DFS Risk and Fraud Management

INTERNATIONAL CONFERENCE ON RESPONSIBLE AND INCLUSIVE FINANCE

Shared commitment to scaling impact

March 21-22, 2018 Marriott Hotel Kigali-Rwanda
Session Objective

By the end of the session, participants will discuss the potential provider and consumer risks in digital finance and learn how to manage those risks having full awareness of the issues that stand in the way of effective risk management.

Session Outline

1. Definition of DFS
2. DFS Models for MFIs
3. DFS Risk Categories
4. Consumer Protection and DFS
5. Challenges to Effective Risk Management
6. Risk Management Frameworks in DFS
7. Q&A
Introduction
**MicroSave: Who we are**

- International FI consulting firm with 20+ years of experience
- 11 offices around the world
- Projects in ~50 developing countries

**Our impact so far**

- 300+ Clients
- >75 DFS projects
- Developed 250+ FI products and channels now used by 50 million+ people
- Trained 6,500+ leading FI specialists globally

**MicroSave** is globally recognized as the local expert in financial inclusion

**Key partners and clients**

- Bill & Melinda Gates Foundation
- MetLife Foundation
- IFC
- Omidyar Network
- 50 CDF
- Grameen Foundation
- UK Aid
- Opportunity International
- FirstBank
- Equity Bank
- Vodafone
- MTN
- Safaricom
- m-pesa
- Ncell
- Family Bank
- Airtel
- Ecobank
- BRAC
- Center for Global Development
- BURO Bangladesh
Joyce C. Murithi is a Senior Manager in the Inclusive Finance and Banking domain with insightful understanding of financial sector in various markets in Africa.

She has extensive experience in financial product development, corporate and product marketing strategies formulation, transformation of MFIs and credit operations.

Joyce has also conducted numerous market researches in Kenya, Uganda, DRC, Pakistan, Ghana, Tanzania, Nigeria and Malawi for financial institutions, mobile money operators and non-financial providers including NGOs. Her other areas of interest are in digital financial services, social performance management (SPM), capacity building and youth inclusive financial services.
Introduction to DFS
What is Digital Finance?

Access to and use of formal financial products and services by the end consumer through digital channels, leveraging technology enabled/oriented processes.
DFS Enablers; For Consumer Uptake and Usage

1. **User centric Design**
   DFS products need to meet the needs of the end user for it to make sense.

2. **Policy and regulation**
   Enabling regulation for DFS helps the market to flourish in a healthy way.

3. **Marketing and distribution**
   Marketing and distribution help raise awareness and increase understanding of the customers on the use and benefits of DFS.

4. **Technology**
   Technology is an enabler to digital financial services as it allows the users to connect and integrate their lifestyles to financial service.
DFS Current Status Globally

118 MILLION accounts were active (30-day) during December 2016

MOBILE MONEY is available in TWO-THIRDS of low- and middle-income countries

REGISTERED ACCOUNTS SURPASSED HALF BILLION IN 2016

Mobile money providers are processing an average 30,000 transactions per minute, or more than 43 MILLION PER DAY

IN DECEMBER 2016, THE INDUSTRY PROCESSED MORE THAN US$ 22 BILLION IN TRANSACTIONS

MORE THAN 40% of the adult population in Kenya, Tanzania, Zimbabwe, Ghana, Uganda, Gabon, Paraguay and Namibia are using mobile money on an active basis (90-day). This is an increase from just two countries in 2015 (Kenya & Tanzania).

MOBILE MONEY IS STRENGTHENING THE BANKING INDUSTRY
Between September 2015 and June 2016, the volume of flows to and from bank accounts grew more than +120%
Implications of DFS to Financial Service Providers

- There is an emergence of **new** customer segments previously unreached – an ‘invisible’ set of customers is now ‘visible’

- **New players** in the financial services sector (Mobile Network Operators, Fintechs) have emerged that are both competitors and potential partners. These competitors are agile and largely unregulated and are dis-intermediating the traditional incumbents

- **New distribution** models have been created

- There are now new opportunities for MFP’s **internal operations** - use of data to guide decisions, improve processes

- Has also exposed MFPs to new **risks** that require new mitigation approaches such as operational risk, cyber risk (hacking), and fraud risk

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Omidyar Network, 2015; Microfinance Barometer 2015; Implications for MFIs going digital, Next Billion, 2015.
Impact of Digital Financial Services for FSPs and Clients

**Value to the Customer**

- Enhanced products and services - opening accounts, mobile top-ups, bill payments, savings, credit, and receive pension insurance and remittances
- Expanded product suite
- Reduced Transactional cost - through strategic partnerships
- Simpler, faster access processes
- TRUST and RISK ISSUES

**Value to the MFP**

- Opportunity to innovate
- Increased loyalty
- Increased efficiency - disbursements, increased client convenience and security
- Increased outreach
- Reduced operational costs
- Reduced error rates

**Source:** Center for Financial Inclusion
Digital Transformation
Digital Transformation Models

- Product
- Channel
- Process
### Core Strategic Options for MFPs

<table>
<thead>
<tr>
<th>Processes</th>
<th>Use as a Service</th>
<th>Leverage Existing Opportunities</th>
<th>Build</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Outsource automation of processes</td>
<td>• Use service providers to automate processes</td>
<td>• Build/buy systems to automate processes</td>
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<tr>
<td></td>
<td>• E.g. Ujjivan and Artoo in India</td>
<td>• E.g. First Access and FINCA in Tanzania</td>
<td>• E.g. Equity Bank</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Channel</th>
<th>Use as a Service</th>
<th>Leverage Existing Opportunities</th>
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<tbody>
<tr>
<td></td>
<td>• Act as agents for existing deployments</td>
<td>• Ride on existing deployments</td>
<td>• Build own agency network</td>
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<tr>
<td></td>
<td>• Cashpor in India as agents of ICICI</td>
<td>• UGAFODE in Uganda</td>
<td>• CRDB Tanzania</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Product</th>
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<th>Build</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Offer existing products of other service providers</td>
<td>• Offer own traditional/digital products riding on existing deployments</td>
<td>• Develop and implement digital financial products</td>
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<tr>
<td></td>
<td>• E.g. Cashpor in India</td>
<td>• Tea Saccos in Rwanda with Tigo</td>
<td>• E.g. Equity Bank in Kenya</td>
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</table>
Benefitting from Digital Transformation – Case of M Shwari

Launched in November 2012 in Kenya

Mobile based micro savings and micro credit product offered by Commercial Bank of Africa through the Safaricom mobile network

Commercial Bank of Africa uses documents submitted to Safaricom for KYC to vet against the National ID system to fulfill KYC requirements – takes 30 seconds

Unsecured loans for a short term (1 month) at 7.5% facilitation fee

M-Shwari in Numbers

Growth in Accounts

Day 1 1 M 12+M Day 41

40K Month 36

User Base

1 in 5 Kenyan adults are active M-Shwari customers

Savings (till Dec-2015)

Total Savings USD 76M

Lock-in Savings USD 14M

Users with Lock-in Savings 193,313

Average Lock-in Period 3.8 Months

Loans (till Dec-2015)

Loans USD 646M

Average Tenure 26 days

This represents a sample of the opportunities available for financial institutions when they leverage DFS and attract mutually beneficial partnerships

Source: CGAP Digital Credit Blog, Safaricom How M-Shwari Works?

The Helix Institute of Digital Finance – www.helix-institute.com
Growth in Digital Lending in Kenya

Source: CBK
Call Out:

Think about:

❖ The emerging digital financial services (DFS) in your market?
❖ Who are they?
❖ What are the use cases of DFS
DFS Risk Categories
Introduction to DFS Risks

Risk is “the effect of uncertainty on objectives”*

▪ Organizations now engage in business activities outside of their core business, such as or banks and MFIs partnering with MNOs to offer traditional banking products through new channels

▪ While providers have extended their existing risk frameworks to include alternative channels there is still a nascent understanding of the risks that DFS bring

▪ Providers now face new threats, exhibit vulnerabilities, face uncertainties that expose them to issues

*ISO Guide 73 from ISO 31000
Categorisation of Risks

Service provider

Business environment

Client
Call out:

On the next slide...

Think about;
1. What do you see?
2. What you don’t see in the picture?

Share with the forum
What do you see?
DFS Risk Categories

- Strategic Risk
- Regulatory Risk
- Operational Risk
- Agent Management Risk
- Technology Risk
- Political Risk
- Partnership Risk
- Reputational Risk
- Fraud Risk
- Financial Risk

Source: DFS and Risk Management Handbook, IFC
Key Strategic Risks

- Launching poorly designed service
- Provider does not fully understand its target market for DFS
- Provider does not fully invest in resources required to meet targets
- De-prioritisation of DFS products or channels
- Unrealistic business case
- Competitive threat from partner
- Lack of interoperability prevents customers from transacting with desired third party
- Competition

Strategic risk is broadly defined as the actual losses that result from the pursuit of an unsuccessful business plan or the potential losses resulting from missed opportunities.
Key Regulatory Risks

Regulatory Risk

- Potential customers do not have ID or other KYC requirements
- Transaction taxes
- Agent does not fully comply with KYC requirements
- Changes in regulations
- Lack of compliance

Regulatory risk refers to the risks associated with complying (or not complying) with regulatory guidelines and rules.

Source: DFS and Risk Management Handbook, IFC
MTN Nigeria Case
- MTN relied on roadside vendors for registration
  - 1.5 million subscribers were unregistered
- Fine imposed for failing to disconnect customers with unregistered SIM cards. Paid $1.7b
- The CEO resigned with issue threatening to shut down operations
- 20% of MTN market value was wiped out
Key Operational Risks

- Financial risks: Reconciliation and account variances, fraud
- Customer is unable to resolve transaction with provider, -
- Lack of operational manuals and business processes
- Lack of operational audits
- Lack of internal controls, internal reporting and data monitoring
- Data input errors

Refers to risks associated with products, business practices, damage to physical assets, as well as the execution, delivery and process management of the service
Key Financial Risks

Financial Risk

- Provider loses customer funds due to failure of trustee bank
- Asset – Liability Matching
- Credit risk of customers
- Credit risk of agents and merchants
- Foreign Exchange Risk
- Settlement Risk

Source: DFS and Risk Management Handbook, IFC
Key Technology Risks

Technology Risk refers to technology failure that leads to the inability to transact

- Breach of customer or agent account
- Transaction failure
- Malware
- Transaction replay by the network
- Hosting environment failure
- Loss of data
- Hardware failure

Source: DFS and Risk Management Handbook, IFC
‘Suspected accused of hacking and stealing from State agencies such as the Kenya Revenue Authority (KRA), the National Transport and Safety Authority (NTSA), the Independent Electoral and Boundaries Commission (IEBC) and Saccos.

He breached Safaricom’s impregnable system and made away with electronic airtime worth Sh20,000.

Earlier in January he and an accomplice had infiltrated NIC Bank’s system, demanding to be paid Sh6.2 million in bitcoins. They were also charged with stealing Sh2.88 million from NIC Bank.
DFS Consumer Risks
Consumer Protection Risks in DFS 1/2

1. Appropriate product design and delivery
   *Standard features - Agric balloon payments*
   *Penalising non-payment rather than rewarding good repayers*

2. Prevention of over indebtedness
   *Multiple registrations*
   *Funding past-times (betting, lifestyle)*

3. Transparency
   *Limited financial literacy - Listing on CRB*

4. Responsible Pricing
   *Hidden fees*
   *Agents overcharging*
5. Fair and respectful treatment of clients
Agent support/education; poor quality service at agent

6. Privacy of client data
Sharing data with third parties without consent
Partners with FI accessing/using data without FI consent

7. Mechanism of complaint resolution
Agents unable to address disputes
No channel for redress
Challenges to Effective Risk and Fraud Management
Call out:

Do you know of any case where there has been impediments to Risk Management? Can you share the case? What do you think this impediment was?
What does this Mean?

DFS has created opportunities for providers to unlock new markets and segments.

Risk management is heavily contingent on how we identify, perceive and assess risks.

Risk management process is susceptible to several biases.

- **Easy to change**
- **Less easy to change**
- **Hard to change**

**Knowledge**

**Skills**

**Behaviour**
Risk Management Framework in DFS
Call out:

What risk management frameworks are you familiar with?
Internal Risk Mgt. Control Framework

Training
Standards & Controls
Risk Identification
Monitor
Respond
Enforce
## Risk Heat Map

Each risk is considered separately and also collectively.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Probability</th>
<th>1 Rare</th>
<th>2 Unlikely</th>
<th>3 Moderate</th>
<th>4 Likely</th>
<th>5 Almost Certain</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Severe</td>
<td>Transfer</td>
<td>Avoid/Transfer, Reduce</td>
<td>Avoid/Transfer, Reduce</td>
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<td>Avoid/Transfer, Reduce</td>
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</tr>
<tr>
<td>4 Major</td>
<td>Transfer risk</td>
<td>Reduce</td>
<td>Transfer/Reduce</td>
<td>Avoid/Transfer, Reduce</td>
<td>Avoid/Transfer, Reduce</td>
<td></td>
</tr>
<tr>
<td>3 Moderate</td>
<td>Accept</td>
<td>Reduce</td>
<td>Reduce</td>
<td>Transfer/Reduce</td>
<td>Avoid/Transfer, Reduce</td>
<td></td>
</tr>
<tr>
<td>2 Minor</td>
<td>Accept</td>
<td>Accept</td>
<td>Reduce</td>
<td>Reduce</td>
<td>Transfer, Reduce</td>
<td></td>
</tr>
<tr>
<td>1 Insignificant</td>
<td>Accept</td>
<td>Accept</td>
<td>Accept</td>
<td>Reduce</td>
<td>Reduce/Accept</td>
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</table>
Example 1: Scenario Analysis: Why is it Hard to Predict the Future?

- Deficient Cognitive Mechanisms
- Framing susceptibility
- Overconfident in assessing probabilities

Revenue

The basic product on top of which other products ride on

Another public-interest functionality launched that helps measure product agility

Public Interest Pay-Bill Functionality
- Lipa na M-PESA

Lifestyle products focused on specific segments
- M-Shwari
- M-Kopa

The challenge here is being able to communicate many new products

Anchor product

Multiple value added services
Safaricom hits Banks with New M-Pesa Fees (Exploit Risk Areas)

Safaricom charges about Ksh 30 for p2P

Push and pull Tx at KSh 10 per transfer through API

Customers could transfer from Bank Account to Other customers Wallet at Ksh 10

Circumventing the P2P charge of Ksh 30 to Ksh 10

Safaricom revised this rule to charge customers higher

This was done immediately Equitel was launched in the market

Do you have any example of a provider using exploit strategy to manage medium to long term risk?
Finally.....Successful Risk Management DFS Results In

**Better Customer/Partner Experience**

✓ The institution should assess new partners appropriately.

✓ The institution is a trusted partner itself & doing business with YOU is a good experience.

**Better Employee Experience**

✓ Decision-tree process makes risk assessment clear, consistent and simple.

✓ Roles and responsibilities are clear.

✓ New tools and support make life easier.

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Good risk governance - reducing risk by promoting accountability, integrity and transparency of top management.
Q&A
Thank You

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