IFC MOBILE MONEY SCOPING
COUNTRY REPORT: TURKEY

By Andrew Lake and Minakshi Ramji
OVERALL READINESS RANKING

The Turkish financial sector is highly advanced. However, stakeholders appear less driven to promote access to financial services other than payment services.

CURRENT MOBILE MONEY SOLUTION

Currently all major banks and 2 of 3 biggest telecom providers offer mobile money solutions.

POPULATION

80.17 million (2014)

MOBILE PENETRATION

92.96% (high) (2013)

BANKED POPULATION

57% through banks (2014)

PERCENT UNDER POVERTY LINE

16.9% (2010)

ECONOMICALLY ACTIVE POPULATION

Workforce: 27.56 million (2014)

ADULT LITERACY

95%, age 15yrs+ can read and write (2014)

MOBILE NETWORK OPERATORS

Turkcell, Vodafone, Avea

MAIN BANKS

Türkiye İş Bankası, Ziraat Bankası, Garanti Bank, Akbank, Yapı ve Kredi Bankası

REGULATION

Recent regulation on payments which clarifies which institutions may offer digital payments and which may issue e-money. Only banks may offer financial services such as deposits and loans. However, banks may not operate via agents other than the postal system.

Mobile Money Readiness

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation</td>
<td>3</td>
</tr>
<tr>
<td>Financial Sector</td>
<td>4</td>
</tr>
<tr>
<td>Telecom Sector</td>
<td>3</td>
</tr>
<tr>
<td>Distribution Channel</td>
<td>2</td>
</tr>
<tr>
<td>Market Demand</td>
<td>3</td>
</tr>
</tbody>
</table>

Sources: CIA World Fact book, ITU World Telecommunications statistics, World Bank Financial Inclusion Database
OVERALL MOBILE MONEY IMPLEMENTATIONS

- Over three fourths of all transactions in banks currently happen over alternate delivery channels (ADCs) which includes ATMs, call center, internet, and mobile banking. Thus, banks view ADCs as being integral to their value proposition to clients. All leading banks offer mobile and internet banking services to clients.
- Till recently, 2 (Turkcell, Vodafone) of the three major MNOs offer mobile money solutions. Levels of activity on these mobile solutions have been low. In 2015, Turkcell has temporarily discontinued its mobile money solution, given the low take up.
- Mobile banking is typically encouraged via applications available on android and iOs platforms.

PROPOSED OR RUMORED IMPLEMENTATIONS OF NOTE

- Avea – Only one of the three major mobile network operators that does not have a mobile money solution. Beginning to develop their strategy for mobile financial services.
- Fiba Banka – Fiba Banka is interested in expanding through mobile financial services through partnerships with mobile network operations.

OTHER ITEMS OF INTEREST

- The retail payment switch BKM also offers a mobile payment solution. This solution is offered in partnership with a network of banks. Thus, clients of these partner banks may use the BKM payment solution for added security.
OTHER CONSIDERATIONS

- Digital financial services initiatives by banks target mainly the banked and affluent population which has access to smart phones. Most Tier 1 and Tier 2 banks are looking for expansion by adding students and young professionals as customers, rather than by reaching out to remote/rural areas.

- On the other hand, Tier III banks, whose rural presence is poor, are in search of attractive partnerships which will help them expand outreach.

- Regulation appears to be enabling as the new law defines non-bank payment providers (such as MNOs, post office and others). In this regulation, agents may provide cash in and cash out services for end clients.

- From a regulatory perspective, banks cannot use agents for financial transactions meaning the opportunity to use agent based banking for financially excluded is limited.
Macro-economic Overview

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Telecom Sector
Other Sectors
Mobile Financial Services Landscape
## Key Country Statistics

- Age distribution: 26% (0 – 14 years) 67% (15 - 64 years) 7% (>65 years) (2014)
- GDP (PPP): $1.109 trillion (2012 est.)
- GDP per capita (PPP): $14,800 (2012 est.)
- Urban/rural split: 73% urban/ 27% (rural) (2014)
- Population below Poverty Line: 16.9% (2010)
- Literacy rate: 95% (2014)
- Banking penetration: 57% (2014)
- Personal remittances, (current US$, 2010-2014)
  - Received: $1,135,000,000
  - Paid: $330,000,000
- Workforce: 27.91 million (2014)
- Mobile phone penetration: 92.96% (2013)

## Insights

- Turkey is a mid-sized country, with a young population with high disposable income, which is very tech savvy.
- It has a sophisticated banking industry which serves 58% of the population (30 mil people, through 11,157 branches).
- Mobile usage is widespread in the country.
- Internet consumption in Turkey is high. As early as 2011, the average internet user was spending 29.4 hours weekly; the worldwide average is about 23.1 hours a week. Online commerce is also growing rapidly.
- Most Tier 1 and Tier II banks have already launched mobile payment products, MNOs have also shown interest.
- However, existing deployments target affluent customers, rather than targeting the unbanked/under-banked population.

**Sources:** CIA World Factbook, ITU World Telecommunications Statistics, World Bank Financial Inclusion Database
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The mission of the central bank is to maintain economic stability and preserve the soundness and integrity of the banking and financial systems.

Independent organization, under the Ministry of Transport and Communications
- MNOs are private and require approval of BTK prior to launching operations
- BTK creates and maintains competition in the sector; protecting the rights of the consumer
- BTK also monitors technical and economic efficiency for all telecommunications services

Duties include: regulation, supervision, strategic planning, & developing financial sector & enforcement of directives
- BRSA ensures reliability & stability in financial markets
- It is in charge of protecting rights and interests of depositors
- Turkey passed a law in June 2014 which provides greater clarity on non-bank payment service providers. This law will be regulated by BRSA
The new law defines two new types of institutions – electronic money institutions (EMIs) and payment institutions (PIs). Only EMIs may issue e-money while PIs may only facilitate payments.

The law describes e-money as that which is accepted as a payment instrument by natural and legal persons other than the electronic money issuer. However, funds thus acquired may not be termed deposits and the payment institution may not grant loans.

EMIs and PIs are seen to be mainly facilitating payment services rather than any other financial services.

At the same time, they are also allowed to store funds in electronic wallets.

At this stage, both EMIs and PIs may conduct the following payment transactions: operating a payment account, payment transactions including transfers of funds on a payment account of the payment service user and direct debits, issuing or acquiring of payment instruments, money remittance and services for mediating invoice payments.

Only two kinds of institutions may issue electronic money – EMIs and banks.
**Current Regulations**

- Banks cannot recruit third party agents. And third parties may not do AML/ KYC for banks.
- Some banks are using postal system (PTT) as an agent as this is specifically approved by the BRSA. PTT is primarily used for payment services such as credit card payments and credit payments.
- EMIs may recruit agents to conduct their business; however, the e-money issuer is ultimately responsible for the client and agent.

**Implications**

- Banks which are interested in diverting business from their branches are signing up clients at the doorstep, offering them services via alternative delivery channels. At the time of account opening, a bank staff must witness customer’s signature.
- Some banks are using postal system (PTT) as an agent as this is specifically approved by the BRSA. PTT is primarily used for payment services such as credit card payments and credit payments.

**Use of Third Party Agents**

- Each payment provider needs to establish a local, compliant IT infrastructure.

**Technology**

- For PSPs, this could be a strong disincentive since they would need to have local IT infrastructure. In the neighboring EU, for example, one license could cover the whole EU.
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### FINANCIAL SYSTEM OVERVIEW

57% of the Turkish market is banked by the formal sector – this represents considerable opportunity for growth. Specifically, women are disproportionately excluded compared to men.

#### BANKS
- Turkish banking sector is the second largest Central and Eastern European banking system with an asset size of USD 778 billion.
- It has 49 banks; 32 are deposit taking (including 3 state-owned), 13 are specialized investment and development banks and 4 are participation banks (interest free/Islamic banking).
- There are 11,157 branches in Turkey nationally, of which 3,489 belong to state owned deposit banks.

#### MICROFINANCE INSTITUTIONS
- MFI regulation in Turkey does not exist. Current endeavors are not scalable profitably as they follow the not for profit model and were created through special dispensation.
- Current organizations such as TGMP and Maya Foundation exist as a result of special permissions which are not replicable. Both are Not for Profit.
- Given the relatively high level of banked population in Turkey, there is no special regulation which covers financial institutions other than banks.
- Certain banks such as Seker Bank and Ziraat Bank (state owned) serve what would traditionally be considered the microfinance segment. In this study, they have been included under banks.

#### PAYMENT INFRASTRUCTURE
- As at the end of 2014 Turkey had 46,000 ATM machines nationwide
- There is a reported 2.4 million POS terminals as at the end of 2014.
- There are over 105 million debit cards and close to 57 million credit cards.

SWITCHING, CLEARING & SETTLEMENT

- The Turkish payment, clearing and settlement framework consists of various electronic systems that cover large-value payments, stock exchange payments, cheque clearing and credit card payments.

- The Turkish real-time gross settlement system (TIC-RTGS) settles inter-bank payments in Turkish liras. It is owned and operated by the Central Bank of Turkey.

- The Turkish electronic securities transfer and settlement systems (TIC-ESTS) provides issuance, principal and interest payment processing, custody and transfer and settlement services for Government bonds and Treasury bills.

- In the retail payment sector, there are two important national payment switches.
  - Bankalararası Kart Merkezi (BKM) is the inter-bank clearing and settlement of card transactions. BKM was set up by a group of banks.
  - Bankalarası Takas Odalari Merkezi (BTOM) or the Interbank Clearing House Centre manages check settlement in Turkey

- ISE Settlement and Custody Bank (Takasbank) settles and clears all trades for the Istanbul Stock Exchange (ISE) trades.

- Takasbank is also the central counterparty clearing house (CCP) for derivatives transactions for Turkish Derivatives Exchange (TurkDEX).

- For dematerialized capital market instruments trading on ISE markets, Central Registration Agency (CRA) is the central securities depository
FINANCIAL SYSTEM OVERVIEW – ADDITIONAL PLAYERS


- Turkey has two credit bureaus: Kredit Kayit Borusu (KKB) or Credit Bureau of Turkey and Credit Registry of the Central Bank.
- KKB was established in the mid-90s and distributes information regarding individuals and legal entities for credit-related purposes. It is owned by 9 banks. It also has 147 corporate members comprising 39 banks (of which 9 are shareholders), 13 consumer financing companies, 74 factoring companies, 17 leasing companies and 3 insurance companies.
- Since 2012, any person or legal entity may request a credit report on an individual provided consent is obtained beforehand.
- The Credit Registry of the Central Bank collects and disseminates information on both individuals and legal entities (such as firms). The information is collected from both bank and non-bank credit institutions.

BORSA ISTANBUL (BIST)

- BIST is the only exchange entity of Turkey, combing the earlier Istanbul Stock Exchange (ISE) and the Istanbul Gold Exchange (IGE).
- BIST is owned by: 49% Government of Turkey, 41% ISE, 5% Derivatives Exchange of Turkey, 4% IMKB members, 1% IMKB brokers and 0.3% IGE
- There are 320 companies trading on the ISE today.
## NON COLLATERAL BASED MICRO LENDING

<table>
<thead>
<tr>
<th>Turkish Grameen Microfinance Program (TGMP)</th>
<th>Maya Foundation</th>
<th>Kiva</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 61 034 Customers</td>
<td>• 150 Customers</td>
<td>• Not for profit wholesale lender</td>
</tr>
<tr>
<td>• 90 Branches</td>
<td>• 3 Branches</td>
<td>• Interested in working with MFIs on innovative products and services</td>
</tr>
<tr>
<td>• Loan portfolio: $19.1 mil</td>
<td>• Loan portfolio: $29,252</td>
<td></td>
</tr>
<tr>
<td>• Average loan size $250</td>
<td>• Average loan size $195</td>
<td></td>
</tr>
</tbody>
</table>

- Turkey does not have non-collateral based micro-lending sector. The examples above are small and not replicable, given that there is no regulatory structure that supports growth of MFIs.
- In terms of initiatives in digital financial services, TGMP has a partnership with Turkcell, the largest MNO whereby:
  - Donated 400 smart phones for loan officers free of charge. They use these phones to text client’s about instalments, collections, and disbursements.
  - In the future, there is a plan to use NFC-enabled mobile system to collect and disburse micro-credit; at the moment, it is all cash-based.
  - Clients receive ATM cards through a Turkcell-Garanti partnership.
  - Built a crowd funding platform to raise money
<table>
<thead>
<tr>
<th>Bank</th>
<th>Assets (bn)</th>
<th>Deposits (bn)</th>
<th>Branches</th>
<th>ATMs</th>
<th>POS Terminals</th>
<th>Credit Card (mn)</th>
<th>Total Customers</th>
<th>MFS App Customers</th>
<th>Internet Banking Customers</th>
<th>Transactions on ADC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garanti</td>
<td>$78.76</td>
<td>$53.36</td>
<td>994</td>
<td>4,152</td>
<td>541,000</td>
<td>9.4</td>
<td>&gt;13 mn</td>
<td>1.55 mn</td>
<td>3.26 mn</td>
<td>85%</td>
</tr>
<tr>
<td>TEB</td>
<td>$26.28</td>
<td>$16.17</td>
<td>544</td>
<td>1,677</td>
<td>120,000</td>
<td>n/a</td>
<td>5 mn</td>
<td>120K</td>
<td>500K</td>
<td>80%</td>
</tr>
<tr>
<td>Is</td>
<td>$53.42</td>
<td>$95.11</td>
<td>1,333</td>
<td>6,290</td>
<td>252,658</td>
<td>6.5</td>
<td>16 mn</td>
<td>727K</td>
<td>2.1 mn</td>
<td>80%</td>
</tr>
<tr>
<td>ABank</td>
<td>$31</td>
<td>$17</td>
<td>73</td>
<td>154</td>
<td>2,000</td>
<td>n/a</td>
<td>100,000</td>
<td>MFS in Development</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fiba</td>
<td>$2.67</td>
<td>$1.82</td>
<td>62</td>
<td>87</td>
<td>2,000</td>
<td>n/a</td>
<td>47,000</td>
<td>Interested, no immediate plans</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Source: 2014 Annual Reports and interviews with banks*
## BANKING SECTOR

<table>
<thead>
<tr>
<th>Bank</th>
<th>Assets:</th>
<th>Deposits:</th>
<th>Branches:</th>
<th>ATMs:</th>
<th>POS Terminals:</th>
<th>‘Producer’ Cards*:</th>
<th>Total Loan Customers:</th>
<th>Active MFS app:</th>
<th>Active internet banking:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seker Bank</td>
<td>$8.47 bn</td>
<td>$5.42 bn</td>
<td>312</td>
<td>563</td>
<td>n/a</td>
<td>20,516</td>
<td>300K</td>
<td>just started in 2014</td>
<td></td>
</tr>
<tr>
<td>Ak Bank</td>
<td>$87.48 bn</td>
<td>$48.92 bn</td>
<td>544</td>
<td>1,677</td>
<td>120,000</td>
<td>n/a</td>
<td>13 mn</td>
<td>1.2 mn customers</td>
<td>2.1 mn customers</td>
</tr>
<tr>
<td>Odea</td>
<td>$10.24 bn</td>
<td>$8.4 bn</td>
<td>48</td>
<td>58</td>
<td>n/a</td>
<td>250,000</td>
<td>400K</td>
<td>Recent, # not available</td>
<td>25K</td>
</tr>
<tr>
<td>Yapi ve Kredi</td>
<td>$78 bn</td>
<td>$43 bn</td>
<td>1,003</td>
<td>3,606</td>
<td>456,000</td>
<td>&gt;10 million</td>
<td>9.7 mn</td>
<td>530K customers</td>
<td>3.2 mn customers</td>
</tr>
</tbody>
</table>

* Producer cards: combination of debit and credit card issued to tradesmen and small enterprises

Source: 2014 Annual Reports and interviews with banks
RISE OF ‘DIRECT’ OR BRANCHLESS BANKING

- There is a strong move by most retail banks to move towards a “branchless” banking model whereby accounts are opened and serviced for customers outside the bank branch.
- This is for two reasons: firstly, banks find it more expensive to service customers in branches. Branches are also already congested. Secondly, banks find that customers do not wish to visit bank branches.
- New customers, particularly students and professionals, are comfortable with technology and are able to conduct banking transactions enabled by innovation. Most banks show that up to 80% of transactions happen on alternate delivery channels including mobile, internet, and ATM-enabled banking.
- mPara, ING Direct: all examples of bank products which are being delivered through this new “branchless service.” Eventually, customers will be able to apply for a loan via ATM, web, & m-banking.
- Notably, Odeabank a relatively new entrant to the Turkish banking sector is proposing a radical change to branch banking through its automatic branches which will make dramatic use of technology. They envision their branches as self-operated kiosks, with ATMs, and video interface to speak with customer service representatives.
- Some of the technology-enabled functions in Odea branches include:
  - Mobile application to find nearby branches and get a customer queue number
  - Smart billboards with ads for financial products outside their branches. These billboards have technology for recognizing the age and gender of the person standing in front of them and provide advertisements according to this information.
  - Voice and video calls with contact center representatives who provide financial advice 24/7
  - Touchscreen devices providing information, games, and other applications while clients wait
BANKS OFFER MOBILE BANKING AS PART OF THEIR SERVICES

- Banks offer mobile banking as part of their product offering. It is offered as an additional channel to access a bank’s products and services. However, the offering is meant for affluent customers since m-banking apps are targeted towards owners of smartphones, rather than feature phones.

- Smartphones are on the rise in Turkey – 30% of mobile phone subscribers have smartphones. It is expected that in 10 years, there will be 100% smartphone penetration.

- Current services on offer is skewed towards those with smart phones, not necessarily towards under-served segments.

- However, no bank has unlocked the potential for mobile financial services and banks are looking for solutions to dramatically drive customers towards mobile financial services.
BANKING SECTOR

Run by BKM, the inter-bank switch for debit and credit card payments
BKM Express allows you to pay online without revealing credit card information; facilitates e-commerce
The credit card is integrated with your BKM express account
There are approximately 15 banks participating in this & 500 merchants
Advantage: online security, no need to reveal credit information online
Has launched a mobile application as well with very limited acceptance at retail agents.
Significant proportion of e-business happens via BKM Express
Mobile app has an android and iOS platform

- BKM Express is a powerful payment instrument, given the network of participating banks
- E-commerce is growing fast in Turkey, showing upwards of 30% growth YoY.
- BKM Express is keen to focus on other specific instances and develop a value propositions for very specific segments: e.g.: customer who does not wish to get out of the car to pay for petrol, tie-ups with municipalities to channel payments for public transport, among others.
- Mobile banking still to take off for payments at retail outlets – helped by the fact that 30% of phones in Turkey are smart phones and the proportion is increasing
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MOBILE NETWORK OPERATORS

- The telecom sector has three major players – Turkcell, Vodafone, and Avea. Market shares have tended to stay the same over time.
- However, revenue share from data shows increase over time, demonstrating usage of phone for internet access in the Turkish market.
- Smart phone penetration is at 30% and market sources indicate that this is expected to grow to 100% in 10 years.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Owner Details</th>
<th>Market Share</th>
<th>Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkcell</td>
<td>Owner Supervisory Board, Privately Owned by Cukurova Holdings</td>
<td>47.6%</td>
<td>Garanti Bank, Ak Bank, TGMP</td>
</tr>
<tr>
<td>Vodafone</td>
<td>Owner Vodafone, Managed by Zain Telecommunications</td>
<td>29.3%</td>
<td>Tiaxa, PTT (postal system), ING Bank, Visa</td>
</tr>
<tr>
<td>Avea</td>
<td>Owner Türk Telekom, Türkiye İş Bankası</td>
<td>54.5%</td>
<td>None so far, but planned</td>
</tr>
</tbody>
</table>

Sources: Information and Communication Technologies Authority (ICTA), 2015 Q1
MOBILE NETWORK OPERATOR: MARKET DESCRIPTION

CURRENT SITUATION

- 69 million mobile subscribers corresponding to a 92.96% penetration rate of the total population.
- Mobile penetration rate exceeds 100% when the 0-9 age group population is excluded.
- 30% of mobile phones are Smart phones, the expectation is that smart phones will be an ever increasing proportion of the total number of mobile phones in circulation.
- Usage of data on mobile phones is on the rise
- Mobile telephony reaches all financially excluded groups in Turkey – including women and low income individuals

TRENDS/EXPECTATIONS

- Telecoms will allow banks to deepen their outreach into unbanked households.
- While banks have merchant network, the MNOs have the outreach to people.
- The new law standardizes all current e-money issuers in the market including MNOs.
- By the new rule, although MNOs can issue e-money, they still need to partner with a bank to provide anything other than payment services such as deposits, credit, etc.
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Mobile Financial Services Landscape
<table>
<thead>
<tr>
<th>MNO Agent structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MNO owned stores</strong></td>
</tr>
<tr>
<td>• Turkcell owned stores: 1,200</td>
</tr>
<tr>
<td>• Vodafone owned stores: 1,200</td>
</tr>
<tr>
<td>• Avea owned stores: unknown</td>
</tr>
<tr>
<td><strong>Sub-dealers</strong></td>
</tr>
<tr>
<td>• Turkcell sub-dealers: 3,000</td>
</tr>
<tr>
<td>• Vodafone sub-dealers: 15,000</td>
</tr>
<tr>
<td>• Avea sub-dealers: unknown</td>
</tr>
<tr>
<td><strong>Semi-exclusive dealers:</strong></td>
</tr>
<tr>
<td>• Turkcell sub-dealers: 10,000</td>
</tr>
<tr>
<td>• Vodafone sub-dealers: 6,000</td>
</tr>
<tr>
<td>• Avea sub-dealer: unknown</td>
</tr>
<tr>
<td><strong>Turkish Postal System</strong></td>
</tr>
<tr>
<td>• PTT offices: 4,400</td>
</tr>
</tbody>
</table>

If mobile operator facilitated agency banking were to be implemented, these stores could be the initial targets for such an implementation.

Sources: Information from Interviews with service providers
# PAYMENT SERVICE PROVIDERS

<table>
<thead>
<tr>
<th>Mikro Odeme</th>
<th>The leading direct carrier billing company of Turkey. They provide the platform for the following services: enabling MNO clients to pay via SMS, enabling pre-paid cards, and enabling credit card payment via SMS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iyzico</td>
<td>Provides a platform to let e-commerce sites and other apps easily accept online payments. Currently the leader in its sector. IFC is in the process of making an investment in Iyzico.</td>
</tr>
<tr>
<td>Cardtek</td>
<td>Provides solutions to meet chip and payment technologies mandated by EMV standards.</td>
</tr>
<tr>
<td>Fatura Matic</td>
<td>Bill payment service provider including utility bills, mobile recharge, internet, cable, and others.</td>
</tr>
</tbody>
</table>
## PAYMENT SERVICE PROVIDERS

<table>
<thead>
<tr>
<th>Provider</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PayU</td>
<td>An international payment service provider that is currently operating in 16 countries worldwide. PayU Turkey started in 2011; its goal is to become one of Turkey’s leading payment solutions providers for merchants in e-commerce.</td>
</tr>
<tr>
<td>iPara</td>
<td>Turkish payment services provider. iPara offers an e-wallet service for customers. Merchants who are part of the network can accept payments from their customers. iPara offers several features such as enhanced security, charge protection, and services whereby the buyer can authorize the transfer of funds to the sellers once they have received the goods they bought.</td>
</tr>
<tr>
<td>Paymentwall</td>
<td>US-based payment service provider who has offices in Turkey. Provides the following payments services: mobile carrier billing through SMS, online cash payment through pre-paid card, and a system through which merchants can accept payments through 100 local different payment options.</td>
</tr>
<tr>
<td>Skrill</td>
<td>A global payment service provider providing payment solutions such as money transfer, payment gateway solutions and online payment. Skrill’s product includes Skrill’s Digital Wallet service that lets customers pay online securely, transfer funds and send money to anyone with an email address to over 200 countries and 40 currencies.</td>
</tr>
</tbody>
</table>
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Mobile Financial Services Landscape
BANK MFS LANDSCAPE

- Banks offer mobile banking as an alternate way to access bank accounts. As agent banking is not yet an option from a regulatory perspective, transfers and payments continue to predominate.

### Internet Banking (2014 3rd Quarter)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of Txns (000)</th>
<th>Txn Ratio</th>
<th>Txn Volume (in millions)</th>
<th>Volume Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Transfers</td>
<td>63,281</td>
<td>46%</td>
<td>488,705</td>
<td>70%</td>
</tr>
<tr>
<td>Payments</td>
<td>48,748</td>
<td>35%</td>
<td>30,390</td>
<td>4%</td>
</tr>
<tr>
<td>Investment Txns</td>
<td>10,759</td>
<td>8%</td>
<td>135,308</td>
<td>19%</td>
</tr>
<tr>
<td>Credit Card Txns</td>
<td>11,711</td>
<td>9%</td>
<td>16,393</td>
<td>2%</td>
</tr>
<tr>
<td>Other Financial Txns</td>
<td>2890</td>
<td>2%</td>
<td>27,374</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>137,389</td>
<td>100%</td>
<td>698,170</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Mobile Banking (2014 3rd Quarter)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of Txns (000)</th>
<th>Txn Ratio</th>
<th>Txn Volume (in millions)</th>
<th>Volume Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Transfers</td>
<td>17,528</td>
<td>37%</td>
<td>42,851</td>
<td>79%</td>
</tr>
<tr>
<td>Payments</td>
<td>15,361</td>
<td>33%</td>
<td>1,933</td>
<td>4%</td>
</tr>
<tr>
<td>Investment Txns</td>
<td>6,051</td>
<td>13%</td>
<td>1,353</td>
<td>3%</td>
</tr>
<tr>
<td>Credit Card Transactions</td>
<td>6,565</td>
<td>14%</td>
<td>5,186</td>
<td>10%</td>
</tr>
<tr>
<td>Other Financial Txns</td>
<td>1,335</td>
<td>3%</td>
<td>2,671</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>46,841</td>
<td>100%</td>
<td>53,993</td>
<td>100%</td>
</tr>
</tbody>
</table>

MOBILE NETWORK OPERATOR: DFS PRODUCT MIX

- MNOs cannot offer any products other than payments and transfers. Thus, depends largely on their merchant acquisition strategy.

- Mobile wallet which provides a store of value and can be used to pay for goods and services
  - Although P2P transfers are technically possible, has not been introduced in the market yet.
  - Turkcell (This initiative has been temporarily discontinued)
  - Vodafone

- Mobile Credit Card Wallet: An application which stores all card – debit, credit, and pre-paid
  - Enables various payment transactions without the physical card
  - Turkcell, Vodafone

- Mobile SMS Charges
  - Payment via SMS
  - Charged to bill for post-paid and to balance for pre-paid
  - Turkcell, Vodafone, Avea

- Pre-paid card with user’s phone number
  - Turkcell, Vodafone, Avea

- Mobile Wallet
  - Turkcell, Vodafone

- Pre-paid Card
  - Turkcell, Vodafone, Avea