nearby, and receive directions and coordinates by Google Maps ▪ F.Banking: A banking application to access Facebook, which allows customers to check account information, make money transfers, payments and mobile credit recharge ▪ Customers can receive alerts and notifications via SMS on their financial operations and make Authorized Direct Debit payments simply by answering an SMS ▪ Customers who opt for a package of services receive 100% of the monthly fee as a bonus to use for mobile phone calls	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

	Breadth of offerings		Complexity of offerings	
Commonwealth Bank	Commonwealth Bank, provides a wide range of mobile banking services for the retail segment. Its array of services include: ▪ Basic banking services such as viewing account balance, transaction history and ATM locator, etc. ▪ NFC tap and pay service ▪ P2P payment system that allows users to share, split and transfer money ▪ Access tools, calculators and other apps ▪ Credit card services		Commonwealth bank has augmented its basic mobile banking services to include the following: ▪ View account balance with **one single swipe** ▪ **Bump phones to pay** and Instant payment via mobile number, email id or Facebook contact ▪ Access cash from an ATM without card with Cardless Cash ▪ **Split the bill with others via app** ▪ Market information using analytics	
Barclays	Barclays provides a wide range of services via mobile apps and website: ▪ Separate app for P2P payments and also for receiving payments ▪ Text banking ▪ **Personal Finance Management and reporting tools** ▪ **Skybranch** – virtual interaction with customer services agent ▪ **Cloud storage** for important bills and KYC documents ▪ Basic functions such as check balance, transaction history and pay bills ▪ Locate ATM/branch and report loss of card		Innovations in Barclays suite of mobile banking services include: ▪ Text alerts for suspicious transactions ▪ Homeowner app that helps customers search property, connect to intermediaries, seek mortgage advice and check their affordability ▪ **Pingit** app can be used to register for **Paym** ▪ Manage app preference and **personalise app** ▪ **Cloud storage** for documents ▪ BPay wristband for contactless payments alongside an NFC sticker and a key fob	
BNP Paribas	BNP Paribas provides a range of basic and payment services via mobile banking: ▪ Mobile app and website for transfer, historic statements, account management, locate ATM/branch ▪ P2P payments without the use of bank account and cards ▪ E-wallet services and contactless NFC payments ▪ Functions for servicing loans ▪ Market information ▪ **Cloud storage** for documents ▪ Simplified and full online loan application procedure including a digital signature		BNP Paribas offers innovative services above the basic banking functions: ▪ Tools for managing budgets and spending ▪ View account statements without having to enter a code ▪ Give feedback and contact specialist ▪ Intuitive search engine for finding a transaction ▪ Mobile wallet provides additional services to manage discount coupons, and store tickets electronically ▪ **Cloud storage** for documents	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

	Breadth of offerings		Complexity of offerings	
Bank of America	Bank of America offers all basic services on its mobile banking platform: ▪ Account management, balance checks and transaction history ▪ Payment and transfers including P2P and bills ▪ Locate ATM, report loss of card ▪ Push and pull text banking alerts ▪ Check deposits		Bank of America bank has enhanced its basic mobile banking services to include the following: ▪ Set payee details from mobile contact list ▪ Customizable alerts for bill due dates, personal information changes, balance, etc. ▪ Schedule upcoming bill payments ▪ Cross-sell deals and offers from retailers ▪ Mobile money transfers ▪ **Image-based check deposit** ▪ Monthly calendar view to manage outgoing payments and transfers	
RBC	RBC's suite of mobile banking services includes: ▪ Smartphone and tablet app for account management, bill payments, transfers and locating branches and ATMs ▪ Transfer using mobile number, email and Facebook ▪ Wallet equipped with NFC technology ▪ **Host Card Emulation POS payment** ▪ Apps for investments and securities		RBC offers innovative solutions mainly for payments: ▪ **Interac e-transfer** can be made using Facebook to Facebook contacts ▪ POS payment system with a single tap of the phone – RBC Wallet ▪ Means to schedule upcoming payments	
Intesa Sanpaola	Intesa Sanpaola provides mobile banking services via apps and its website: ▪ Fund transfer, historical statements, account management, locate ATM/branch ▪ P2P, NFC, POS payments and receipts ▪ Prepaid recharges ▪ Functions for servicing loans ▪ Market information ▪ SMS banking		Intesa Sanpaolo's basic mobile banking services include: ▪ **ATM locator using GPS system; applicable in 12 countries** ▪ **Apply for and manage loans online** ▪ Pay (or book the payment) of bills pre-scored to companies affiliated with the Bank and MAV/RAV ▪ **O-key** for security of transactions ▪ Mobile POS allows users to accept payments outside of a POS terminal – basically **transforming the mobile into a POS tool**	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

	Breadth of offerings		Complexity of offerings	
Nedbank	Nedbank provides all basic services via its mobile app and website and text banking: ■ View balance statements, make payments and transfers and recharges ■ Market information on shares and forex ■ Share trading ■ Personalized inbox from communication between bank and customer and important contact list of the bank ■ ATM/branch locator		Nedbank has recently launched products to enhance user interface: ■ iMali for instant P2P payments ■ Pocket POS solution	
ICBC	ICBC provides a range of services over apps and website. Many features are also available through featurephones: ■ All general banking features such as balance check, transfers etc. ■ Bill payments and credit card services ■ Market information on stocks and forex ■ Open time deposit accounts and viewing status ■ Lost card report ■ Form request through fax		ICBC has enhanced user interface by including: ■ **WeChat – customer services and information enquiry system** ■ **USB Key –** for greater safety	
Alfa Bank	Alfa Bank has a wide range of mobile banking services for both the smartphone and featurephone users: ■ Fund transfer, balance enquiry, historic statements, account management ■ Bill payments, P2P payments and NFC based payments ■ Market information on interest and exchange rates ■ Locate ATM and branch ■ Replenish eWallets ■ **PFM tools** ■ USSD application for banking via a phone call		Alfa Bank provides services across most mobile devices. For many services they partner with telecom operators to launch them jointly. Innovations include: ■ Instant voice based service for reporting lost and stolen cards ■ Ability to share **QR-code into social networks** ■ **IBAN Calculation Tool** and IBAN SMS sharing with contacts	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

	Breadth of offerings		Complexity of offerings	
ICICI Bank	ICICI Bank provides a wide range of mobile apps and services to its customers. Many of its mobile banking services are not limited to smartphone owners. ■ 24/7 services for fund transfer, bill payment, locate ATM, request for cheque book, open FD or RD ■ Mshop provides services for prepaid recharges, movie/bus/air ticket booking, shopping ■ Credit card services include registering new payee, viewing payment due details and making payments ■ SMS banking ■ P2P payments accounts and Mobile money order service ■ **Online remittance** service available as a mobile app across all platforms ■ Video banking services especially for NRIs and wealth customers		ICICI Bank has developed its basic mobile banking services to include the following: ■ Customers are given **MySavings rewards** for shopping via iMobile ■ Instant fund transfer via **ICICI IMPS** ■ SMS banking includes functions for bill pay and rail ticket booking ■ Users can make payments and pay bills by '**call to pay**' service, which requires a phone call to be made ■ **NUUP platform** allows users to use banking services without a smartphone by dialing *99# from their mobile ■ Bank provides mobile banking offers such as discount vouchers with other retailers ■ Ability **to pre-process a branch banking transaction** ■ **Social media banking** – Facebook and Twitter ■ Real-time transaction updates and status of deliverables ■ App for managing loan relationship with the bank	
Mizuho	Mizuho provides a range of services for basic banking and other services to enhance user experience: ■ All general banking features such as balance check, transfers, available on Mizuho Direct and the mobile app ■ **App for opening a new account** ■ ATM locator ■ Alerts and real-time updates ■ **Financial management and financial planning app**		Mizuho offers innovative products on its mobile banking system: ■ **Personalized icon Arrangement function** ■ Branch visitor guiding functions show route guidance to the branch and congestion/queue status; **vibration alert for waiting status** ■ Mobile application can be installed from "**Contactless IC Terminal**" placed at the branch counter ■ **Image-based** technology for opening new bank accounts ■ **ATM locator app makes use of camera, GPS and location functions to display direction and distance**	
Swedbank	Swedbank provides most functions via SMS banking. It recently developed a third-party app for Windows phone users. Its range of services includes: ■ Fund transfer, historical statements, account management ■ SMS banking – alerts and notification on account usage and operations, prepay top-ups ■ Other services include mobile payments, mobile balance and phone top-ups		Swedbank provides the following innovative propositions in its mobile banking offering: ■ View account balance in one instant with just a **shake of the phone**, even without logging in ■ **Split bills** or gather money for a collective gift ■ Set minimum amount for account notifications and currencies	

Keys: Low Medium High

Source: Company website, press articles and journals, KPMG analysis

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