Digital Transformation & Financial Inclusion

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Digital Transformation

**Digital transformation** is a holistic approach to change business and organizational activities, processes, competencies and models to manage and leverage the mix of digital technologies and its impact on customer, operation and the organization.

The four pillars of digital transformation

**Digital transformation** is the process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements.
**Today’s Generations are more into digitalization**

|--------|----------------------------------------------------------|-------------------------------------|---------------------------|---------------------------------|
| **Context** | Postwar  
   Dictatorship and repression in Brazil | Political transition  
   Capitalism and meritocracy dominate | Globalization  
   Economic stability  
   Emergence of internet | Mobility and multiple realities  
   Social networks  
   Digital natives |
| **Behavior** | Idealism  
   Revolutionary  
   Collectivist | Materialistic  
   Competitive  
   Individualistic | Globalist  
   Questioning  
   Oriented to self | Undefined ID  
   “Communaholic”  
   “Dialoguer”  
   Realistic |
| **Consumption** | Ideology  
   Vinyl and movies | Status  
   Brands and cars  
   Luxury articles | Experience  
   Festivals and travel  
   Flagships | Uniqueness  
   Unlimited  
   Ethical |

McKinsey & Company
Digital Transformation

“Transform or Die”

The DIGITAL DISRUPTION
Kodak missed the boat on digital... Going bankrupt

Digital technology changed photography dramatically, and Kodak, a former heavyweight in the analog film business, got left behind.
The speed of adoption of new innovations has increased exponentially over the years

75 years to reach 50 Million users
Facebook reaching the mark in 2 years
Instagram reaching the mark in just 19 months
Pokémon Go reaching in just 19 days
The digital age has changed the world as we know it and expectations of how everything is conducted have risen.
Affordable computing power will reach human brain capabilities by 2035

Computing Power

<table>
<thead>
<tr>
<th>Year</th>
<th>Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>DEC PDP-1</td>
</tr>
<tr>
<td>1960</td>
<td>IBM 360</td>
</tr>
<tr>
<td>1970</td>
<td>SUN 1</td>
</tr>
<tr>
<td>1980</td>
<td>PENTIUM PC</td>
</tr>
<tr>
<td>2000</td>
<td>NVIDIA TITAN</td>
</tr>
<tr>
<td>2010</td>
<td>IBM BLUE GENE</td>
</tr>
<tr>
<td>2020</td>
<td>TODAY</td>
</tr>
</tbody>
</table>

- All Human Brains
- One Human Brain
- Mouse Brain

Time

Digital Transformation & Financial Inclusion
Digital transformation key trends in 2019

1. Smarter business systems with AI
   Information Age predicts that by 2019, 30% of enterprises will start generating data-as-a-service revenue on account of AI, and 75% of commercial enterprise apps will have AI built-in by 2021. Advanced AI assistants, AI-backed talent acquisition tools, virtual agents, conversational chatbots and AI-powered search etc. may boost business success in 2019.

2. Blockchain hype may disappear
   2019 is the year to unlock potential of blockchain which goes way beyond cryptocurrencies and incorporates solutions to the dilemma being faced by the industry i.e. imbalance about scalability, decentralization and security. We will witness Blockchain partaking in core business operations; enabling transactional transparency and security.

3. Multi-cloud becomes the norm
   RightScale’s 2019 State of the Cloud Survey found that 84% of the global enterprises have already adopted a multicloud strategy. Embracing an all-inclusive cloud strategy is the future but data protection appears to be quite challenging in a multicloud environment. Businesses need an approach to privatize data and control how and for whom its data creates value and risk.

4. Edge computing on the rise
   Edge computing is referred to as a key to meeting digital transformation demands. The value of edge computing market is estimated to reach $3.26 billion (USD) by 2025. Through 2028, Gartner expects a steady increase in the embedding of sensor, storage, compute and advanced AI capabilities in edge devices.

5. The dawn of 5G
   Deloitte’s TMT Predictions 2019 report claims that almost one million 5G-phones will be shipped this year, out of expected 1.5 billion global smartphone sales. For businesses, the availability of 5G means less latency for communications, faster download speeds and even greater possibilities across borders.
Digital Maturity - Globally

Worldwide spending on the technologies and services that enable the digital transformation is forecasted to be more than $2.2 trillion in 2019, almost 60% higher than it was in 2016 - Source IDC – this level of significant investment need significant Strategic, Digital, and Leadership capacity for transformation.

The top five countries in digital transformation according to IMD World Competitiveness Center rating: USA, Singapore, Sweden, Denmark, and Switzerland.

The economic value of DX to almost $19 trillion, or more than 20% of global GDP - Source IDC.
9. Industry, Innovation and Infrastructure
TARGET 9.3

INCREASE ACCESS TO FINANCIAL SERVICES AND MARKETS

Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
DIGITAL Transformation & FINANCIAL Inclusion
Egypt - Demography

49%  99 Million Citizens  51%

Source: https://www.capmas.gov.eg/
Egypt - Demography

Population: 99 million citizen

Median age
- Male: 23.6 years
- Female: 24.2 years

Growth Rate: 2.45%

Age structure
- 8%: 60 --> 100+
- 9%: 90+
- 50%: 20 --> 59
- 29%: 5 --> 19
- 12%: 0 --> 4

Source: https://www.populationpyramid.net/egypt/2019/
### Highly connected & Young population

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Internet Users</td>
<td>36.5 Million</td>
</tr>
<tr>
<td>Egypt Mobile Payments Ecosystem Agents</td>
<td>341,413</td>
</tr>
<tr>
<td>Smart Phone penetration rate</td>
<td>50%</td>
</tr>
<tr>
<td>Mobile penetration rate</td>
<td>95%</td>
</tr>
<tr>
<td>Internet users, 48% pen. rate</td>
<td>41 Million</td>
</tr>
<tr>
<td>Of the population between 15-39 years old</td>
<td>41.3%</td>
</tr>
</tbody>
</table>
Egypt - Demography

Emerging Population
- 41% of the population bet 15-39 years old
- MI users 46M
- Internet Users 49.23M
- Mobile penetration 112%
- Smart Phone penetration 50%

Emerging Economy
- Electronic Payments doesn’t exceed 3%
- Every 10% increase in Electronic payments leads to:
  - USD 1.4 Billion increase in Egyptian GDP (200K employment opportunity)

Emerging Fintech
- Mobile Payment
  - Started in June 2013
  - Bank led Model
  - Interoperable through National Switch
  - 11 Licenses issued to operate in Egypt
  - MNOs as an agents

Emerging Ecosystems
- Non traditional players entering financial territory:
  - Agents Mobile Banking
  - Mobile Operators
  - Incubators, accelerators and start-ups

Source: https://www.capmas.gov.eg/
Digital Transformation & Financial Inclusion
• **Egyptian organizations at large are lagging** behind in digital transformation

• **Some organizations are ignoring the risk of digital disruption**, and others, **lack the capacity for transformation**

• This expose organizations (Banks, Telecom, Retail, Education, etc.) , and consequently the economy at large to a **great risk of becoming obsolete in as little as 3 to 5 years**.

• **Egypt Vision 2030** targets digital transformation as a **strategic objective to achieve development goals and enhance Egypt's position in the global economy**, where digital economy is considered one of the most important components.
Objectives of Digital Transformation in Egypt

- **Efficiency & Improvement** in the level of service, Speed of access, Simplification of procedures, and indirect cost reduction
- Enhance achievement of Sustainable Development Goals
- Achieve Governance Objectives, especially combating corruption and promoting transparency, integrity and accountability
- Develop Consumer-Centered business model
- Supporting Financial Inclusion targets through optimizing distribution and diversifying the channels.
- Utilizing Technological and digital innovation
- Stimulate relevant electronic industries
- Improve Egypt state Locally and internationally
- Increase country resources
Digital Transformation: Challenges

- Awareness
- Knowledge, Talents, and Data gaps
- Know-how & Execution capacity
- Willingness
Digital Transformation & Financial Inclusion Governance

Supreme Council for Digital Transformation
- Headed by Prime minister.
- Aiming at creating an enabling infrastructure for all forms of digital transformation.

Government & Central Bank Of Egypt

National Payment Council
- Headed by H.E Mr. President.
- Develop a secure, efficient, and effective national payment systems.
- Progress towards financial inclusion.
- Protect the rights of the payment systems and consumers of payment services.
- Achieve a competitive payment services market.
Less-Cash Transformation Framework

National Payment Council

E-Commerce

E-Gov

Agent Banking
Subsidies Disbursement
Consumer Protection
Financial Literacy
Digital ID & E-KYC

Cyber Security

Acceptance Infrastructure

National Payment Scheme
Mobile Money

Legal & Regulatory

Financial Market Infrastructure
General Indicators of Digital Financial Services in the Egyptian Banking Sector

- **2,084,385**: Number of mobile phones for digital banking
- **13,000,000**: Number of internet users
- **34,000,000**: Number of bank accounts
- **13,000**: Number of ATMs
- **92,779**: Number of POS terminals
- **37**: Number of banks
- **6**: Number of Fintech companies
- **32**: Number of internet banking services
- **28**: Number of mobile banking services

Digital Transformation & Financial Inclusion
Legal & Regulatory Pillars

- Amendments on the Banking Sector Law No. 88 of 2003
- Less Cash Transformation Law
- Anti-Cyber and Information Technology Crimes Law
- Personal data Protection Law to protect fully or partially electronically treated personal data.
- Mobile Payment & QR Regulations
Legal & Regulatory Pillars

- Amendments on the Banking Sector Law No. 88 of 2003
- Less Cash Transformation Law

The **Less Cash Initiative**, aims to reduce the use of banknotes and support digital financial services.
Legal & Regulatory Pillars

- Amendments on the Banking Sector Law No. 88 of 2003
- Less Cash Transformation Law

Benefits on Individuals
- Convenience
- Safety
- Expenditure Tracking & Control

Benefits on Economy
- 10% increase in E-payment equals EGP 1.5 Billion in GDP and 200,000 job opportunities
- Help curb inflation rates

Decrease cost of printing and circulating banknotes
Legal & Regulatory Pillars

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Financial inclusion: National Payment Scheme & Digital Acceptance

National Payment Card

Egypt’s National Payment Scheme is expected to accelerate the financial inclusion by reaching the untapped segments in the society.

Mobile Merchant Payments (QR Code)

CBE has issued electronic acceptance criteria for payments through QR Code - unified standards—which will apply to all banks licensed to accept payments electronically in Egypt.
Cyber Security

CSIRC

Central Bank is building a Financial Computing Security Incident Response Center (CSIRC) aiming at preventing cyber-attacks.

Capacity Building

Providing, 2 years developing program to 100 Employees.
Financial Technology “FinTech”

A key pillar of Less Cash Initiative – the innovative use of technology in financial services

Central Bank of Egypt will establish a 1Bn EGP FinTech fund & is establishing Egypt Fintech Hub

- Dedicated to fuel ecosystem growth
- Encourage Fintech start-ups
- Invest in Youth talents
- Fund the necessary infrastructure

collaboration across the ecosystem, especially between regulators and governments is a key success factor
Egypt’s Fintech and innovation strategy brings both the national 2030 vision and the Central bank’s vision to life, through focusing on economic development and innovation.
Egypt Fintech & Innovation: FinTech Sandbox

Implementation of Fintech in Egypt will help pave the way into a digital future and a prosperous economy.

1 EGP invested in Fintech generates 2 EGP to GDP and each job created in Fintech support 6 other jobs.

Facilitating new employment opportunities.

Preparing youth for the jobs of the future.

Helping them develop an entrepreneurial mindset.

Focus on addressing needs of underserved segments and solving national challenges.

Regulatory Sandbox, which is a controlled testing environment that balances innovation and risk.
E-KYC and digital Identity are the top priorities of CBE, we are currently examining e-KYC and Digital ID rules. These rules are a major challenge that faces the expansion of FinTech services.

We established CBE Task-force to study the ability of utilizing blockchain technology in applying shared e-KYC.
Thank You