# IDB

# Financial services through mobile device

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# Acronyms and abbreviations

| | |
|---|---|
| AML | Anti-Money Laundering |
| ARPU | Average Revenue Per User |
| BOJ | Bank of Jamaica |
| CDMA | Code Division Multiple Access (mobile communications standard) |
| CFATF | Caribbean Financial Action Task Force |
| CFT | Combating the Financing of Terrorism |
| DOB | Date of Birth |
| EDC | Electronic Data Capture |
| IMEI | International Mobile Equipment Identity |
| FATF | Financial Action Task Force |
| GOJ | Government of Jamaica |
| GSM | Global System for Mobile communications (mobile communications standard) |
| ID | Identification Document |
| IDB | Inter-American Development Bank |
| JETS | Network of ATM and POS machines in Jamaica |
| KYC | Know Your Customer |
| MLP | Money Laundering Prevention |
| MNO | Mobile Network Operator |
| MTN | Mobile operator in South Africa and other African / Middle Eastern countries |
| PDA | Personal Digital Assistant |
| PIN | Personal Identification Number |
| PIOJ | Planning Institute of Jamaica |
| POCA | Proceeds of Crime Act |
| SIM | Subscriber Identity Module (mobile phone chip card) |
| SMART | Mobile operator in the Philippines |
| SMS | Short Messaging Service |

# 1. Executive Summary

This document presents recommendations for development and implementation of enabling regulatory and legal frameworks for m-banking in Jamaica. It reaffirms the centrality of regulation and the unique features of the Jamaican context while acknowledging the common benefits of m-banking.

By closely aligning with existing market context and current regulatory framework, this document contributes to a realistic identification of the gaps and possible actions to bridge them.

This document represents an important cornerstone for the enablement of m-banking in Jamaica. Using lessons learned from Jamaica's banking / mobile telecom experiences, and leveraging global best practices, this opportunity study will guide Bank of Jamaica and other key stakeholders.

**M-banking**

M-banking is increasingly used in a broad sense to refer to a range of applications, technologies, business models involving some form of financial transaction using a mobile device, whether there is an underlying bank account or not.

This document clarifies these concepts and suggests the use of m-banking in its broader meaning of mobile financial services (m-banking, m-payment, mobile money transfers).

**Current state of play in Jamaica**

Although m-banking in its broad definition is still not available in Jamaica, a number of players are getting actively involved in some form of mobile financial services. These first movers primarily come from the financial sector and use SMS notifications or reminders to communicate with their customers. These initiatives remain but a very limited attempt to leverage the full potential offered by mobile technologies.

Regulatory gaps and restrictions have not yet enabled *transformational* mobile banking offerings to emerge. By *transformational* mobile banking, we mean financial services that specifically target (and appeal to) the currently unbanked population by making use of two effective vehicles: the mobile channel for distribution and transactional purposes, combined with third-party agents for customer facing activities. As a result, m-banking is currently confined to the traditional *additive* approach in Jamaica, which is primarily focused on existing clients.

Several areas of concern pertaining to the existing regulatory framework are discussed in detail in this report: electronic money definition and restrictions; Know-Your-Customer requirements; Anti-Money-Laundering thresholds; use of third party agents; customer protection aspects and validity of mobile-triggered electronic transactions. All these areas shall be revisited and key gaps shall be bridged if transformational mobile banking is to become a reality in Jamaica.

In parallel, the legislative framework needs to undergo profound adjustments to address the new challenges posed by mobile-enabled electronic transactions. Key areas of interest are the definition and understanding of cybercrime; the legal admissibility of SMS notifications as proper evidence; and customer protection and information privacy aspects. In the current state, the ability to prosecute cybercrimes under civil and criminal law remains uncertain and should be addressed in a comprehensive manner to enable service providers and customers to establish comfortable relationships.

Furthermore, some institutional arrangements are suggested to further empower Bank of Jamaica as the institution primarily responsible for m-banking. Indeed, m-banking needs a champion and clear line of accountability to be a success.

Last, the industry interests appear to be quite heterogeneous, with banking, telecom, and other players operating in a broad range of settings and facing specific challenges. Success will also require taking participative actions to ensure the engagement and buy-in of the industry.

**Possible m-banking approaches for Jamaica**

Various m-banking models based on international experience are evaluated in detail, in light of the particularities of Jamaica. Among the possible models, the following have been short-listed as the most relevant for Jamaica in the short term:

- The **Joint Venture model** is a ''balanced'' model promoting a joint involvement of commercial banks and mobile operators in a mutually beneficial relationship. The greatest benefit of that approach is that it builds on the existing financial system and leverages the respective strengths of the bank and the mobile operator, making a future transition from a mobile wallet to a bank account more seamless to the end customer. It has been implemented in jurisdictions having a regulatory environment similar to the one prevailing in Jamaica, with varying levels of success. Indeed, best practice shows that true success in joint venture approaches requires: (i) strong focus on unbanked segments of the population supported by enabling KYC/AML requirements; (ii) business arrangements that enable strong drive from the operator; (iii) ability to leverage the operator's dealer network; and (iv) adequate technology.
- The **operator driven model** (which still involves a Bank) is a variation of the Joint Venture model and transfers much more responsibility to the mobile operator. In that model, the Bank is merely the interface with the Central Bank and the licensee, but the service is truly operated by the mobile operator. This model fully leverages the superior agility of mobile operators. Banks would initially have a more limited role to play, but that could change over time as the need for further integration would be driven by market forces and fuelled by demand. Best practice shows that true success in the operator driven model requires: (i) strong focus on the unbanked segments supported by enabling KYC/AML requirements; (ii) business arrangement that enables the bank to get a fair share of the revenue while minimizing its operational burden; (iii) ability to leverage the operator's dealer network; (iv) strong internal controls and processes at the operator side; and (iv) adequate technology.
- The **operator led model** (which is a pure operator game) remains a desirable target but would require a total regulatory shift towards allowing mobile operators to play in the financial services space, which is likely to face virulent resistance from existing financial institutions. For that reason, we recommend a gradual rather than radical approach.

**Recommendations and Action Plan**

Main recommendations include (see Roadmap and budget for more information regarding ownership, timelines and budget):

- **Immediately** lay the ground work for transformational mobile banking (Q4 2009):
  - Ministry of Finance and BOJ to initiate consultation with market players (financial institutions and mobile operators) for pilot initiatives in a monitored environment and learn lessons
  - POIJ to help setting-up a working group to address customer protection
  - Ministry of Finance to firm up institutional mechanisms
  - BOJ to plan and allocate the required resources to execute the roadmap

- Carry out the recommended reforms and address the priority regulatory issues in the **short-term** (Q1/Q2 2010):
  - BOJ to issue a Note to allow banks to store electronic value on SIM cards
  - BOJ to review AML/KYC principles for m-banking
  - Ministry of Industry and Commerce to review e-transactions act for the specific case of mobile transactions
  - BOJ to enact a new regulation to ensure ability of the banks to use telecom dealers as third party agents
  - BOJ to enable the mobile operator to host the back-end platform and perform account management functions (required for the operator-driven model only)

- Address the legal aspects in the **mid-term** (Q3 2010):
  - Ministry of Justice to reconcile the Evidence Act with the E-Transactions Act
  - Ministry of Justice to prepare a Cyber Crime Act draft
  - Ministry of Mining and Telecommunications to investigate the need for an Information Technology Privacy Act
  - Ministry of Justice to review other laws / regulations covering related issues

- Open the m-banking space to non-financial institutions in the **long-term** (Q4 2010):
  - BOJ to explore the option of allowing non financial institutions to issue e-money accounts
  - Strengthen interoperability between existing systems

# 2. Introduction

## 2.1. Background

One of the latest innovations in mobile telecommunications is the recent use of the mobile channel for the low-cost delivery of financial services to the low-income households and small/micro enterprises. In developing economies, where access to financial services remains limited, particularly in rural areas, mobile devices have entered the homes and daily lives of millions. This has created an unprecedented opportunity to leverage the mobile network as a way to reach the currently excluded from the formal financial system.

International experiences have shown that the benefits derived from mobile banking can be many-fold:

i. Reduced cost of transaction, making financial services more accessible to the poorer segments living in remote areas. For instance, a costing exercise conducted in the Philippines has shown that the cost to the bank of a financial transaction carried at a bank branch was approximately $2.50 while the cost of the same transaction, if it were undertaken from a mobile phone, would be only $0.50. Of course, some of the difference in cost would be borne by the customer. Furthermore, there are additional ''hidden'' costs in traditional branch banking that impact the real opportunity cost to the customer, and these include: travel expenses to reach the branch, time spent queuing at the branch etc. Mobile banking typically resolves these issues and, as a result, provides the service at much lower opportunity cost.

ii. Support of income generating activities: access to working capital in the form of remittances or micro-loans enable people living in rural areas to build assets for themselves. Studies conducted in Kenya have shown the positive impact of M-Pesa on village communities, which have started investing in better housing and common welfare goods such as water pumps etc. Although it is premature to draw firm conclusions from that example, enabling money to flow from the rich to the poor can be reasonably expected to have some positive economic impact.

iii. Security of cash: In environments where security is an issue and handling large amounts of cash is a challenge, a mobile phone based electronic stored value account (mobile wallet) could well become safest way to carry money around. As an example, during the post-election riots in Kenya, thousands of Kenyans emptied their socks to deposit money into their M-Pesa accounts, considered a safer place than their homes to store their cash. Similarly, Microfinance organizations in Afghanistan are leveraging the mobile channel to disburse loans and collect loan repayments, for the increased convenience and security.

There are other benefits, directly linked to the spectrum of services that can be enabled via the mobile channel. Early experiments have only begun to unfold the possibilities of mobile enabled financial services, answering the basic person-to-person needs in their first iteration.

Experiences in Latin America and the Caribbean are very limited, and Jamaica could well become a pilot for the Region. Indeed, Jamaica combines a unique set of characteristics that makes it an ideal test bed for mobile banking services: it has a significantly high mobile penetration (market figures are showing a staggering 100%), a sophisticated banking network with substantial developments in the field of micro-finance (credit unions, building societies and even some banks), a high crime rate, and a large informal sector. In particular, remittances are high (up to 20% of the annual GDP) and international remittances represent a lucrative opportunity.

Besides these ingredients, there are other enablers that can also be highlighted: Jamaica has a fairly young population, with a median age at 24 and a very high literacy rate neighboring 88%. These will facilitate adoption of new technologies and mobile banking services. On the demand side, a very large labor force (1.3 million) most of which are paid weekly by checks as well as the amount of people having migrated from rural areas into urban centers are only an indication of the value that could be brought by electronic transfer mechanisms. On the supply side, most industry players (financial institutions like mobile operators) have explored the m-banking opportunity, some already having matured plans. All seem to be waiting for a more enabling regulatory environment.

It is in this context that IDB is partnering with Government of Jamaica (GoJ) to set an enabling environment for the delivery of m-banking services with the objective of increasing access to financial and banking services for the poor.

Based upon these premises, IDB has initiated a study aiming at:

- Identifying main legal, regulatory and institutional bottlenecks that may impede the development of mobile banking
- Assessing the level of preparedness of the industry for mobile banking
- Learning from international experiences and best practices
- Identifying and formalizing an action plan towards the implementation of m-banking
- Disseminating the findings to GoJ and the industry at large

## 2.2. Document Purpose

This document presents the results of the above discussed assignment. It is designed to closely link legal and regulatory recommendations with the Jamaican context and industry dynamics.

This assignment and accompanying action plan are products of a field mission that collected lessons learned and best practices from the past three years.

It will guide GoJ’s m-banking efforts by:

- Reviewing existing and planned m-banking initiatives in Jamaica;
- Identifying and highlighting legal, regulatory and institutional concerns;
- Identifying feasible models in the current state of play; and
- Identifying next steps towards enabling m-banking.

The proposed approach at all times will seek to be guided by international standards and best practices, tailored to Jamaica’s specific requirements and constraints.

## 2.3. Document Structure

The document consists of four main sections:

**What is m-banking?** – redefines m-banking in its broader sense and sets a baseline for common understanding.

**Current state of play in Jamaica** – describes the main players involved in m-banking, along with key highlights on the legal, regulatory and institutional frameworks governing m-banking.

**Possible m-banking approaches for Jamaica** – describes the heart of m-banking options for Jamaica, and the related partnerships models.

**Synthesis and Action Plan** – summarizes the findings and describes the major steps for the development of m-banking in Jamaica.

# 3. What is m-banking?

In its original meaning, m-banking refers to financial transactions undertaken using a mobile device to access a bank account. This is the case in traditional mobile banking where mobile is used as an incremental channel in addition to phone, internet or bank branches.

However, m-banking is increasingly used in a broader sense to refer to a number of applications, technologies, business models involving some form of financial transaction using a mobile device, whether there is an underlying bank account or not.

Also, the following aims at clarifying these concepts with some definitions. For the sake of this report, m-banking is always used in its broader meaning unless specified otherwise.

### M-Banking

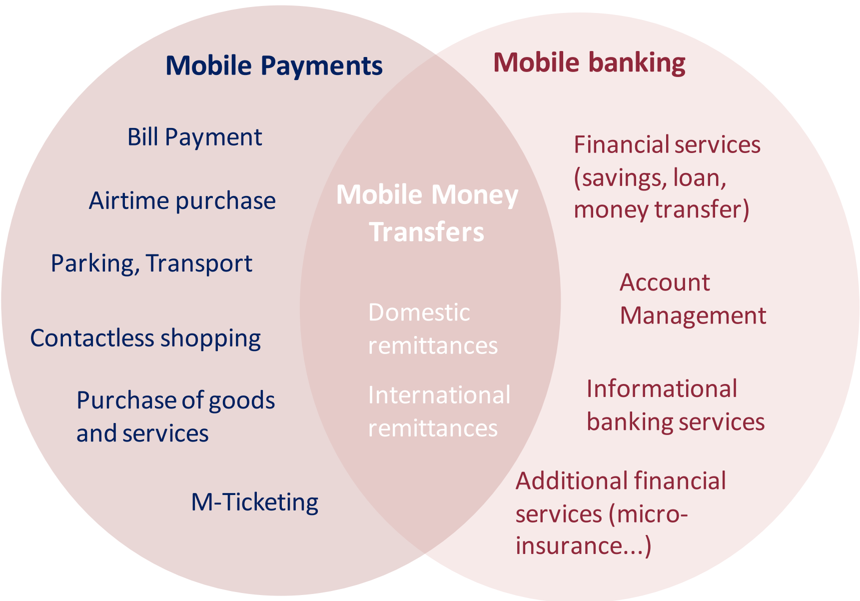
Refers to financial transactions that are undertaken from a mobile device, against a bank account that is accessible from that device.

### M-Payment

Refers to point of sale payments that are made through a mobile device, be it a phone, a smartphone or a PDA

### Mobile-Money Transfers

Refers to the ability to move store of value from one account to another account using a mobile device




### M-Wallets

Similar to prepaid cards, mobile wallets are an electronic store of value (and also a payment instrument) linked to the mobile number of their holder. They do not require the holder to have a bank account.

# 4. Current state of play in Jamaica

## 4.1. Institutional framework

Jamaica's long-term success in m-banking will require clear institutional and legal mechanisms. These are an absolute necessity to manage the complex mix of technologies, regulations, legal provisions, and industries involved in m-banking.

Approaches to m-banking vary globally. Different countries use different institutional arrangements for m-banking. However, at least three best practices are clear. Success in m-banking requires:

- Effective inter-agency coordination within a clear institutional framework;
- Centralized, accountable m-banking authority; and
- A regulatory anchoring within the existing financial sector

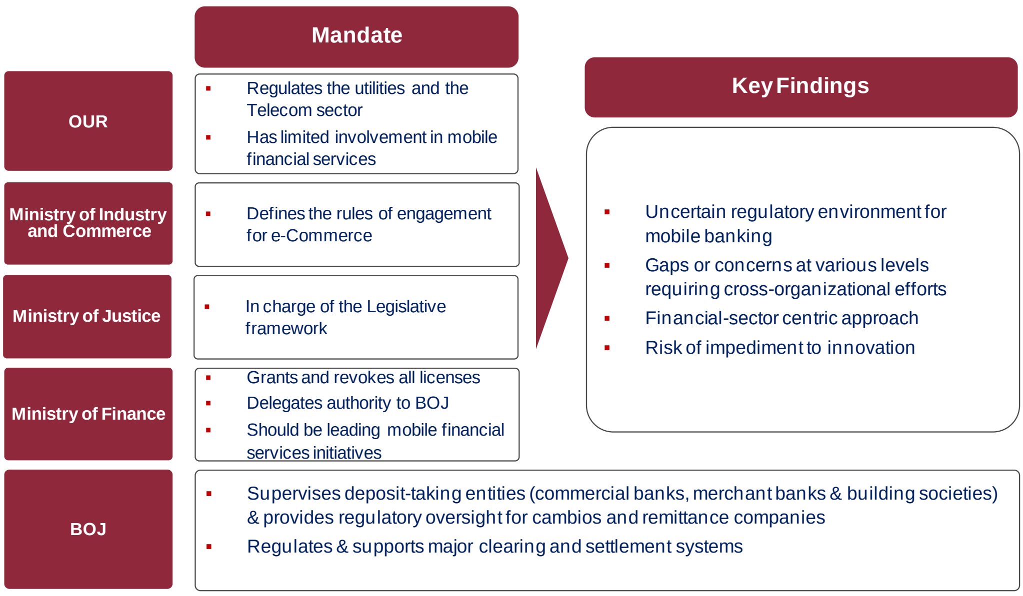
In reality, this typically involves a combination of inter-agency working groups to coordinate/reconcile policymaking and address critical customer protection issues; the appointment of a central institution accountable for m-banking performance; and the development of an enabling legal and regulatory environment.

The organizational challenges facing m-banking institutions in Jamaica are considerable. Many of these challenges—like inadequate regulation and unclear governance model—impact all m-banking stakeholders.

Without strong inter-agency coordination and clear ownership structure, the risks of inconsistency, interoperability gaps and industry dissatisfaction are substantial. M-banking is always cross-governmental at least at legal, regulatory & policymaking levels.

### 4.1.1. Current Status

Jamaica's institutional arrangements for m-banking are a work in progress. The following diagram depicts the current situation:



Under the *Parliament Act 1995*, the Office of Utilities Regulation (OUR) regulates various utilities in Jamaica and in particular, the telecommunications sector. At the moment, OUR is a very active institution and has –understandably- a limited involvement in m-banking.

There are a number of government institutions whose mandates relate to m-banking. The Ministry of Industry, Investment and Commerce has responsibilities over electronic commerce and e-transactions that directly impact m-banking. Ministry of Justice is a key stakeholder for law revision and legal reform given its role in overseeing the legislative framework. Ministry of finance is the de facto competent authority for all licensed financial institutions.

To date, Bank of Jamaica (BoJ) represents the most central m-banking institution in Jamaica. As detailed in this document, its role is pivotal to the advancement of m-banking in as much as it already oversees and supervises most licensed financial institutions and since it is generally perceived as a ''politically neutral'' organization.

### 4.1.2. Direction

To develop the necessary institutional framework, GOJ should focus on the following priority efforts:

- Empowering BOJ as the primary m-banking project owner.
- Ensuring strong sponsorship from Ministry of Finance.
- Establishing, as needed, inter-agency working groups to coordinate key cross-governmental m-banking policies and efforts. It is proposed that BOJ be responsible for organizing such cross-governmental working groups.
- Establishing a regular reporting mechanism to Jamaica's political leadership (Prime Minister).

**BOJ**: Empowering BOJ over m-banking is an important step in strengthening the institutional framework for m-banking in Jamaica. M-banking requires a high-level body to define compliance requirements and monitor compliance with m-banking policies and standards. In this regard, BOJ's central role and leadership need to be reaffirmed and broadly communicated to all stakeholders (government agencies as well as industry players). This could be achieved via a simple information note or via more formal vehicles such as Circulars. Changes in the *Parliament Act 1995* or the *Bank of Jamaica Act* are not deemed necessary, as the respective roles of both OUR and BOJ are already clearly defined and compatible with the proposed institutional arrangement. Besides, it is also important that the body governing m-banking be seen as ''politically neutral'' by the industry. For these reasons, BOJ is best positioned to serve these functions.

**Ministry of Finance**: Strong sponsorship from Ministry of Finance will be a valuable addition to the institutional framework. This will facilitate lobbying at the Cabinet level, which in turn will ensure that m-banking initiatives are given the right attention and priority level.

**Working Groups**: It is expected (and essential) that functional, inter-agency working groups will be established as required at different levels of government to coordinate work on national policies and regulations. This is particularly true for matters pertaining to electronic transactions, information security or customer protection. For certain key initiatives, such as information security, the need for coordination at government level has already been identified. Other working groups will form as needs arise. Strong leadership will be required from BOJ to ensure that these working groups function properly and deliver on their objectives. Support from (and regular reporting to) the highest level of political leadership should benefit BOJ in this area. It is also anticipated that BOJ will need to build additional internal expertise to be in a better position to steer these working groups. It is advisable for BOJ to undertake a needs assessment exercise in the early stages to identify the areas of expertise (legal, security, m-banking, technology, others) that need to be strengthened and the amount of expertise that is required.

**Other Stakeholders**: It is important that Jamaica's institutional framework for m-banking operates in a way that gives priority to the early and regular participation of stakeholders, especially relevant industry players, both from and outside the financial sector.

### 4.1.3. Division of Responsibilities

It is essential that the m-banking responsibilities be clearly identified to ensure effective coordination, avoid duplication of efforts and minimize confusion. Based upon the priorities for development of the institutional framework identified above, key m-banking responsibilities may be described as follows:

**BOJ**:

- Develop the required regulatory framework for m-banking
- Monitor compliance with that regulatory framework
- Act as central coordinator for m-banking initiatives
- Organize, sponsor and coordinate Working Groups related to m-banking, as needed
- Assist in raising awareness, acceptance and commitment from key stakeholders for m-banking
- Provide regular updates to Ministry of Finance and Prime Minister / Cabinet

**Ministries**:

- Participate in Working Groups established to coordinate m-banking related efforts

**Prime Minister / Cabinet**:

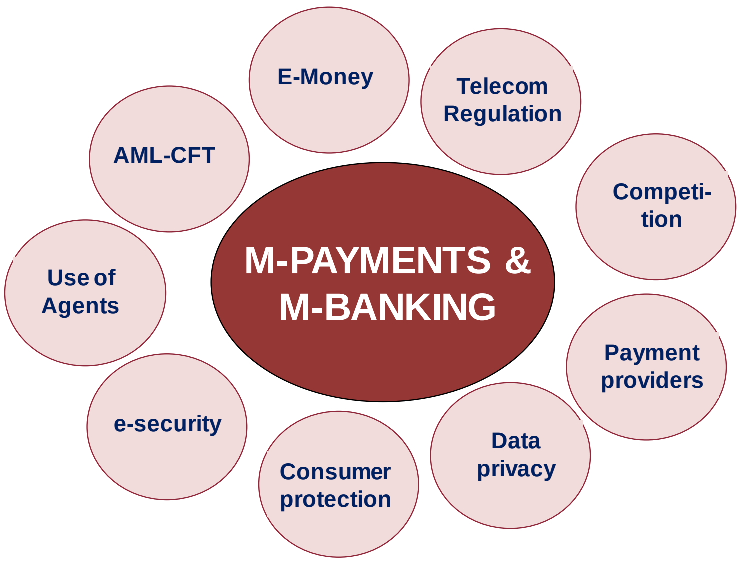
- Provide support to BOJ and ensure regular follow-up

## 4.2. Regulatory framework

### 4.2.1. Context

A regulatory framework sets the basic rules and authority needed to implement mobile banking. Development of an effective regulatory framework for m-banking requires close coordination and communication among entities in the drafting and enforcement of laws and regulations. For instance, close interaction will be required between the Divisions in charge of Payment Systems and Outsourcing (use of third party agents).

The key areas of interest for a mobile banking -or more generally branchless banking-regulation are depicted in the chart below:




In the following, the discussion will focus on e-money, AML/CFT, the use of agents, electronic transfers and customer protection related aspects as these are the key building blocks impacting the current state of m-banking in Jamaica.

### 4.2.2. Current Status

Jamaica's regulatory framework for m-banking needs to undergo significant evolution in order to provide a comfortable, certain environment for industry players to actively engage in mobile banking.

To date, the key highlights in regards of the m-banking regulatory framework include:

- E-Money is defined but is strictly restricted to deposit taking institutions
- AML/CFT is largely addressed but AML requirements in the context of mobile banking need to be specified. KYC requirements constitute a real obstacle and would gain by being relaxed with a risk-based and proportionate approach (KYC requirements should be adjusted based on: the type of customer, the associated risk-level, the nature, volumes and values of permissible transactions in the context of the service).

- Laws and regulations related to the use of third party agents do not allow deposit taking institutions to ‘’sublet’’ banking to non-bank agents.
- Ministry of Industry, Investment and Commerce has issued regulations that partially address e-transactions. However, these do not address the mobile channel specifically.
- Customer protection: although some elements are already in place within the telecom and financial sector licensing regimes, specific arrangements will be required in the context of mobile banking.

#### 4.2.2.1. E-Money regulation

A new National Payment Systems Act is about to be brought to Parliament for ratification. It will give BOJ the authority to designate new payment systems. However, it does not address the case of e-Money in specific and defines card-based payment instruments in a restrictive manner (only in relation to existing businesses: credit cards are treated as credit business and debit cards as savings). In the current state, the National Payment Systems Acts does not provide for the required framework for an open definition and use of e-Money.

An e-Money order (2006) exists as a companion to the Banking Act, under the authority of BOJ. It defines electronic money as a card based product where monetary value is stored on a card and is represented by a claim on the person issuing the card (against present or future receipt of funds). While interpretations as to the nature of the card (plastic or SIM) may vary, the order restricts the use of such product to deposit-taking institutions only. This directly excludes non banks from offering such type of service.

Prepaid cards are however permitted within closed loop environments (with closed user groups) except for remittances, which is also in line with another restriction in terms of use of foreign currency on stored value cards.

All in all, the current framework restricts the use of mobile wallets to deposit-taking institutions, and would allow them to use SIM cards as stored value cards in the broad understanding of a ‘’card’’.

#### 4.2.2.2. AML/CFT

AML and CFT are the most extensively addressed areas within the existing framework. Indeed, a number of local legislation and standards, as well as international guidelines and standards govern these particularly sensitive areas, which have received increasing amount of attention in recent years.

Local legislation and standards include:

- AML / CFT policy (1999, reviewed 2008)
- The Proceeds of Crimes Act (POCA, 2007)
- POCA (Money Laundering Prevention) Regulations, 2007
- The Terrorism Prevention Act, 2005
- The BOJ AML/CFT Guidance Notes, 2004/(R2005), (R2007)

International guidelines and standards include:

- Best practice standards issued by Basel Committee on Banking Supervision
- UN international convention for the suppression of financing of terrorism
- The FATF 40 + 9 Recommendations [1]
- 19 Recommendations of CFATF[2]

The most commonly referred to documents are POCA and the BOJ AML/CFT Guidance Notes, which contain most AML requirements that would apply to financial institutions.

The following will discuss in more detail the AML/CFT implications of mobile banking; the legal grounding of POCA and the Guidance Notes; and the main implications these two pieces of legislation have in terms of threshold reporting and KYC in Jamaica.

## AML/CFT implications of mobile banking:

Mobile banking has a number of implications in terms of AML and CFT, mainly due to the nature of the customers that are targeted, the mobile medium that enables financial transactions, and the distribution network that is used as an alternative to bank branches.

First, m-banking (in its broad definition) typically targets low-income populations that largely differ from the traditional bank customers: they do not meet the traditional bank-level identification requirements; they have different needs in terms of financial services and have a different transactional behavior; and their reliance on cash and the informal economy is much stronger. Including these segments in a more formal sector requires tailored, innovative and more relaxed approaches to customer identification aspects, often compensated by more restrictive transaction controls in order to minimize money laundering risks. Best practice shows that regulators in countries where m-banking has been successful have adopted a proportionate approach (regulation aligned with the risk level): they have relaxed KYC requirements for m-banking (often based on a tiered approach, the lower the limits set on balance and transaction values, the lower the identification requirements), combined with stricter controls on transactions (limits set in terms of transaction volumes and values per customer per day, per week, per month). In addition, transaction limits were redefined to be more consistent with the transactional needs/behavior of the low-income segments and the financial services that were aimed.

Second, transactions are undertaken using a mobile device. Since a mobile device can be shared within a family or a person can own multiple lines, this poses the challenge of reliable identification of money laundering attempts. This issue is generally addressed via a double approach: enforcement of a stricter control mechanism at customer registration for m-banking to ensure that a single customer does not have multiple mobile wallet

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[1] The Financial Action Task Force (FATF) is an inter-governmental body developing and promoting national and international policies to combat money laundering and terrorist financing (refer to Financial Action Task Force (FATF) for details on FATF and its 40+9 Recommendations)

[2] The Caribbean Financial Action Task Force (CFATF) is an organization of thirty states of the Caribbean Basin, which have agreed to implement common countermeasures to address the problem of criminal money laundering (refer to Caribbean Financial Action Task Force for details on CFATF and its 19 Recommendations)

accounts, combined with additional controls at the transaction level to flag suspicious patterns. Suspicious patterns need to be defined in tune with the determined limits.

Last, the distribution network plays a critical role in implementing KYC procedures and enforcing KYC requirements. For that reason, the recruitment of reliable agents by the service provider is a crucial responsibility and regular audits may be conducted over the agents by the service provider. Some regulators have opted for a licensing mechanism for the agents, with clear requirements to be met by and possibility of license revocation.

### Legal status of POCA and BOJ AML/CFT Guidance Notes:

POCA (and specifically the MLP Regulations) represents an all crimes approach to dealing with money laundering and the proceeds of crime. All aspects are covered from the definition of offences (POCA, section 92) to the requirements in terms of suspicious transaction reporting (POCA, section 94).

The traditional areas of enforcement under POCA include:

- Threshold reporting
- Suspicious transactions reporting
- Account monitoring orders
- AML guidance and AML implementation

But POCA also brings new areas of enforcement:

- Forfeiture & Pecuniary Penalty Orders
- Restraint Orders (s. 33)
- Seizure of realizable property that is subject to Restraint Order (s. 36)
- Recovery orders pursuant to the civil forfeiture regime
- Disclosure orders

Complementing the POCA, the BOJ Guidance notes have a very strong legal status. Indeed, a court can consider these notes in determining whether an offence was committed under POCA. In particular, compliance to the Guidance Notes is compulsory by virtue of Regulation 2 of POCA MLP Regulations and required under the Terrorism Prevention Act.

All in all, both documents have the required legal grounding to give them the desirable level of authority.

### Transaction threshold reporting:

The key AML operational and regulatory regulations (threshold reporting, record-keeping, internal controls, communication, training of employees…) are concentrated in POCA MLP, which synchronizes financial legislation and criminal legislation by giving BOJ the authority to access suspicious transaction report information. They are also extensively addressed in the BOJ AML/CFT Guidance Notes.

Among the most important items is the threshold reporting requirements for cash transactions, which is defined specifically for each type of financial institution and which also provides for exceptions: the requirements are waived for established customers (older than 12 months) and the full KYC verification is not required for amounts below $250.

**These exceptions, particularly the threshold of $250, would need to be revisited in the context of m-banking services, in line with the defined KYC requirements**.

### KYC:

KYC requirements are set both in POCA and in the guidance notes. They can be subdivided into the following requirements:

- Customer identification
- Customer verification
- Transaction verification

As per current requirements, a deposit-taking institution would have to require for all customers:

- Full name
- Permanent address and postal address
- Nationality
- TAX payer registration number
- Date and place of birth
- 2 referees
- Source of funds, and source of wealth
- Contact numbers
- Photograph (if required by the institution)
- Acceptable forms of identification:
    - Driver's license
    - Valid passport
    - Voter's identification card
    - Employer ID card
    - TRN

Customer identity verification by means of third-party data is also required, and so is the legitimacy of the transactions (AML/CFT Guidance Notes).

There are however some exceptions:

- Alternative forms of identification are accepted for transactions below $250
- Transaction verification is not required for de minimis transactions (i.e. transactions below $250). However, a required set of data is specified for that case.
- Full KYC is recommended for high risks customers

**These requirements exclude de facto the currently unbanked** due to their inability to meet the requirements. Considering that 30% of the population lives without a fixed address, their ability to fulfill the 2nd requirement on the KYC list (permanent address) hinders their ability to join the formal economy. Other requirements on the list seem unrealistic for typical low-income unbanked people to meet.

Besides, KYC requirements for new technologies where discussed (such as in the case of non face-to-face customers, new technologies or wire and electronic fund transfers) seem even more stringent in their wording.

**Current KYC requirements would need to be relaxed and adjusted to the context of the unbanked, using a risk-based approach and the notion of proportionality (adjust requirements and controls proportionally to the risk level).**

The table below provides two practical examples derived from Kenya and Afghanistan:

| Service Provider | KYC requirements | Account balance limits | Transaction limits |
|---|---|---|---|
| Safaricom (Kenya) | • Customer registers with a valid ID with picture<br>• Tiered approach under study: different KYC requirements for different annual limits | • Maximum account balance: 50,000 Kshs (USD 653) | • Transaction amounts between 100Kshs (USD 1.30) & 35,000Kshs (USD 457)<br>• Maximum authorized daily transaction value: 70, 000Kshs (USD 915) |
| Roshan (Afghanistan) | • Customer registers with a valid ID with picture<br>• Tiered approach under study (see table below) | • Maximum account balance: (USD 4,000) | • Transaction amounts between USD 1 and USD 2,000<br>• Maximum daily transfer: USD 2,000 |

The following table illustrates the tiered KYC mechanism proposed by one MNO (mobile operator) in Asia:

| | Annual Limit | Identification | Verification | Storage |
|---|---|---|---|---|
| **Tier 1** | 1,000 EUR | 1 form of ID required<br>Hard copy application form captures address, occupation, employer, approx DOB, purpose of using account | Agent is relied upon for KYC process, no verification by local operator with the exception of sample checking/monitoring | ID type and reference number and DOB entered on agent till.<br>Application forms collected and stored by MNO. |
| **Tier 2** | 10,000/15,000 EUR | 1 form of ID required.<br>1 photo of applicant, verified by agent<br>Hard copy application form captures address, occupation, employer, approx DOB, purpose of using account | Agent is relied upon for KYC process, no verification by local operator with the exception of sample checking/monitoring | ID type and reference number and DOB entered on agent till.<br>Application forms and photo collected and stored by MNO. |
| **Tier 3** | 30,000 EUR | 1 form of ID required.<br>1 photo of applicant, verified by agent<br>Hard copy application form captures address, occupation, employer, approx DOB, purpose of using account | Agent takes a copy of ID document which is sent to MNO for scanning/storage.<br>Application form is checked to ensure all data is captured prior to set up. | ID type and reference number and DOB entered on agent till.<br>A copy of the identification document and completed application form and photo is scanned and stored by MNO. |

#### 4.2.2.3. Use of agents

The use of agents traditionally falls under the outsourcing piece of regulation. It is an essential component of regulation if m-banking is to extend beyond existing financial infrastructure (bank branches, ATMs, EDCs…).

- Currently, banks (or deposit-taking institutions) cannot use third-parties as agents, which restricts customer access to services due to a limited number of existing branches. Banking is treated as a franchise and cannot be sublet.
- The use of agents is permitted in certain specific cases: remittance companies, payment processors acting as agents, building societies acting as agents.
- Non-banks (i.e. mobile operators for the matter of our discussion) cannot use third-party agents for financial services
- The AML Guidance Notes introduce the notion of ''introduced business'' but require the introducer to apply the same level of KYC as a Bank, in addition to a physical interview of the customer.

**In the current context, the use of third party agents is not permitted. Allowing financial services providers to use third-party agents for basic functions such as customer acquisition, customer KYC, and cash in/out should be considered to enable greater penetration of banking services beyond the traditional banking infrastructure.**

#### 4.2.2.4. e-Transactions

The Electronic Transactions Act (2006) facilitates electronic transactions by establishing the validity of e-transactions and electronic signatures, as well as the admissibility and evidence weight of information of electronic form.

However, it does not adequately address the specific concerns pertaining to the use of the mobile channel as a transactional channel. Some of the identified issues / concerns include the following:

- The Electronic Transactions Act requires prior customer consent for e-exchanges. In the context of mobile banking, this could be addressed in the customer service contracts.
- Electronic signatures must uniquely identify a person to be legally valid. This issue is exacerbated in the context of mobile banking: does the association of a mobile number and a PIN code uniquely identify a person? Does the user interface need to provide that signature using unique identifiers such as the mobile IMEI (equipment number)?
- Use of SMS trace as evidence: under specific circumstances, an electronic document can be taken as original if the integrity of the information is assured. How can a user prove that the integrity of an SMS confirming that a transaction occurred is preserved?

More generally, the Electronic Transactions Act seems to have been developed for broad e-commerce applications that would rely on electronic media such as internet. It does not cater to the specific needs of mobile-based financial transactions.

**Current Electronic Transactions Act should be revisited to ensure that its provisions and articles are consistent with (and supportive of) the use of mobiles as transactional devices.**

#### 4.2.2.5. Customer protection

Customer protection poses a number of challenges in the context of mobile banking. These are primarily due to:

- The distance between the bank branch and the point of service for cash in/out (in the advent of possible frauds, issues in redress mechanisms, errors etc.)
- The use of third party agents raises specific concerns:
  - Quality of service: training of the agents, cash availability at the outlets to ensure liquidity of e-money etc. What happens in case of denial of service by an agent?
  - Error management: who is responsible and what are the recovery processes? What happens if money is sent to a wrong number?
  - Fraud and abuse: what security levels are required? What happens if a PIN code is intercepted?

These are real life issues that have been faced in other markets. Some of the answers provided by best practices include the following:

- Prudential regulation:
  - Sub-contracting agents: agents are licensed and under supervision
  - Requirements in terms of price transparency: price clarity, terms and conditions to be clear and understandable
  - Set limitations on certain types of products or practices
  - Implement and enforce standard practices such as contracts
- Customer identification:
  - National ID system that can be accessed by all the financial service providers
- Certification approaches:
  - Certify vendors, service providers
  - Quality index
  - Information publication

o Information Technology Privacy Act?

In relation to mobile banking in Jamaica, customer protection is an area that is covered diffusely across banking regulations and telecom regulations. Some specific guidelines / regulations would be required to address this area in a comprehensive manner.

**A multi-party working group should be established to address customer protection issues with a specific focus on mobile banking services. This working group should include regulatory bodies from the financial sector and telecom sector, industry players as well as other stakeholders.**

### 4.2.3. Direction

**e-Money**: a specific licensing regime for the issuance of e-money could be drafted to allow non-financial institutions to move into that space. In the short-term, licensed deposit-taking institutions can issue e-money and should be clearly allowed to use SIM cards as stored value cards so as to leverage the mobile channel.

**AML/CFT**: existing AML/CFT requirements should be adjusted to the use of the mobile channel and to the context of the unbanked. This includes the definition of proper limits (maximum balances, maximum number of transactions over a period of time, maximum value of each transaction etc.) and the review of existing transactions threshold reporting requirements. It would also include a complete review and relaxation of existing KYC requirements to be more inclusive and conducive for unbanked to join the formal sector. This would require a risk-based approach based on proportionality. Relaxation of the KYC can be counter-balanced by more stringent internal controls and limits.

**Use of agents**: use of third-party agents should be allowed, at least for deposit-taking institutions, as this is the only means to expand access to finance beyond the traditional banking network. For banks, this could be an opportunity to leverage the distribution networks of mobile operators, which seem to be currently the most effective way of reaching out to the unbanked.

**Electronic Transactions**: the existing Electronic Transactions Act has laid the foundations for electronic commerce. It would need to be revisited with a view to enable, legitimize and support mobile based transactions. This would require the involvement of security experts and technology experts beyond legal advice.

**Customer protection**: In the context of mobile banking, customer protection aspects take a new dimension that spans beyond the financial sector or telecom sector related issues. Addressing this aspect comprehensively will be crucial to the uptake and the success of mobile banking in Jamaica. A working group is recommended to focus on that specific aspect.

For further information, the reader is invited to refer to the accompanying PowerPoint presentations entitled Financial Services through Mobile Devices.

## 4.3. Legal framework

A legal framework sets the basic rules and authority needed to implement m-banking. It is important, however, that laws are not only pieces of paper; they must be understood by all stakeholders, implemented and enforced.

Development of an effective legal framework for m-banking also requires close coordination and communication among entities, especially with Ministry of Justice and Chief Parliamentary Council, in the drafting and enforcement of laws and regulations. The legal drafting process must involve all relevant stakeholders—including relevant ministries and BOJ—in order to produce regulations that are well understood and widely implemented.

### 4.3.1. Current Status

Jamaica's legal framework for m-banking requires further evolution, though important progress has been made. As discussed previously, a number of foundational documents already have a string legal status, and legal grounding for electronic evidence has been established to a certain degree.

To date, the key highlights in development of the m-banking legal framework include:

- Laws and regulations related to electronic transactions exist (Electronic Transactions Act, 2006), though an evaluation is needed to determine what gaps exist in relation to the use of the mobile channel.
- BOJ has issued regulations that partially address e-transfers and e-banking.
- Important reference documents (POCA, AML/CFT Guidance notes) already have a strong legal status.
- BOJ some form of legal authority (for instance, authority to access suspicious transactions records).

However, some gaps remain in several areas related to prosecution under criminal / civil law and customer protection:

- Definition of electronic crime: current definitions of crime are in the realm of general offence. Cybercrime and electronic crimes are not clearly defined, which hinders prosecution. For example, tampering with a SMS, interfering with an electronic transaction or deceiving a machine is not currently recognized as criminal offence. There is a need for a clear definition of cybercrimes that would be ideally addressed by a Cyber Crime Act providing specific sets of definitions (the Australian Cybercrime Act 2001 is a good example).
- Electronic evidence: another key issue is the question of the admissibility of electronic evidence and the potential gaps between the Electronic Transactions Act and the Evidence Act. There is a need for reconciliation between these two elements of legislation so as to enable proper legal actions / prosecution.
- Data privacy: the use of new technologies such as the mobile channel and related AML/KYC requirements also raise the question of data privacy in the

broader sense. This could be nicely addressed by an Information Technology Privacy Act, or elsewhere in the existing framework.

### 4.3.2. Direction

**Electronic Transactions**: The legal framework governing e-commerce remains inadequate with respect to mobile-based transactions. For example, laws on legal validity of SMS notifications remain to be addressed. Reviewing the existing Electronic Transactions Act to close the gaps and reconciling it with the Evidence Act is needed.

**Information Technology Privacy**: m-banking should be supported by a set of regulations addressing information security, including the classification of information, as well as basic policies on privacy, data management (protection, storage…). Current arrangements do not seem to cover all these aspects. Laws related to cyber crimes do not yet exist.

### 4.3.3. Division of Responsibilities

Development of a legal framework for m-banking will naturally involve multiple actors at various stages from drafting to enactment and enforcement.

**BOJ**:

- Assist in the drafting of laws and regulations related to m-banking, as needed, including provision of expertise on legal and m-banking matters.
- Help entities identify priorities regarding which laws and regulations most urgently require drafting or revision in order to effectively implement m-banking in Jamaica.
- Coordinate enforcement of laws and regulations by appropriate entities (Ministry of Justice, Ministry of Finance and others).

**Ministries**:

- Coordination with BOJ on a timely basis about drafting and revision of laws and regulations related to m-Banking.

## 4.4. Telecom Industry

With some limited exceptions, mobile operators have been the main force behind the success of mobile financial services in many emerging markets. This was the case in first-mover countries such as Kenya, Philippines and South Africa, and is also the trend in many other environments as world-stage operators such as Vodafone, Orange, MTN, Etisalat, Zain and others continue to roll-out mobile financial services in their respective countries.

The main reasons behind this lie in the following:

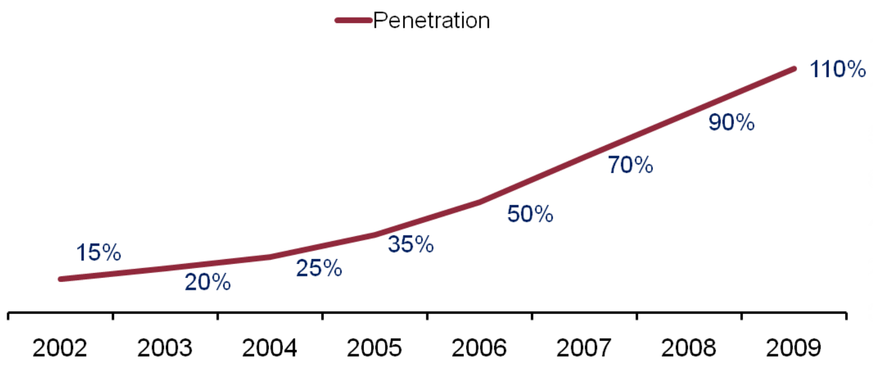
- **High volume / low value nature** of money transfers is well suited to the traditional business model of the operators, used to extracting value from the lowest segments.
- **Technology mastering:** mobile operators bring a strong technology expertise, from the front-end user interface to the back end processing systems.
- **Partnerships and alliances** are instrumental in building a nation-wide distribution network and, with their airtime resellers, mobile operators often boast one of the largest retailer networks in their country.
- **Brand trust** is a must as customers look for convenience, affordability, trustworthiness and security. Mobile operators have often built strong brand equity around these attributes.
- **Mass-market marketing capabilities** are essential to efficient customer education. Operators have developed a strong ability in that regards.

Overall, operators also have the resources, market experience and drive that are required to put together a rich ecosystem of partners. Besides, large groups that are operating across multiple countries can leverage their experiences in other jurisdictions.

Also, the following explores the current state of the telecom industry in Jamaica, with a view to understand the role it could play in relation to m-banking.

### Current state of Mobile industry

Mobile telecom is, unsurprisingly, a vibrant industry in Jamaica. Penetration of mobile phones has known a significant growth over the last years to reach a high 90% at the end of 2008, and is expected to grow further to a 110% level by end of 2009.



For many years Jamaica has been regarded as the most important and most profitable market in the Caribbean, which is why major players have established their regional headquarters in Kingston.

Despite the small number of players (2 GSM operators & 1 CDMA operator) currently operating in Jamaica, the market has become increasingly competitive resulting in higher churn rates and slightly lower ARPU in 2009 compared to previous years. As a result, the market position and profitability of existing players is likely to be gradually eroded unless alternative competitive differentiation is sought.

This particular market situation is conducive for mobile operators to engage in mobile banking. Indeed, mobile banking is commonly perceived by mobile operators as an effective tool for churn reduction and value extraction (through increased acquisition, but also increased revenue per user).

The market is extremely concentrated in terms of number of players and market share:

- DIGICEL: ~55% market share by end 2009
- LIME: ~35% market share by end 2009
- CLARO: ~10% market share by end 2009

The largest 2 operators together concentrate 90% market share with more than 2 millions mobile users, which would naturally make them the most suitable partners for banks in terms of critical mass and market coverage.

However, it is also to be highlighted here that size and coverage are not the only criteria for selecting the best mobile partner in a mobile banking venture. Other elements have to be taken into consideration, among which are: the nature of the relationship that can be established between banks and the partner mobile operator; the social orientation of the partner mobile operator; the vision and drive that it demonstrates towards offering mobile financial services; the commercial terms and business model and importantly the regional footprint of the mobile operator. The mobile banking game is likely to be a regional game including the Caribbean and Latin America.

The latter consideration could make a comparatively small player such as Claro an interesting partner for banks given Claro's strong footprint in Central and Latin America.

### Challenges faced by Mobile operators

As discussed previously, all mobile operators are expected to face increasing pressure to acquire customers and/or protect their market share. As competition develops, the focus is likely to shift towards more aggressive acquisition in lower-income segments, supported by value propositions that are relevant to these segments, and increased ''stickiness'' of existing customers.

Already, LIME is forecasted to lose further market share by 2010, which confronts the operator with 2 options: competing on price, which will drive market value down, or finding alternative ways (such as mobile banking) to protect their existing base and grow further in lower-income brackets.

## Mobile operators and mobile banking

Although the market context in Jamaica is conducive for mobile operator's to engage in mobile banking, the regulatory framework is not. To date, no mobile operator has taken the lead in that space with their own mobile banking initiatives despite the successful propagation of electronic vouchers and person-to-person credit transfer. Indeed, regulatory uncertainty, combined with the inability to use their dealer networks (totaling near to 20K point of sales), has deterred mobile operators from breaking the status quo and innovating.

Nevertheless, mobile operators are keeping a close eye on the developments in that sphere and have made great strides in terms of maturing their mobile banking strategies, both in Jamaica and regionally. Claro, Digicel, Lime, all have a clear vision of how they intend to position themselves in that promising space. Indeed, their appetite for new services, their search for churn reduction initiatives, their technology maturity along with their strong brand and their ability to move fast are all comparative advantages that they would look at leveraging should regulation permit.

In particular, the international remittance opportunity seems to be a sizeable one. Not yet allowed to play in that space, mobile operators have restricted themselves to international credit transfers (top-ups) but would surely hope to become key players in that market (international remittances amount to nearly 20% of GDP).

Beyond regulatory limitations, other constraints faced by mobile operators:

- Limited KYC is applied at their dealer outlets. Redefining all the processes and procedures could be a heavy task. However, it is likely to be required by default by the Ministry of National Security
- Cash in / cash out capabilities of the dealers needs to be assessed, not to mention the security issues attached to these transactions
- Lastly, mobile operators do not want to be seen as banks as they do not want to be regulated as banks. The business of running a bank requires a very specialized set of skills and the financial requirements are not consistent with their business models. They see themselves as payment services providers, offering payment accounts that are not meant to be stored value accounts but rather, payment and transactional accounts.

**In the current state of affairs, mobile operators cannot be involved in transformational mobile banking. They can merely play the role of a channel provider for banks, which is likely to promote the development of financial services that primarily target existing bank customers rather than the unbanked. Serving the unbanked will require greater enablement and participation of mobile operators in the financial services space, which will result in models characterized by more balanced responsibilities between mobile operators and financial institutions and will ultimately enable win-win commercial agreements.**

## 4.5. Banking sector

The banking sector generally plays a role in the development of traditional m-banking services aiming at offering additional channels to existing customers, and Jamaica is no exception. Out of the 7 fully licensed commercial banks, almost all have been involved in some m-banking initiatives, few being close to full implementation.

Also, the following explores the current state of the banking sector in Jamaica, with a view to understand the role it could play in relation to m-banking.

### Current state and challenges of Jamaica's Banking sector

Jamaica's banking sector is largely dominated by commercial banks, which represent 76% of total assets. It is also highly concentrated: the 2 top institutions (NCB and Scotia Bank) represent 75% of the total assets.

Banks have been traditionally focusing on high-value customers and corporate accounts, which has been detrimental to the inclusion of lower income segments. In addition, high entry barriers, stringent KYC requirements, defiance due to past scandals (cash plus), comparative attractiveness of partner schemes and to a certain degree tax evasion considerations seem to have driven large segments away from the formal sector.

As a result, commercial banks are currently providing access to financial services to approximately 1 million Jamaicans (less than 35% penetration), and do seem to face limitations in their reach. That limitation does not seem to be explainable only by coverage, since a branch can be accessed within a half hour drive from any part of the island.

The lack of access is partially due to the following factors (not comprehensive):

- Addressable market: large segments of the population either do not meet eligibility requirements or have a relationship with the bank only on pay day (typically Fridays) to cash their pay checks, making them by definition un-bankable or under-banked.
- Limited reach: although current number of branches per capita is relatively high, these branches are primarily concentrated in urban areas, thus limiting access in remote places.
- Competition is downscaling: Credit Unions and Building Societies are aggressively downscaling to micro-loans (typically below $5,000) and microfinance products. As a result, Credit Unions have already managed to attract 1 million members despite interest rates of nearly 40%.
- Trust: Jamaica, like any other developing economy, is a cash-based society. Developing trust to reach out to people in rural areas is a key aspect of any financial institution's strategy and is a real challenge.

These aspects are limiting factors for banks in terms of business expansion. Also, they seem to have put a renewed emphasis on channel optimization through alternative channel strategies, providing greater comfort, convenience along with an enhanced sense of control to their customers. Some have already ventured in the prepaid card business (ex: key cards) while others have tested the attractiveness of phone banking (telescotia). Mobile seems to be the next big development on the list. However, current regulatory uncertainty and the inability to leverage third-party agents beyond their traditional infrastructure are perceived as limiting factors.

Among the many challenges faced by banks, serving less profitable customers (such as large masses of paycheck cashing workers or transaction customers only) at bank branches is seen as an issue. Also, it has become a business imperative on certain large retail banks to explore more efficient channels such as the mobile channel.

Despite these challenges, it can be said that banks in Jamaica are very mature operations in terms of their processes and IT systems, and that readiness for mobile banking would only require minimal upgrades to existing systems. Besides, financial literacy seems high in Jamaica, with very high ATM usage and more electronic transactions than at bank branches.

## The specific case of international remittances

One individual type of financial transaction that usually attracts a fair amount of attention is international remittances. Indeed, remittances traditionally flow towards developing markets, and banks are well positioned to capture a fair share of it, for instance by partnering with Money Transfer Operators like Western Union or MoneyGram. On the other hand, mobile operators are increasingly poaching on this business, developing bilateral agreements for some, securing standard deals with Western Union and the likes for others.

In the particular case of Jamaica, incoming international remittances represent a $2.5bn opportunity (20% of GDP), the most important corridors being USA, Canada and UK. Remittances, and even more so international remittances, are an area of interest for all actors present in the market. It is likely to become one of the most profitable m-banking services provided in Jamaica should regulatory barriers and technical difficulties be overcome.

## Banks and mobile banking

As discussed previously, many banks are investigating traditional mobile-banking (based on existing accounts). A few banks also seem to be exploring alternative models at this stage of development of the market, although the environment has not been enabling enough for any practical initiative to emerge.

## Other financial institutions

Credit Unions and Building Societies are also actively exploring the potential of new technologies, including the mobile channel. As a matter of fact, Credit Unions are already sending SMS reminders to their customers when loan repayment is due.

In time, more financial institutions can be expected to develop an interest in mobile banking in the broader sense. Although the strategic direction that will be chosen (mobile wallets, handheld-based branchless banking, alternative models) is unclear at this point in time due to current regulatory limitations.

# 5. Possible m-banking approaches for Jamaica

The previous section has provided an overview of the main challenges faced in relation to the legal, regulatory and institutional m-banking frameworks in Jamaica, as well as the main players. The current section discusses possible m-banking approaches for Jamaica.

M-Banking has the potential to significantly impact the performance of financial institutions in addition to supporting their mandate. Beyond financial institutions, it can also impact the business of facilitators or payment processors such as Paymasters, as well as the business of mobile operators that are involved. By orienting m-banking around the convenient, accessible, cost-effective, secure delivery of services to customers, m-banking will transform how financial services are delivered in Jamaica.

Consistent with global trends and best practices, m-banking services can be designed around the specific needs of customer segments in the parishes where financial services are needed. At the same time, m-banking approaches shall seek arrangements that most efficiently allocate risk and responsibilities between financial institutions and other partners, in particular mobile operators.

The definition of the best approach should take into consideration:

- International best practices
- Objectives sought by Jamaica
- Realities and specificities of Jamaica's environment

## 5.1. Review of existing international experiences

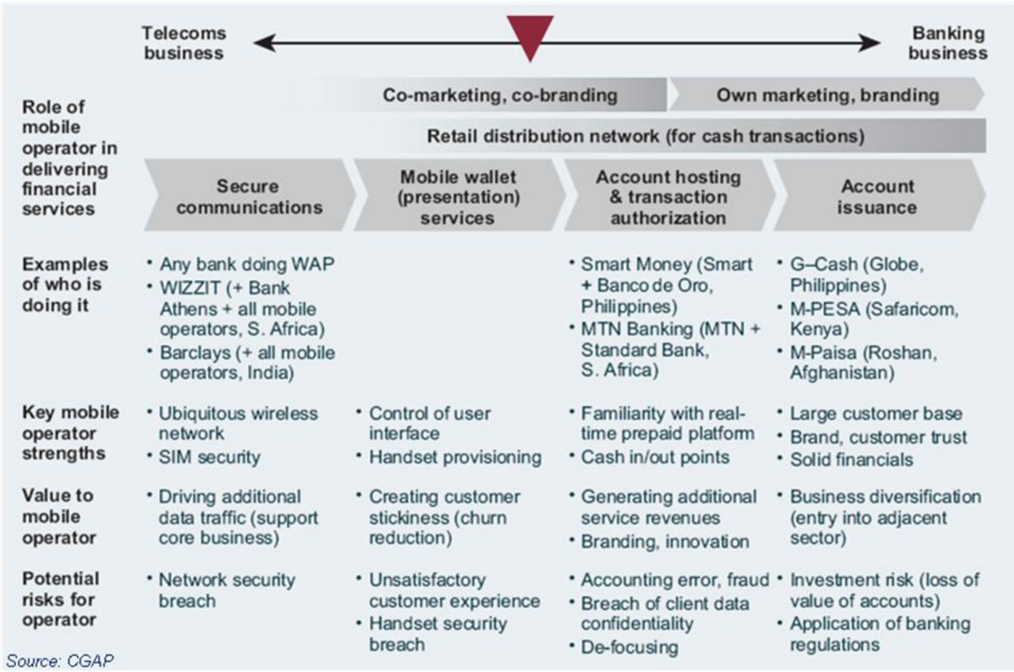
As discussed in the previous section, banks like non-banks have not yet made any steps towards implementing transformational m-banking in Jamaica. As such, Jamaica can start with a blank slate and determine the direction in which it wants the market to develop. The fundamental questions that are at the heart of the decisions to be made are pertaining to the respective role of the mobile operators and the deposit taking institutions.

As discussed previously, in the current context, only banks are allowed to issue electronic money but cannot leverage third-party agents to expand their coverage and their reach. Besides, KYC requirements remain incompatible with the objective to bring large masses of low-income segments into the formal sector. Mobile operators, in turn, are not allowed to issue electronic money nor use their agents for financial functions. These obstacles have been hindering the distribution of financial services to the currently excluded from the formal sector.

Other players that are non commercial bank and non telecoms, such as facilitators, payment processors, credit unions, building societies, MFIs, and ATM networks are also very interested in participating to a mobile money ecosystem.

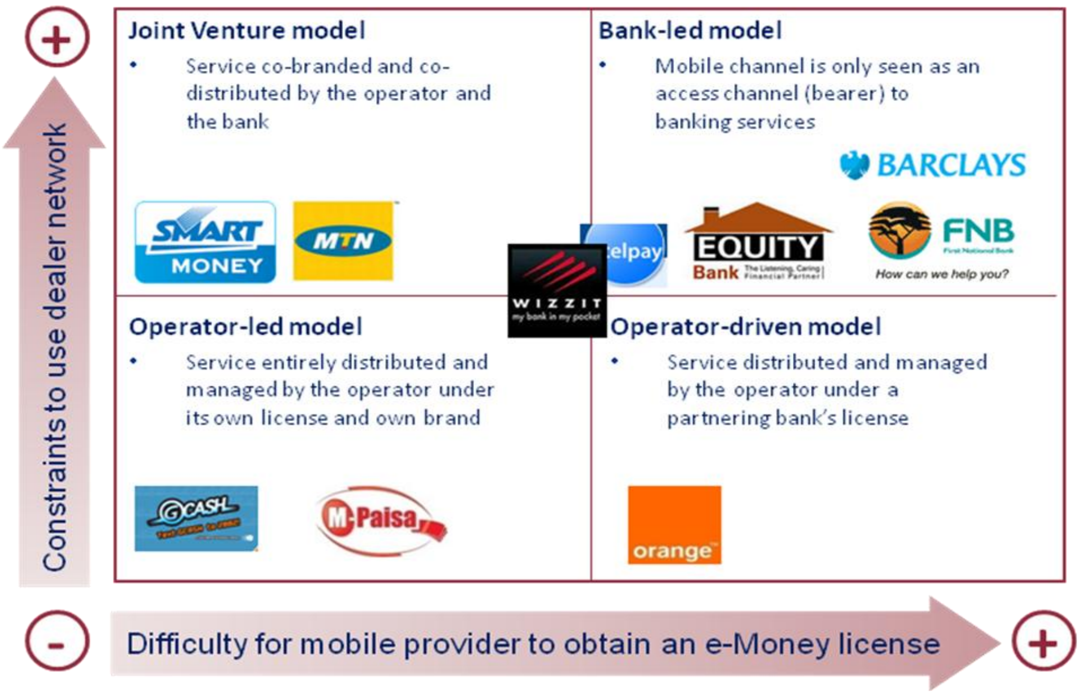
Within this context, BOJ can influence the market in different directions based upon the desired model. This will ultimately depend on the role that mobile operators are going to be allowed to play in this market, from a mere secure channel provider to an account issuer and a financial services provider.

The following diagram depicts the various roles that mobile operators can play in the value chain based upon the functions that they fulfill and their key strengths.




Determining where the cursor will be placed will also influence the different models emerging in the market.

The following chart describes the main models that have been implemented around the world.



International experiences show us that the prevailing models are the following:

## Operator-led model:

In that scenario, the mobile operator is allowed to take deposits in trust for the customers and temporarily store that money in electronic form on a stored value card (which is the SIM card). He mobile operator performs both account issuance and account management functions.

The services that are provided are typically payment and transactional services (peer-to-peer transfers, merchant payments, loan repayment, salary deposit, airtime purchase etc.). Money is not meant to be stored on the card over a long period of time but, rather, used for transactions and payments. Besides, mobile operators cannot offer core financial services such as savings and lending, and would need to partner with a licensed financial institution for that.

Another characteristic is that the dealer network of the mobile operator is used for basic customer facing activities such as customer registration (including KYC), cash in and cash out.

Mobile operators would either need a written approval from the central bank (as is the case of Safaricom's M-Pesa in Kenya or Globe's G-CASH in the Philippines) or operate under a specific licensing regime (money service provider license as in the case of M-Paisa in Afghanistan). In all cases, the central bank has monitoring and supervisory oversight over the service and can audit operations at all times. Besides, all KYC procedures and AML thresholds and reporting requirements are agreed with the Central Bank.

Lastly, provision of the service relies on an underlying bank account that strictly mirrors the total amount of electronic money in the system. Daily (sometimes several times a day) reconciliations are carried to ensure that there is strict adequacy between the cash in the bank account and the total amount of electronic money.

This model has proven to be extremely successful in environments where banking penetration was very limited, and the appeal of mobile telephony and the brand equity of mobile operators were very strong. Typically in Kenya, where Safaricom had a critical mass of users with nearly 70% market share when they launched, Safaricom has been able to register 7 million customers to their M-Pesa service while the total number of banked people is closer to 5 million. In that regards, the M-Pesa model has been considered truly transformational in the Kenyan context.

## Operator-driven model:

In that model, the operator relies on a partner bank for regulatory aspects. Account issuance (e-money creation) sits with the bank and account management rests with the operator. All other aspects are similar to the operator led model. This is the model that has been adopted by Orange across their operations in 18 countries. It allows a financial institution to be involved and, as such, take a cut of the revenue.

## Bank-centric model:

In this model, banks restrict themselves to traditional additive mobile banking approach, offering existing customers more convenience, more immediacy and a greater sense of control. This type of m-banking is not transformational.

In this scenario, mobile operators are only providing the mobile channel to access banking services, and perceive traffic revenue only.

## Joint Venture model:

In this model, a bank and a mobile operator decide to join forces. On the mobile operator side, this association is generally driven by regulatory restrictions, but also by a clear desire to fully integrate within the existing financial system and offer a richer set of financial services. As such, the service is often co-branded or neutral-branded, jointly distributed, and all operator agents and bank branches/ATMs can be used to service the customer. Besides, a payment card (generally prepaid) can be issued by the bank and attached to the electronic stored value account (mobile wallet) to offer even greater convenience to the user. The customer is usually a client of the Joint Venture (i.e. the new commercial entity established jointly by the mobile operator and the bank) and does not need to have a bank account with the partner bank. However, whenever the customer is already a customer of the bank and has an existing bank account, that bank account can also be used as a funding source for the mobile wallet.

This model has been successfully implemented by SMART in the Philippines (totaling now 6 million users), in a country that was already very plastic driven (loyalty cards, gift cards, private memberships, bank cards…). It has been less successfully implemented by MTN in South Africa and ZAIN in other African markets, where the use of plastic cards was less prevalent.

The greatest benefit of this approach is that it builds on the existing financial system and leverages existing investments. It also offers a greater role for the banks to play, since part of the transactions will be carried out by the bank on the banking infrastructure. It also makes the transition from a mobile wallet to a bank account more seamless to the end customer.

However, important decisions impacting the business are generally made jointly and banks have the reputation to be slower movers than telecoms. This is a sensitive issue for telecom operators, who are agile organizations used to moving fast. Also, in their business arrangements with banks, mobile operators would generally seek to retain key infrastructure components such as the back-end platform managing the accounts to minimize their dependency on the banks for technical operations and upgrades.

## Third-party model:

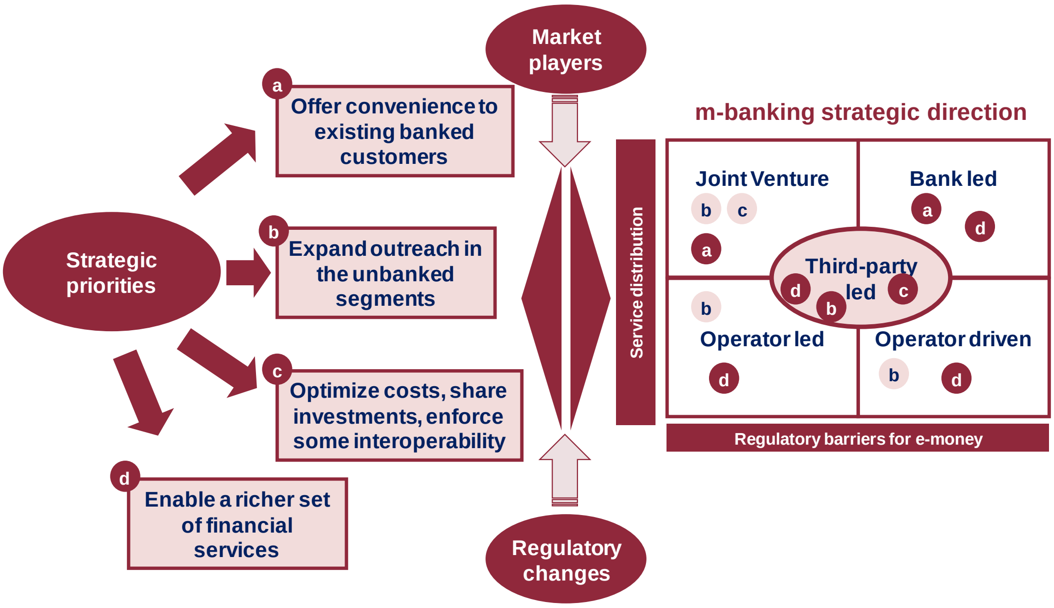
In some countries such as Indonesia or South Africa, third parties have emerged that operate under a banking license and build an entire ecosystem around their platform and network of distributors. Perhaps the two most representative examples are Wizzit in South Africa and Celpay in South Africa and Democratic Republic of Congo (DRC).

The main benefit of that approach is that it remains operator-agnostic and bank-agnostic. All participants in the ecosystem are interconnected to the same central platform which makes the system, by design, interoperable. However, the main drawback is that it dilutes first mover advantage for the telecoms and therefore negatively impacts their investment incentive. As such, the third parties do not have sufficient muscle power to carry an initiative of that magnitude by themselves. In addition, this model leads to a possibly less favorable business model due to one more intermediary in the delivery chain. To date, these models have had very limited traction in the market.

## 5.2. Options for Jamaica

### Evaluation of options

The decision on the best option for Jamaica should be based on the priorities that will be set by the government, as illustrated by the chart provided below:




While all priorities seem to be desirable targets, the primary drivers should remain item b, complemented by c in addressing the unbanked. The chart also illustrates the comparative relevance of the different models based on the drivers they best fulfill.

Based upon this categorization, the most relevant options for Jamaica seem to be the joint venture model and the third-party led model. However, the third-party model is likely to have limited support from mobile operators and hence limited traction in the market, which makes the operator led and operator driven models worth considering in regards to the primary objective, which is to bring the unbanked to the formal sector.

As far as the existing bank-led initiatives are concerned, their potential for reaching out to the unbanked remains uncertain and primarily depends on the willingness of the banks to cater to these segments as well as their appeal to them.

### The specific circumstances and realities of the Jamaican context

The relevant options have been identified here above. The following aims at discussing their comparative relevance against the current market context in Jamaica. Indeed, mobile banking is not the sole purview of government authorities. Success will require private sector buy-in and support from all industry players. In particular, support from the financial sector and the telecom players is crucial.

In that regards, the Joint Venture model should remain an interesting model to encourage in the near future. It would enable a joint involvement of and a balanced relationship between the banks and the operators, while also leveraging their respective strengths: the experience in running a compliant banking business with a large distribution network and the ability to leverage end-to-end technologies. This would also allowing further integration between the telecom world and the banking world. Furthermore, customers of the service would be allowed to open a bank account along with their mobile wallet, if they wish so and meet the eligibility criteria set by the Bank. This would enable them to easily move value from their mobile wallet into their bank accounts to perceive interests on short-term AAA Paper or Government Securities, but inversely would enable them to fund their mobile wallets from their bank accounts.

A degraded version of the Joint Venture, which is the operator driven model (which still involves a Bank) could also be considered in the short-term to leverage the superior agility of the mobile operators. The account management platforms would then rest with the operators, providing them with more flexibility and maneuverability. Banks would have a more limited role to play, but that could rapidly change over time as the need for further integration is driven by market forces and fueled by demand (in particular considering the high interest rates in Jamaica).

The operator driven model, despite its qualities, is likely to face paramount resistance from commercial banks. Indeed, the banks would see the incursion of mobile operators in their traditional market as unfair competition and would likely react vehemently to such an event. However, this scenario should not be completely discarded and retains its relevance for the long run.

As far as the third-party led model is concerned, it seems premature to consider such model in the current market. Indeed, m-banking initiatives will be carried by market players in search of product differentiation and competitive edge in the early stages of development. Pushing a third party model would dilute market advantage for critical players and as a result, may jeopardize their full involvement in the initiative, leaving it to the third party to ultimately support the project. In the absence of a particularly strong and determined third party, this may not be the preferred option.

## 5.3. Recommendations

Based on the previous discussion and in the interest of a smooth and effective transition towards an increasing use of the mobile channel for the distribution of financial services to the unbanked, it seems advisable that BOJ pursue a phased approach to secure short term quick wins while enabling long-term strategies to be pursued.

### Short term quick win

In the short term, BOJ should engage in recommended reforms to at least enable the joint venture model and, by the same token, the operator-driven model to allow for the possibility for the mobile operator to be the technology provider and perform account management functions. Indeed, these options would enable a variety of models to flourish and would ensure ‘’equal’’ participation of both the Bank and the mobile operator. The ultimate decision on which model is the best should be driven by market forces, based on commercial realities.

This recommended trajectory would require, as discussed previously, the following actions (at a minimum):

- Confirmation of the fact that banks can issue e-money accounts on SIM cards
- Ability for the banks to use telecom dealers as third party agents
- Revised set of KYC / AML requirements for that service
- Adjustments to the Electronic Transactions Act (please refer to 4.2.2.4)
- Authorization for the mobile operator to host the back-end platform and perform account management functions (required for the operator-driven model only)

The following table describes a proposed split of responsibilities between the mobile operator and the bank in a JV / Operator driven type of model.

| | OPERATOR | BANK |
|---|---|---|
| Regulatory | ▶ Contractual obligations to the Bank | ▶ Bank is the licensee<br>▶ Ensures regulatory compliance |
| Technology & Processes | ▶ Provides wireless channel<br>▶ Hosts mobile wallet technology<br>▶ Supports process re-engineering for ecosystem members | ▶ Provides interfaces to its MIS<br>▶ Re-engineers impacted processes<br>▶ Trains agents / staff (KYC, processes…) |
| Infrastructure | ▶ Manages the e-money accounts<br>▶ Authorizes and fulfills transactions<br>▶ Handles settlement | ▶ Bank issues e-money accounts<br>▶ Fulfills certain transactions (in case of JV) |
| Products & Services | ▶ Focuses on the unbanked<br>▶ Develops some of the financial products (bill payment, remittance…)<br>▶ Develops the ecosystem | ▶ Focuses on high value clients<br>▶ Sets mobile banking priorities<br>▶ Develops mobile banking products |
| Marketing & Education | ▶ Joint marketing<br>▶ Joint or neutral branding | ▶ Joint marketing<br>▶ Joint or neutral branding |
| Distribution channel | ▶ Mobile and m-wallet service registration<br>▶ Cash-in/out in the dealer network | ▶ m-wallet service registration<br>▶ banking service registration<br>▶ Cash-in/out in the banking infrastructure |

These roles are tentative proposals and the reality in the field is expected to be shaped by concerned industry players and reflected in their business arrangements.

### Long term strategies

In the longer run, BOJ may consider allowing operator-led models to emerge, based upon the performance and success of existing initiatives. BOJ may also support the involvement of third parties such as JETS for the sake of interoperability between existing systems.

### The benefits of a pilot

While BOJ undertakes the required reforms and so as not to slow innovation in the market, BOJ may consider allowing temporary pilots to start under their control. Market pilots are good ways of assessing the challenges posed by innovative approaches in real life situation. To avoid systemic disturbance, a cautious approach could be taken towards framing these pilots, with lighter KYC combined with constraining yet enabling limits and tight control exercised by BOJ.

These pilots would nonetheless have the value of proof of concept, would enable BOJ to validate industry interest and would guide BOJ in further regulatory amendments.

Within this context, one sensitive item to be carefully managed by BOJ is the question of fairness. Indeed, commercial advantage will be granted to pilot licensees. To avoid any unfairness and resulting resentment from industry players, it is recommended that BOJ invites all players interested in piloting to declare themselves and defend their models prior to the granting of licenses. Selection criteria should also be made explicit by BOJ to ensure transparency of the process. It is expected that this process will constitute a natural filter from which only 2 or 3 models will emerge, which could then be granted a pilot license.

# 6. Synthesis and Action Plan

## 6.1. Summary of the findings

As discussed previously, current legal and regulatory frameworks are not conducive for mobile banking to develop in a transformational way and bring the currently unbanked into the formal sector. Regulatory restrictions have not yet allowed for a clear industry-driven approach to emerge and plans in the making cannot be expected to take practical shape until highlighted regulatory issues are addressed. Priority regulatory amendments have been identified and discussed. In parallel, identified legal gaps do not properly protect the customers, nor do they protect the service provider. As such, they constitute an impediment to the development of m-banking services.

Without strong action from BOJ and other government counterparts, the m-banking landscape in Jamaica is likely to stagnate.

Furthermore, success in m-banking involves coordination between multiple government agencies and requires central ownership and accountability. It would be advisable to assign such responsibility to an entity that enjoys a strong reputation and is seen as politically neutral by industry players. For these reasons, clear institutional arrangements should be made to empower BOJ as the ultimate arbiter of m-banking enablement and ensure full support of other government bodies.

Last, the banking industry like the telecom industry has shown significant interest in mobile banking in its broader sense. Other market players have also expressed interest and concerns about the ability of Jamaica to move from its current financial institution-centric modus operandi towards a more open and more inclusive m-banking approach. From the various interviews conducted, it also appears that business priorities and preferred models differ from one player to another.

Within this context, prescribing a unified approach for the Jamaican market seems challenging. Rather, an approach aiming at allowing pilots to emerge while implementing gradual changes to the current regulatory framework that would enable all parties to leverage the opportunities of m-banking is more advisable. This is described in the following section.

## 6.2. Direction

The recommended approach consists in initiating consultations with the industry players in view of pilots while making quick amendments to the existing m-banking framework to realize short term quick wins and gradually enable longer term changes.

Indeed, the pace at which the industry is ready to move is faster than the pace of regulatory change and allowing pilots to start will spur positive innovation in the market while enabling BOJ to learn lessons from them. The context and conditions of these pilots would need to be carefully defined so as to ensure that emerging models will later fit within the regulatory framework that will be developed in parallel. That will require BOJ to have made some decision regarding the preferred model for Jamaica.

In parallel, quick adjustments should be brought to the regulatory and legal frameworks to achieve quick wins by enabling the joint venture and possibly operator driven models.

At this stage, it seems premature to determine whether a pure mobile operator (operator-led) model should be allowed in the long term. The pertinence of such model in the Jamaican context is debatable and should be further discussed at government level.

The recommended priority actions are summarized in the following:

### ✒ *Priority Actions – Institutional Framework*

***Immediate:***

- *Empower BOJ as the primary arbiter of m-banking enablement in Jamaica.*
- *Ensure strong sponsorship from Ministry of Finance.*
- *Establish a regular reporting mechanism to Jamaica's political leadership.*

***Short/Mid-term:***

- *Establish, as needed, inter-agency working groups to coordinate key cross-governmental m-banking policies and efforts.*

### ✒ *Priority Actions – Regulatory Framework*

***Immediate:***

- *Confirm the ability of licensed deposit-taking institutions to issue electronic money and use SIM cards as stored value cards*
- *Establish a working group to address customer protection issues*

***Short-term:***

- *Adjust existing KYC requirements to the context and realities of the unbanked*
- *Provide clear and specific AML requirements for mobile banking*
- *Enable the use of third-party agents for the provision of m-banking services*
- *Revisit and amend Electronic Transactions Act for the specific case of mobile transactions*

***Mid/Long-term:***

- *Develop a specific licensing regime for non-financial institutions to offer m-banking services*

### ✒ *Priority Actions – Legal Framework*

***Short-term:***

- *Review the existing Electronic Transactions Act to ensure proper legal grounding for m-banking transactions. Reconciliation needed with the Evidence Act.*

***Mid/Long-term:***

- *Address information privacy issues more comprehensively in the context of m-banking including information security, storage, classification*
- *Develop a Cyber Crime Act to provide a clear definition for cyber and electronic offence*

### ✒ *Priority Actions – General*

***Short-term:***

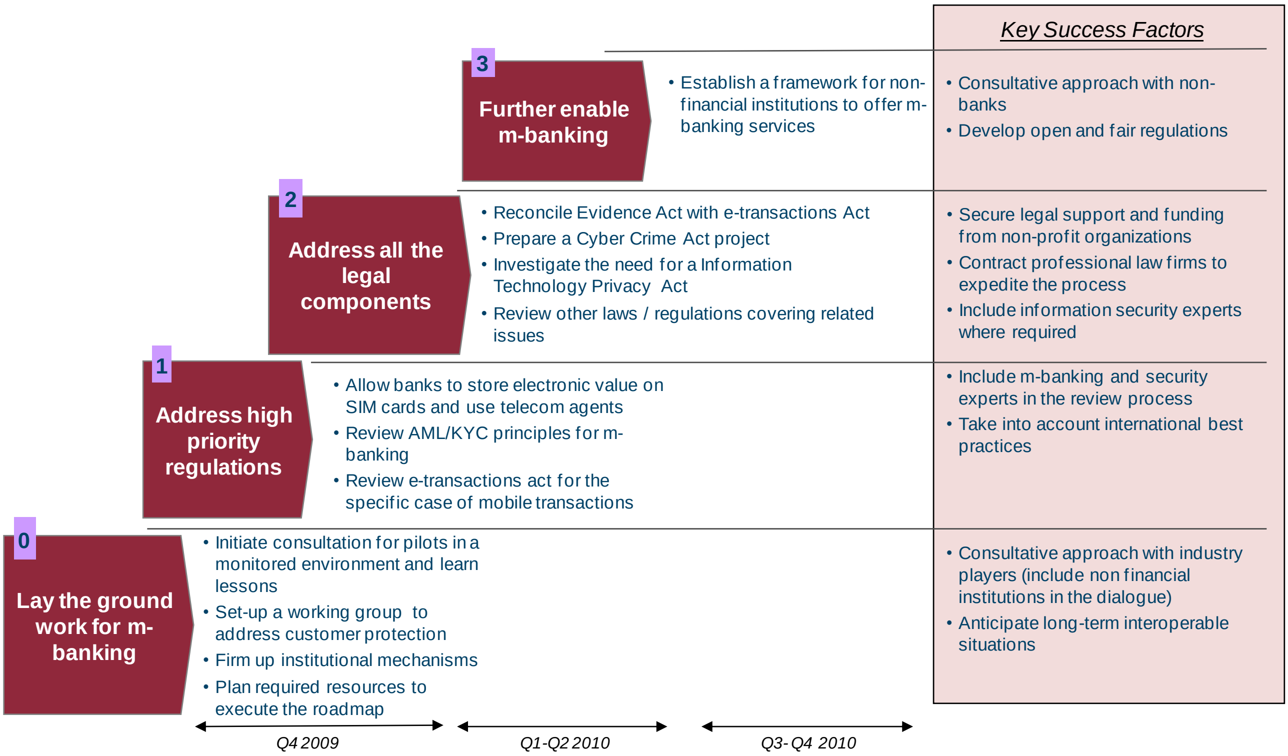
- *Initiate a consultation with industry players to create the environment for market pilots*
- *Make a strategic decision on the models that would be preferred*
- *Identify the external resources that will be required to support the action plan and secure both the funding and the resources*

## 6.3. Roadmap and budget

This section proposes to detail the recommended roadmap and discuss related budget requirements.

### Proposed roadmap

In line with the above, the proposed roadmap is depicted in the following diagram:




This roadmap may seem aggressive at a first glance. However, it is important to set ambitious targets so as to maintain and build on the existing momentum in the market. Indeed, m-banking is a fast moving industry and the pace of change needs to keep up with industry speed.

### Estimated budget requirements

Delivering on this roadmap will require determination and focus, as well as material and human resources. The following table aims at guiding BOJ and GOJ in general in their assessment of the required effort and budgets.

| Roadmap phase | Key tasks | Owner | Participants | Budget requirements |
|---|---|---|---|---|
| **Laying the ground work for m-banking** | Initiate consultation for pilots | Ministry of Finance | Financial and non-financial institutions, including mobile operators, BOJ | Ministry of Finance and BOJ internal resources |
| | Set up customer protection working groups | PIOJ | Various Ministries and groups as required | PIOJ internal resources |
| | Firm-up institutional mechanisms | Ministry of Finance | Cabinet / PM | Ministry of Finance resources |
| | Resource planning | BOJ | PIOJ | BOJ internal resources with the support of PIOJ |
| **Address high priority regulations** | Review AML/KYC principles | BOJ | Industry players | Focused BOJ resources (estimate: 20 man. days) |
| | Review E-Transactions Act for mobile banking | Ministry of Commerce and Industry | Industry players, CPC | External support for the review of e-transactions act (~15KUSD for 10 days of security and m-banking experts) |
| | Enact a new regulation to enable the use of agents | BOJ | CPC, Ministry of Finance, FSC | BOJ internal resources (estimate: 40 man.days) |
| **Address all the legal components** | Cyber Crime Act drafting | Ministry of Justice | CPC, Ministries of Telecommunications / Commerce and Industry | Depends on the resources available at MOJ and CPC.<br>Legal expertise will be required to fast track reviews and drafting (~75KUSD for 50 days of support).<br>Security and m-banking expertise will also be required in this phase (~15KUSD for 15 days) |
| | Electronic Transactions Act and Evidence Act alignment | Ministry of Justice | Ministry of Commerce and Industry | |
| | Information Technology Privacy Act drafting | Ministry of Telecommunications | CPC | |
| **Further enable m-banking** | Develop a framework for non-banks to engage in m-banking | BOJ | CPC, Ministry of Finance, Ministry of Telecommunications OUR | BOJ internal teams |

# 7. APPENDIX: List of interviewed organizations

A number of field interviews were conducted in the context of this exercise. The following provides the list of participating organizations:

Bank of Jamaica

Church Credit Unions

Citibank

Claro

Cooperative Credit Union League

Digicel

First Caribbean Bank

Jamaica National Building Society

JETS

LIME

NCB

Office of the Prime Minister

Pay Masters

PIOJ

RBTT

Scotia Bank