Digital eKYC, Digital Onboarding, Digital signatures

In Arab Countries

AMF Regional Fintech Working Group

Technical workgroup stream deliverable

مجلس محافظي المصارف المركزية ومؤسسات النقد العربية
COUNCIL OF ARAB CENTRAL BANKS AND
MONETARY AUTHORITIES GOVERNORS

صندوق النقد العربي
ARAB MONETARY FUND

AGENDA

- Digital identification

- Customer digital onboarding

- Digital signatures

- Challenges
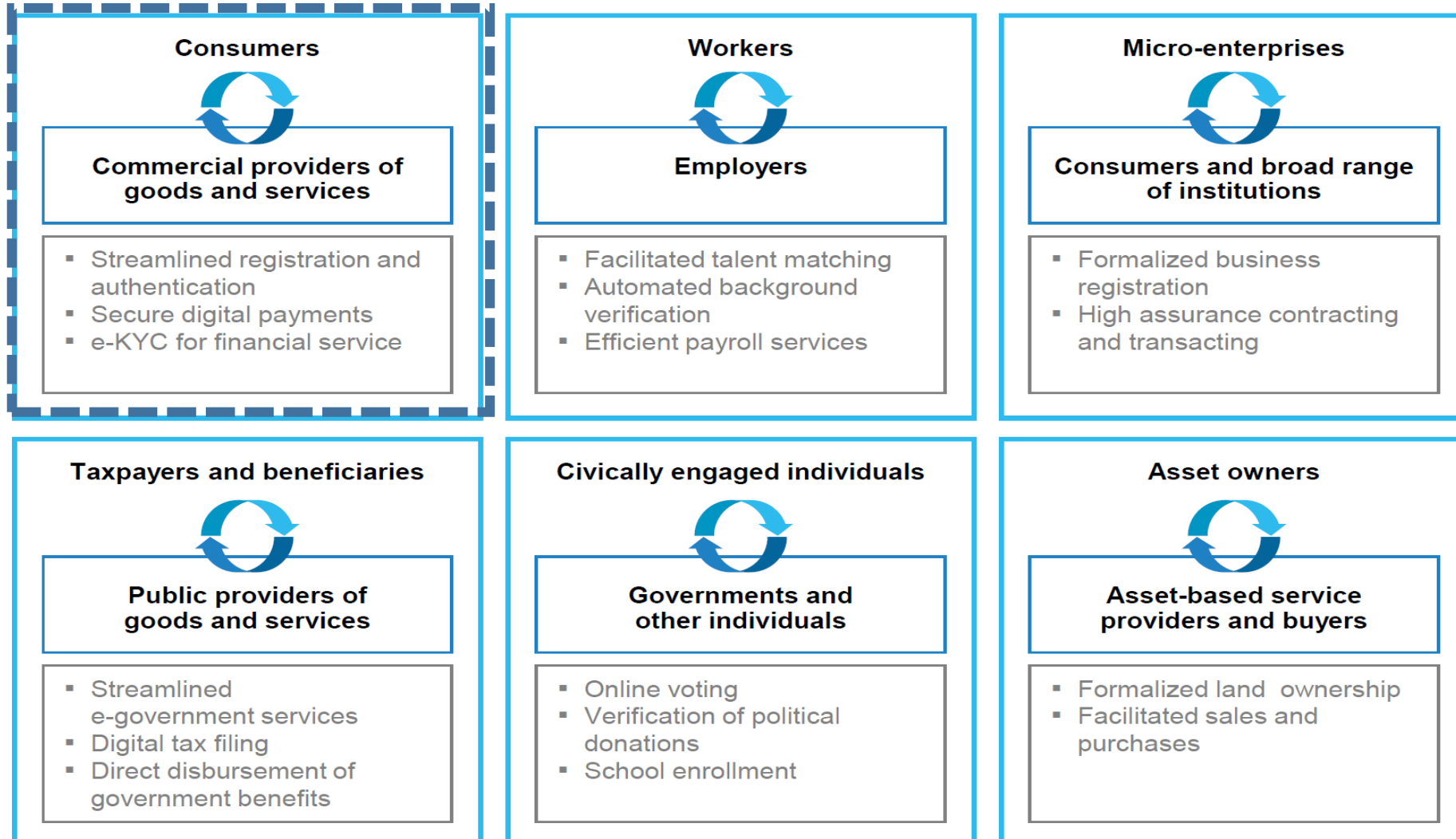
- Arab Country survey insights

Need for a Digital ID as a form of Legal Identification

Across the globe, an estimated one billion people lack a legal form of identification

Global population ID coverage

Of the
7.6 billion
people on earth:

3.2 billion
have some form of ID and a digital trail

1 billion
lack a legal form of ID[1]

3.4 billion
have some form of ID but no digital trail[2]

[1] Legal ID coverage figures are based upon World Bank ID4D reporting of the latest registration levels for national ID, with voter registration used as a proxy where national ID does not exist or data are not available.
[2] Calculated as population with active social-media use, as reported in the *Global Digital Report 2018* from We Are Social. These social-media users are presumed to be within the population that has some form of legally recognized ID.

Source : McKinsey

Digital ID – Use case spectrum

Individuals use digital ID across 6 roles to interact with institutions and create shared value.
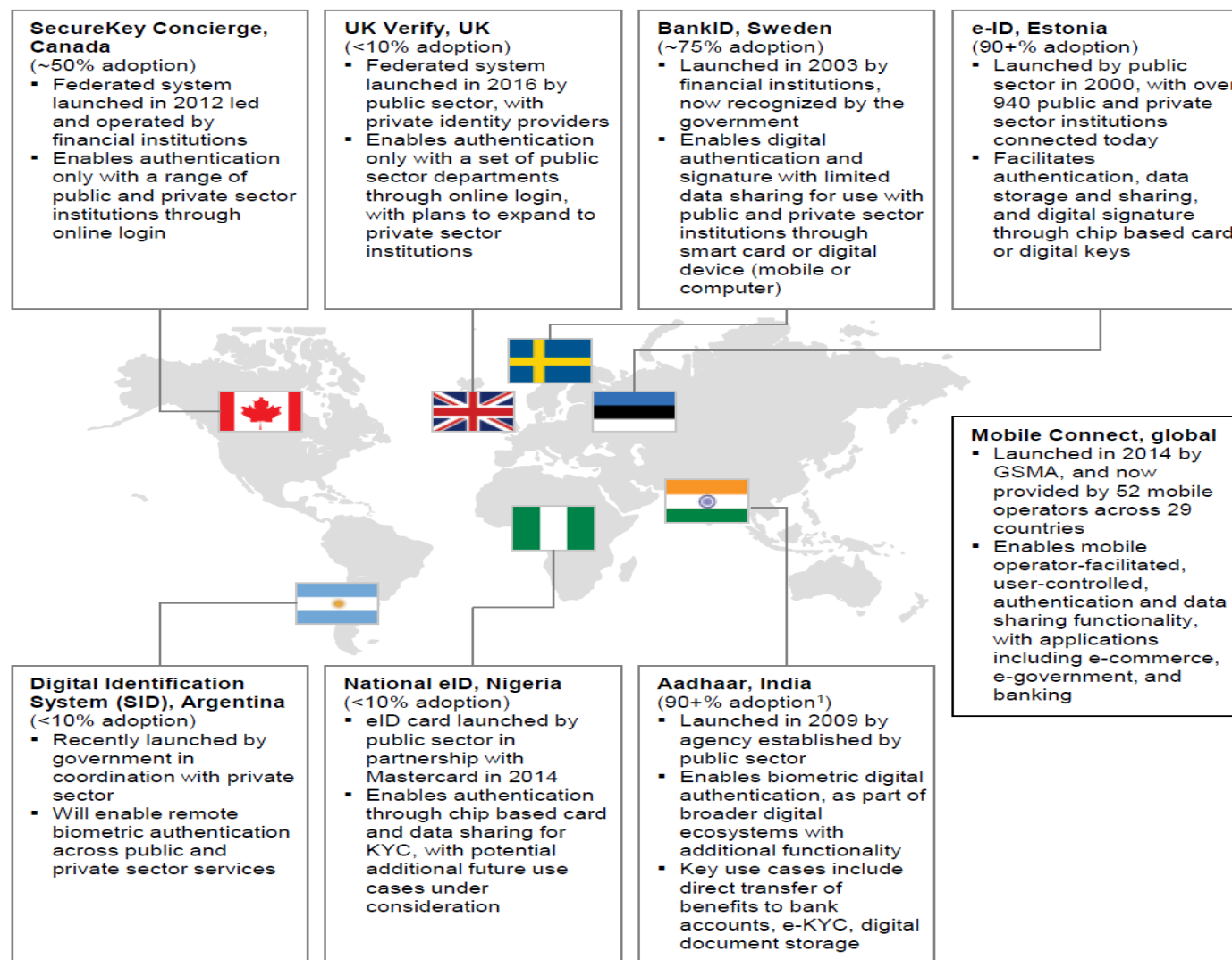
Focus Area →>

Consumers

Commercial providers of goods and services

- Streamlined registration and authentication
- Secure digital payments
- e-KYC for financial service

Workers

Employers

- Facilitated talent matching
- Automated background verification
- Efficient payroll services

Micro-enterprises

Consumers and broad range of institutions

- Formalized business registration
- High assurance contracting and transacting

Taxpayers and beneficiaries

Public providers of goods and services

- Streamlined e-government services
- Digital tax filing
- Direct disbursement of government benefits

Civically engaged individuals

Governments and other individuals

- Online voting
- Verification of political donations
- School enrollment

Asset owners

Asset-based service providers and buyers

- Formalized land ownership
- Facilitated sales and purchases

Digital ID systems - Across the world

A variety of digital ID systems currently operate around the world.

Examples of digital ID systems can be found in Argentina, Canada, Estonia, India, Sweden, and the United Kingdom

SecureKey Concierge, Canada
(~50% adoption)
- Federated system launched in 2012 led and operated by financial institutions
- Enables authentication only with a range of public and private sector institutions through online login

UK Verify, UK
(<10% adoption)
- Federated system launched in 2016 by public sector, with private identity providers
- Enables authentication only with a set of public sector departments through online login, with plans to expand to private sector institutions

BankID, Sweden
(~75% adoption)
- Launched in 2003 by financial institutions, now recognized by the government
- Enables digital authentication and signature with limited data sharing for use with public and private sector institutions through smart card or digital device (mobile or computer)

e-ID, Estonia
(90+% adoption)
- Launched by public sector in 2000, with over 940 public and private sector institutions connected today
- Facilitates authentication, data storage and sharing, and digital signature through chip based card or digital keys

Mobile Connect, global
- Launched in 2014 by GSMA, and now provided by 52 mobile operators across 29 countries
- Enables mobile operator-facilitated, user-controlled, authentication and data sharing functionality, with applications including e-commerce, e-government, and banking

Digital Identification System (SID), Argentina
(<10% adoption)
- Recently launched by government in coordination with private sector
- Will enable remote biometric authentication across public and private sector services

National eID, Nigeria
(<10% adoption)
- eID card launched by public sector in partnership with Mastercard in 2014
- Enables authentication through chip based card and data sharing for KYC, with potential additional future use cases under consideration

Aadhaar, India
(90+% adoption[1])
- Launched in 2009 by agency established by public sector
- Enables biometric digital authentication, as part of broader digital ecosystems with additional functionality
- Key use cases include direct transfer of benefits to bank accounts, e-KYC, digital document storage

1 Adoption figures reflect data from the Unique Identification Authority of India (UIDAI) as of January 2019.

Source – Mckinsey Digital institute

Digital ID – Recipe for a good Digital ID

- Verification over digital channels

- Verified to a high degree of assurance

- Unique- And linked with a biometric element

- Established with individual consent

Digital ID systems – Survey Insight – Arab Countries

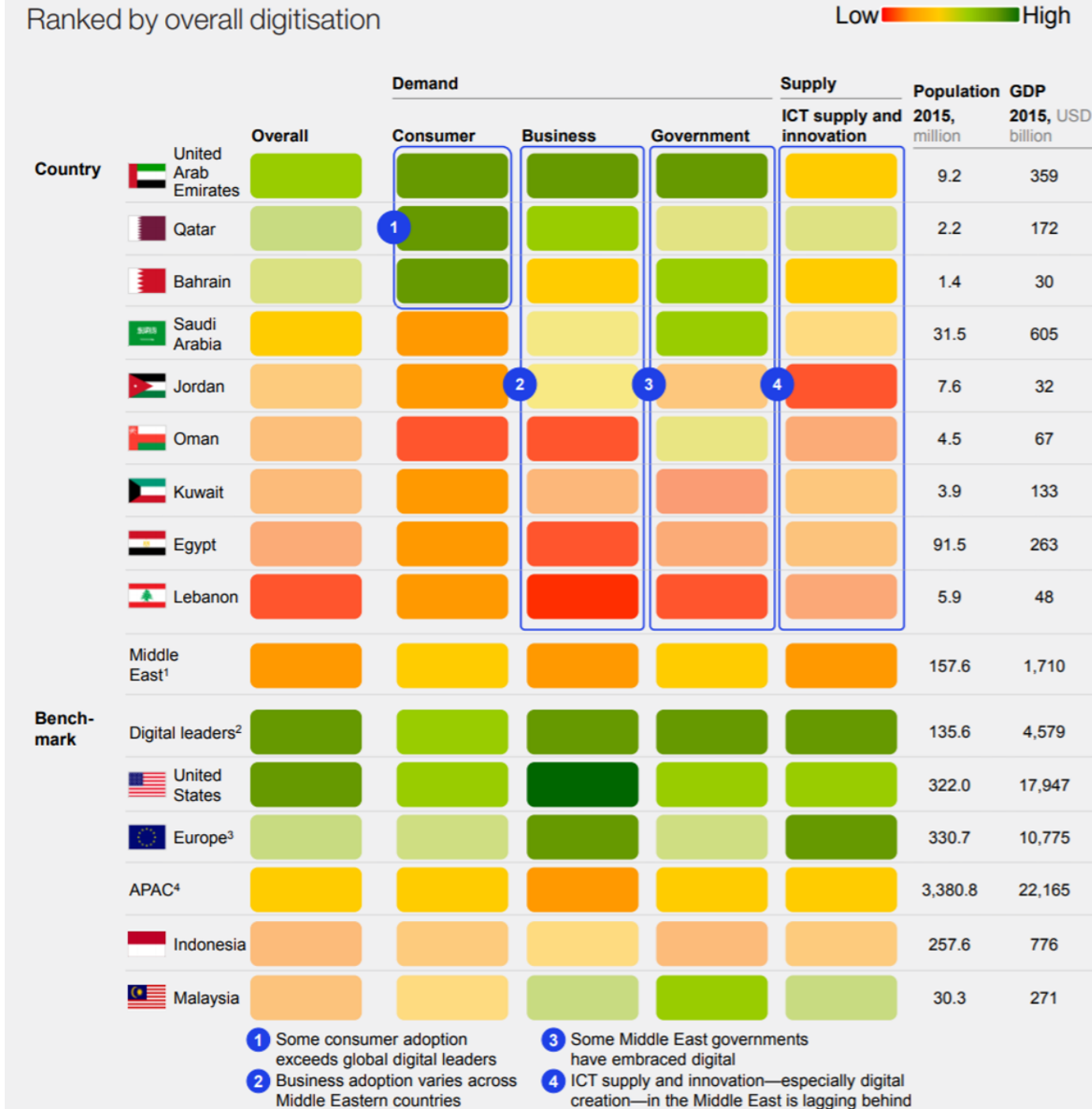**DO THE ARAB COUNTRIES POSSESS FOUNDATIONAL IDENTIFICATION SYSTEMS?**

Legend: Yes ■ No ■ In progress

- 91%
- 4%
- 5%
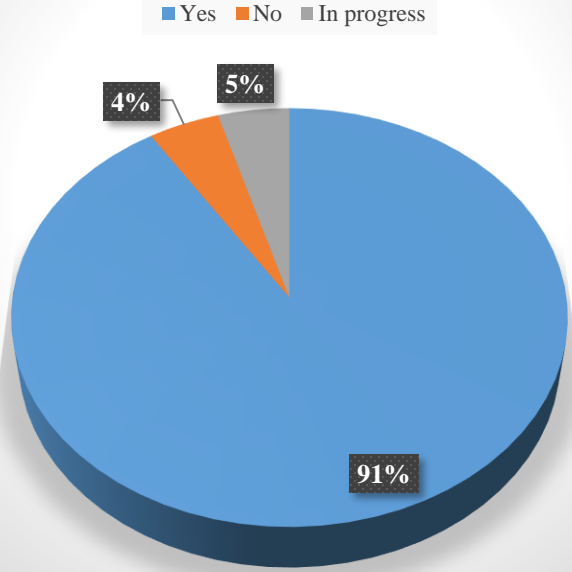
WHAT % OF THE ARAB COUNTRIES HAVE THEIR FOUNDATIONAL ID SYSTEM IMPLEMENTED AS A DIGITAL ID SYSTEM?

- Yes 32%
- No 32%
- In process 23%
- No response 13%
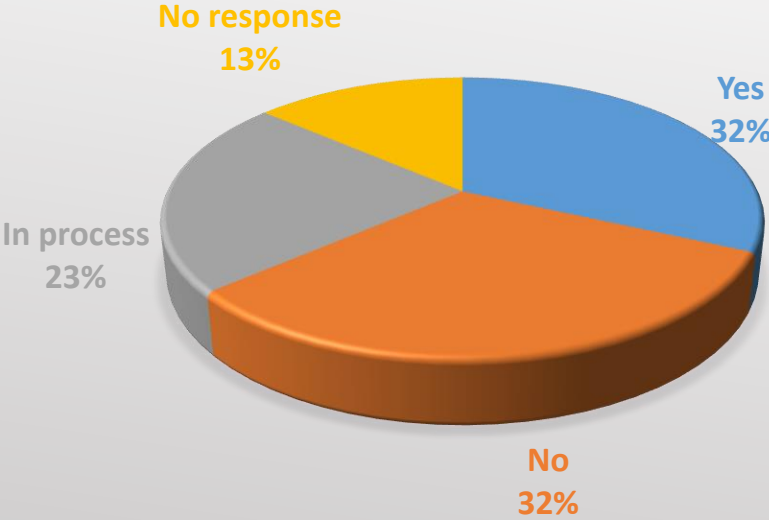
Digitization Index - Benchmarks

- Digital leaders include Norway, Singapore, South Korea, Sweden, UK

- Consumer adoption among some Arab region countries exceeds digital leaders

- Some Arab region Governments have embraced digital

- ICT supply and innovation in the Arab region countries is lagging behind

Source – Digital Mckinsey

Ranked by overall digitisation

Low ————— High

| Country | | Overall | Demand | | | Supply | Population 2015, million | GDP 2015, USD billion |
			Consumer	Business	Government	ICT supply and innovation		
United Arab Emirates							9.2	359
Qatar			①				2.2	172
Bahrain							1.4	30
Saudi Arabia							31.5	605
Jordan				②	③	④	7.6	32
Oman							4.5	67
Kuwait							3.9	133
Egypt							91.5	263
Lebanon							5.9	48
Middle East[1]							157.6	1,710
Bench-mark	Digital leaders[2]						135.6	4,579
	United States						322.0	17,947
	Europe[3]						330.7	10,775
	APAC[4]						3,380.8	22,165
	Indonesia						257.6	776
	Malaysia						30.3	271

① Some consumer adoption exceeds global digital leaders
② Business adoption varies across Middle Eastern countries
③ Some Middle East governments have embraced digital
④ ICT supply and innovation—especially digital creation—in the Middle East is lagging behind

Arab Region/Middle East countries – Consumers are leading the charge in digitization

Though Middle Eastern businesses lag behind in digitisation, consumers are leading the charge

Middle East average, %

Metric	Value
SMEs with an online presence[1]	15
Individuals participating in social media	36
Social media users who use Arabic	45
People watching online videos daily[2]	47
Households with Internet access	50
Individuals who are regular Internet users	61
Users that go online daily[2]	88
Facebook subscribers accessing daily[3]	89
3G network coverage	97
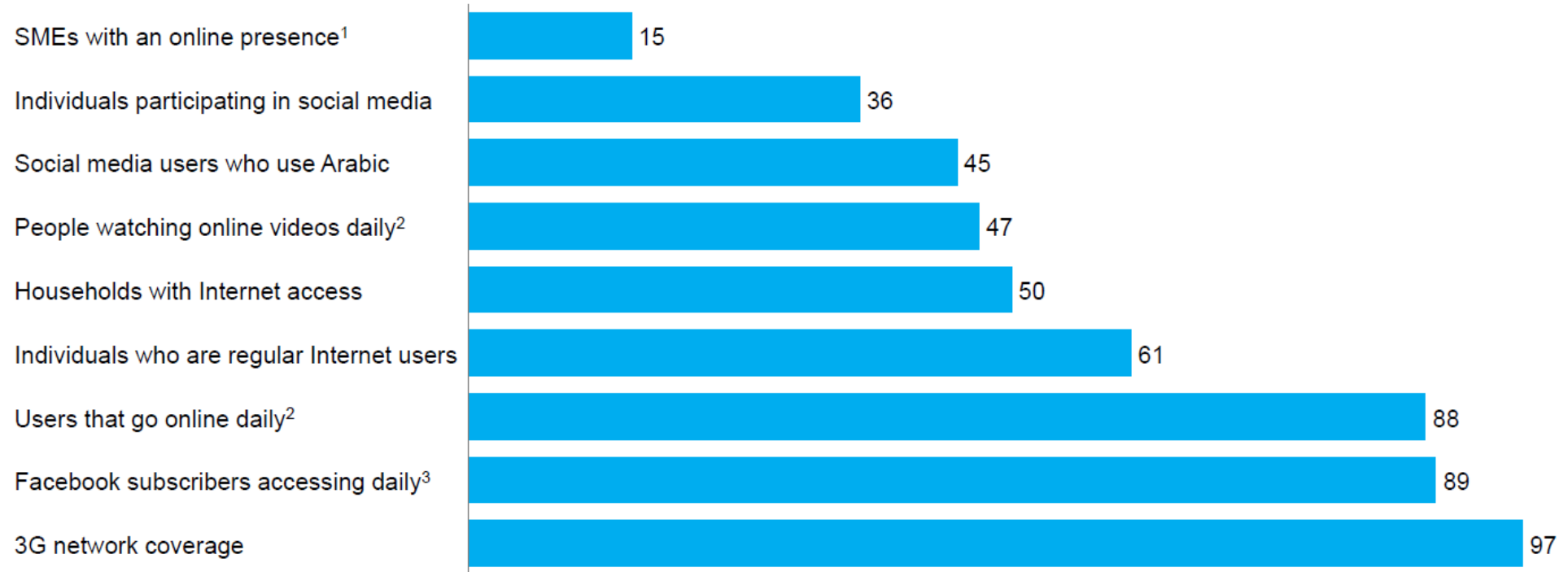
[1] Saudi Arabia only.
[2] Google Consumer Barometer 2015 for the United Arab Emirates and Saudi Arabia only.
[3] Middle East, North Africa, and Levant, based on *Arab Social Media Report 2015,* launched at Arab Social Media Influencers Summit 2015.

SOURCE: *Networked Readiness Index 2015,* World Economic Forum; *2016 Digital Yearbook,* We Are Social; Digital Adoption Index, World Bank; *The Connected Consumer Survey 2015,* Google; McKinsey analysis

Source – Digital Mckinsey

Customer Digital On-boarding

- Majority of financial institutions undertake cumbersome and strenuously manual processes for customer onboarding onto the banking system.
    - *Involves collection of ID documents, verification against national ID sources, AML and sanction list checks, credit bureau checks etc*
- Today's technology allows for onboarding customers digitally and in minutes

Digital Onboarding enables a new and seamless customer experience by simplifying the access to financial services while reducing processing time and cost for financial institutions due to optimized processes

Customer Digital On-boarding and eKYC

Customer Digital Onboarding through Electronic channels – Mobile banking

Standard Digital Onboarding

Customer

- Download Mobile App
- Begin Online Registration
- EID Scan
- Self Pic
- AML/Compliance Check
- FATCA/CRS inputs
- Show fees and charges
- Online Acceptance of T&C's
- Account Opened (with thresholds to operate)
- Biometric Enrollment
- If backoffice verification is ok
- Schedule delivery of ATM Card

Online Registration Steps

Bank

- Bank back office verifies online submissions
- Inform Delivery team
- EIDA validation and obtain customer signature by Service provider
- Release Account for full operation
- Deliver ATM Card

- Mobile First

- Verification of identity followed by banking specific customer due diligence measures.

- Seamless experience

- Customer is provisioned with an account number within minutes (with thresholds until physical verification).

- Many banks in the Arab Region have such digital on-boarding mechanisms in place

Digital On-boarding and eKYC –National ID online verification

Customer Digital Onboarding through Electronic channels – Mobile banking

Digital Onboarding through UAEPass

Customer

Download Mobile App → Begin Online Registration → Login With UAE PASS

Biometric Enrollment

(with full ...ility)

If backoffice verification is ok

In the banking industry, 38% of customers stated user experience (UX) as the most important criterion when choosing a digital bank

Deloitte, Inside Magazine Issue 16, Part 01 From a Digital perspective

AML/Compliance Check

FATCA/CRS inputs

Online Registration Steps

Schedule delivery of ATM Card

Bank

Bank back office verifies online submissions → Inform Delivery team

Deliver ATM Card

- Schematic shown with National ID online verification (UAEPass of the UAE)

- Simplifies the eKYC rigor for each bank

- Every resident is being enrolled

- More than 55 government services being UAEPass enabled

Digital On-boarding and eKYC– Arab country examples
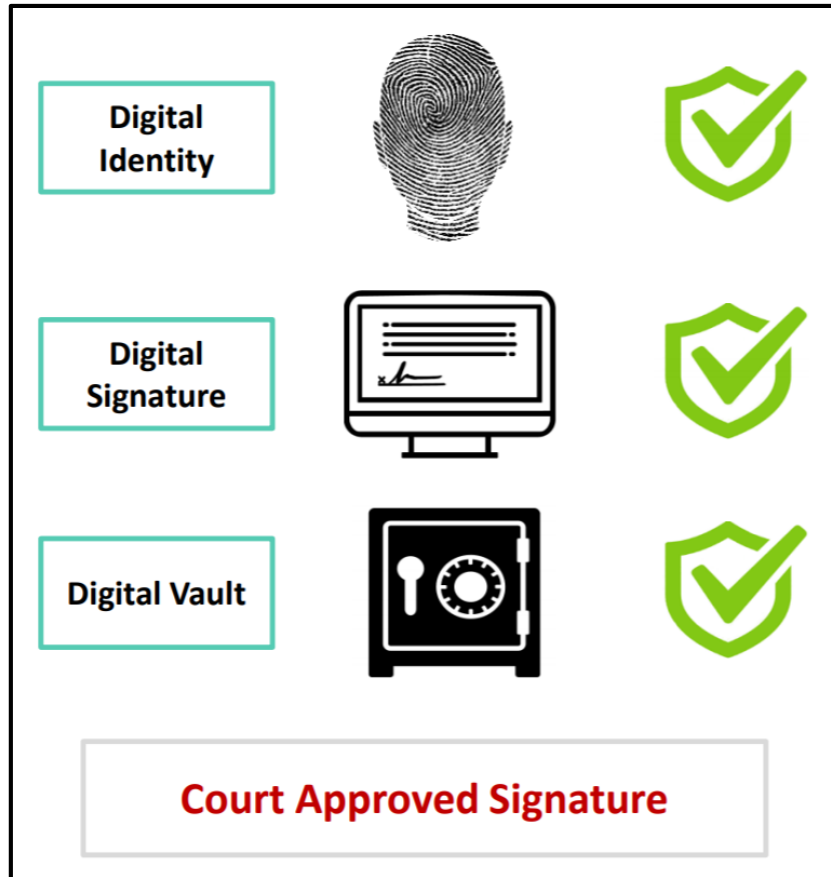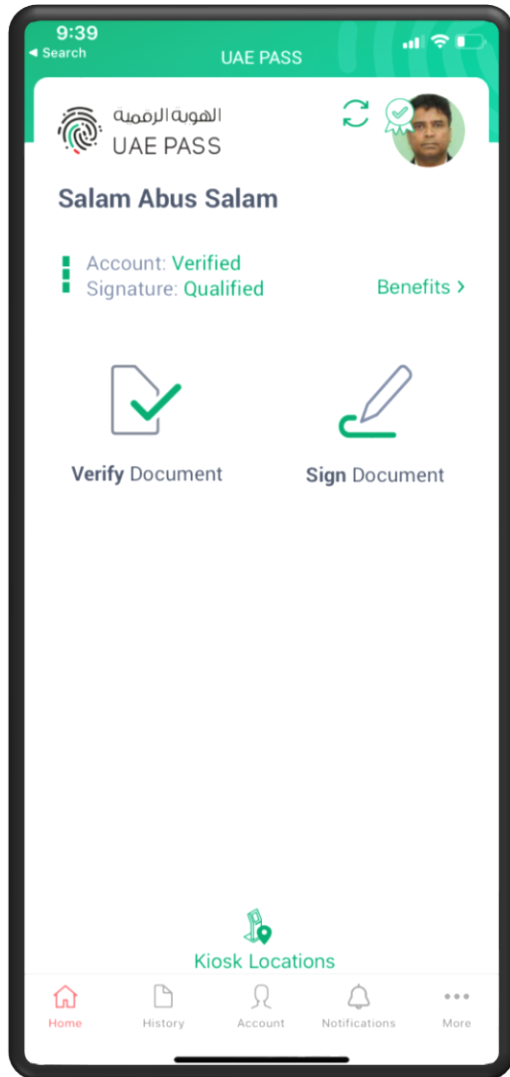
UAE's UAEPass National digital identity infrastructure

In addition for UAEpass being recognized as a legal basis for banks to onboard customers digitally , it also incorporates ability for customers to digitally sign documents and also holds an electronic vault to store relevant documents to avail different banking and government services.

Digital ID – Authentication – Arab country examples
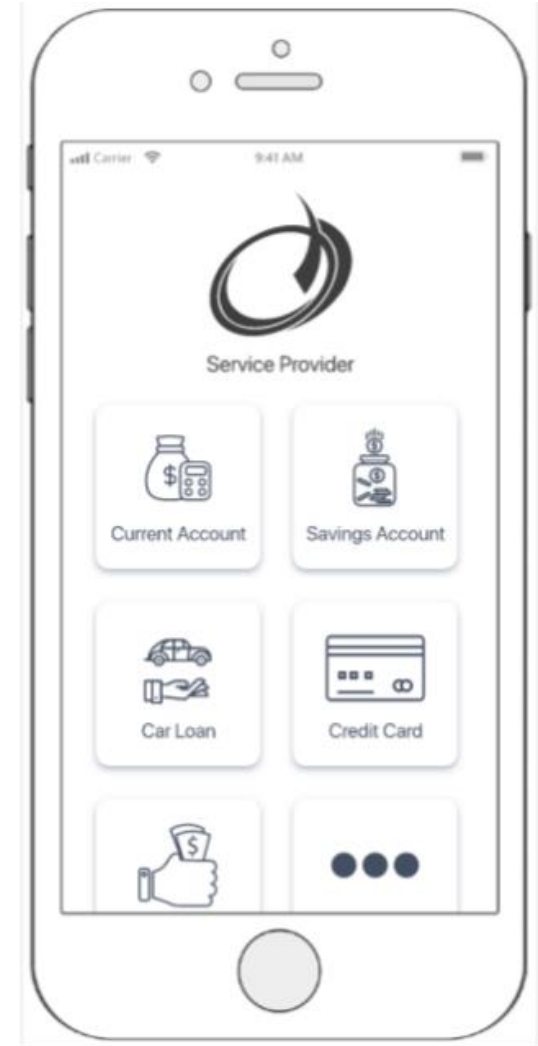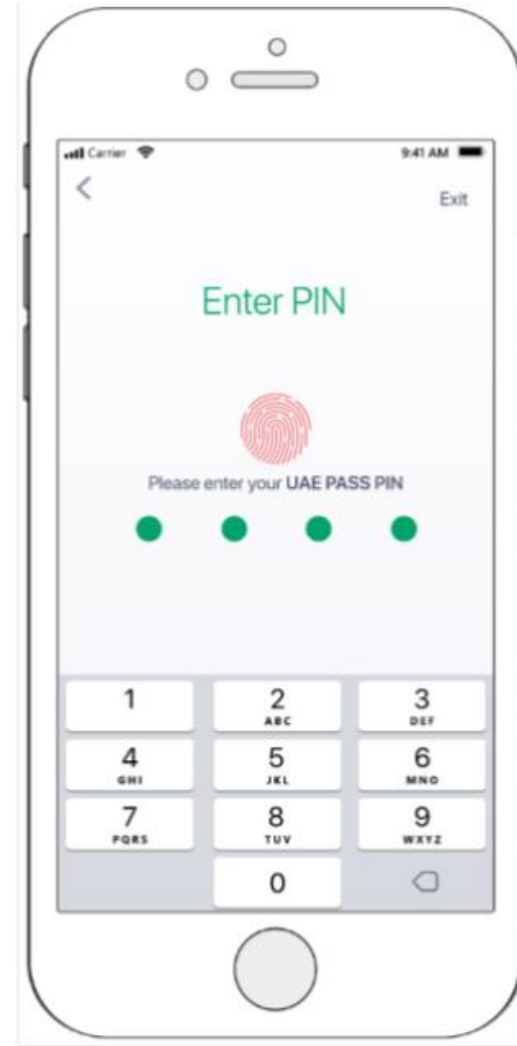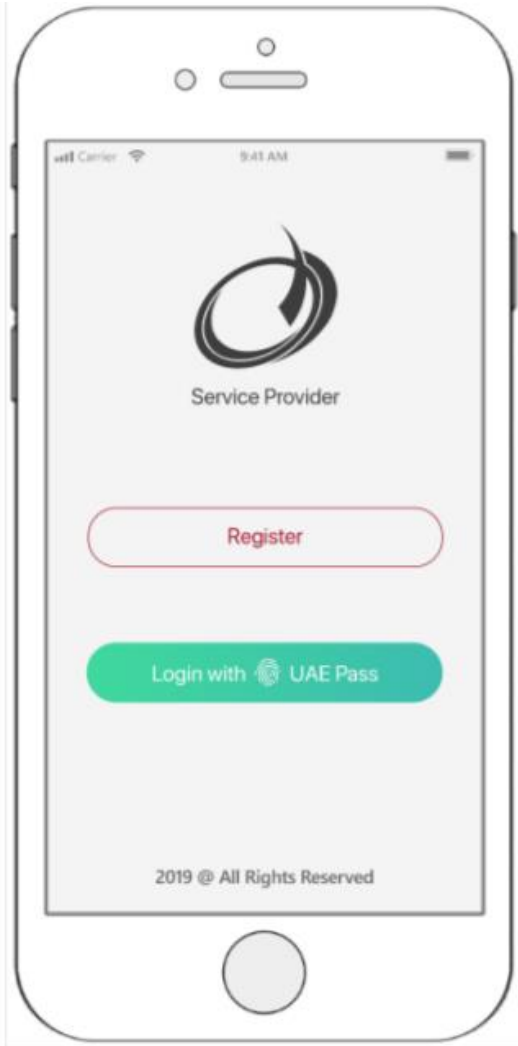
Digital On-boarding and eKYC– Arab country examples

Bahrain's BENEFIT to Create National e-KYC Utility in Bahrain

Bahrain's Electronic Network for Financial Transactions (BENEFIT) has implemented national Know Your Customer (KYC) utility that incorporates blockchain technology.

Blockchain-integrated utility will support more than 380 financial institutions to improve customer experience and drive KYC efficiencies across Bahrain.

With the ability to retrieve and process client KYC and other data from the related bodies including Bahrain's Information & eGovernment Authority (IGA) and will also include international screening without the need for a physical presence, document verification or authentication.

Central banks of Saudi Arabia (Abshar), Oman, Qatar, Morocco, Tunisia, Libya, Lebanon, Egypt, Jordan, Yemen, Palestine,Sudan and Kuwait also have plans to implement e-KYC

Implementation of eKYC - Survey Insight – Arab Countries

Digital On-boarding and eKYC– International examples

Coverage – 90% of India's population
OTP and Biometric element mandated in digital eKYC verification and authentication
Key element in eKYC and digital customer onboarding and a variety of societal interactions

South Korean – Digital only bank, > 10 million customers in 2 years
7 minute eKYC and digital onboarding
Full banking services - accounts, loans, cards

UK – Digital only bank, 40,000 accounts per week
10 minute eKYC and digital onboarding
Full banking services - accounts, loans, cards

Digital On-boarding and eKYC– International examples

Revolut

UK – Digital only bank, 8Million+ customers
10 minute eKYC and digital onboarding
Full banking services - accounts, loans, cards

Ñ26
The Mobile Bank

Digital only bank, > 2.3 million customers across 24 European markets
5 minute eKYC and digital onboarding
Full banking services - accounts, loans, cards

Atom bank

UK's first digital only bank
eKYC and digital onboarding
Full banking services - accounts, loans

Digital Signatures

Key elements of Digital signature

Authentication

- Digital signatures are used to authenticate the source of messages. The ownership of a digital signature key is bound to a specific user, so a valid signature shows that the message was sent by that user.

Integrity

- In many scenarios, the sender and receiver of a message need assurance that the message has not been altered during transmission. Digital signatures provide this feature by using cryptographic message digest functions.

Non-repudiation

- Digital signatures ensure that the sender who has signed the information cannot at a later time deny having signed it.

Schematic – Digital Signing

Digital signatures provide the following key benefits

Cost Reduction and error prevention.

- Reduce turnaround times by 80%, Significant ROI benefits, reduce document errors
- RBC saved 8 Million USD annually by shaving 82,000 staff hours and reduced document errors by 75%

Enhanced Security

- Technologies using digital certificate signing have matured providing a very high degree of assurance

Faster service delivery

- Much faster delivery and acceptance of digitally signed documents

User Convenience

- Customers are able to process signatures from any computer, tablet, or smartphone

Key Banking processes for Digital signature adoption

- Product offerings to customers

- Account opening

- Signature cards

- Standing orders

- Loan documents

- Investments

- Mortgage origination and closing

- Operational support materials, such as appraisals, disclosures, and employment verification

- Vendor contracts

Digital Signature – Arab country example - UAEPass
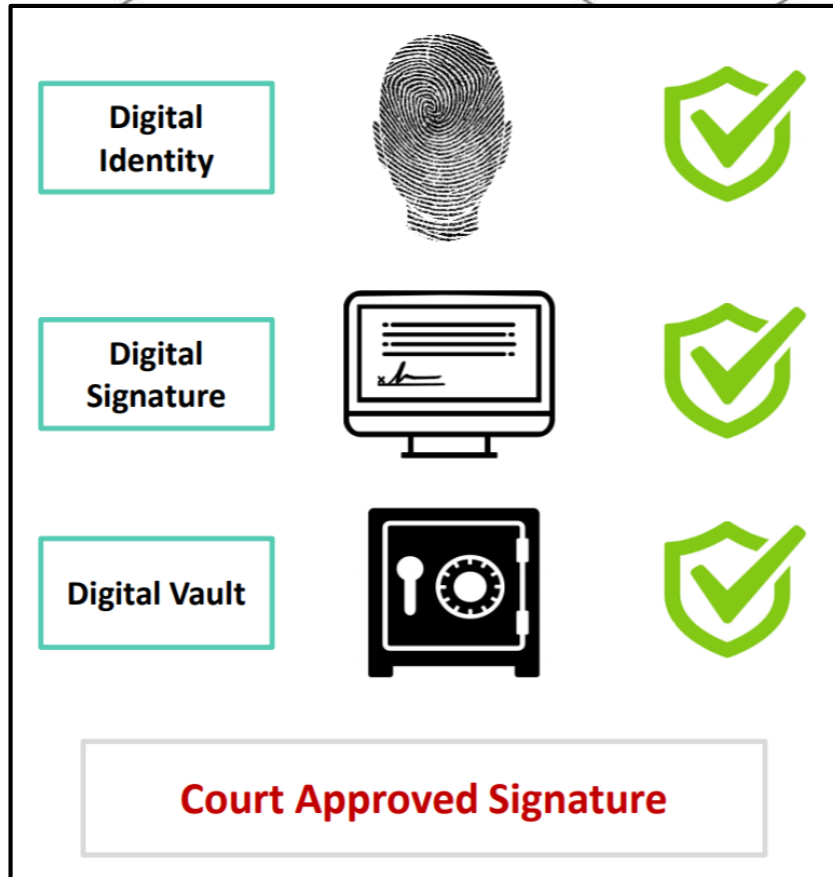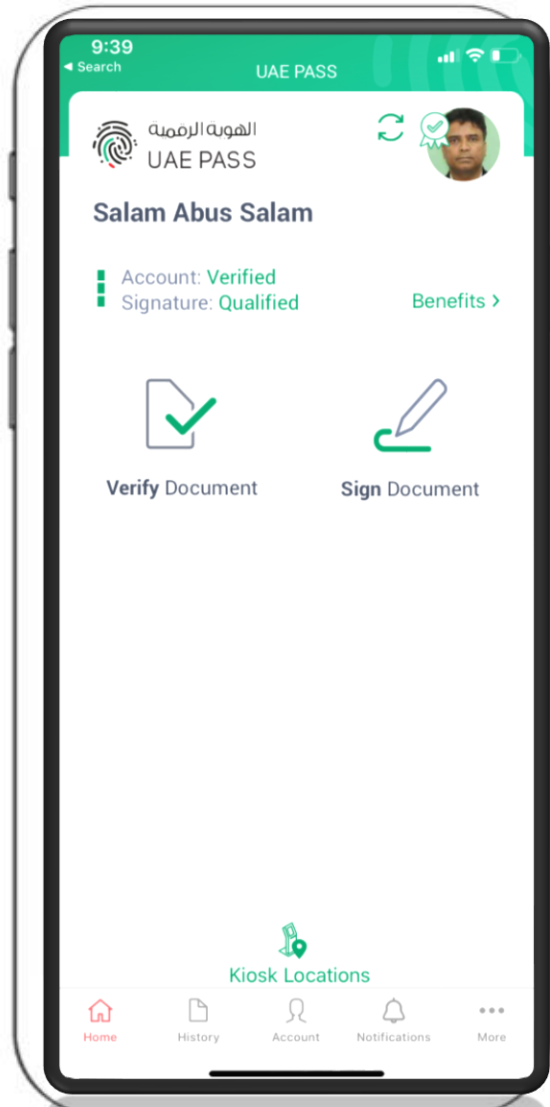
Digital Identity

Digital Signature

Digital Vault

Court Approved Signature

UAE's UAEPass National digital identity infrastructure

In addition for UAEpass being recognized as a legal basis for banks to onboard customers digitally , it also incorporates ability for customers to digitally sign documents and also holds an electronic vault to store relevant documents to avail different banking and government services.

Digital On-boarding and eKYC– Arab country examples

Free Zone in the UAE

DMCC has implemented E-signature

DMCC is the first Free Zone in the UAE to offer electronic signatures
Enabling DMCC members to execute signature requirements on a range of documents online, from any device in any location in a safe a secure way.

DMCC has partnered with DocuSign.

Digital Signature – Survey Insight – Arab Countries

Are there any regulations in place or being drafted in relation to Digital signature?

- No 23%
- Yes 77%
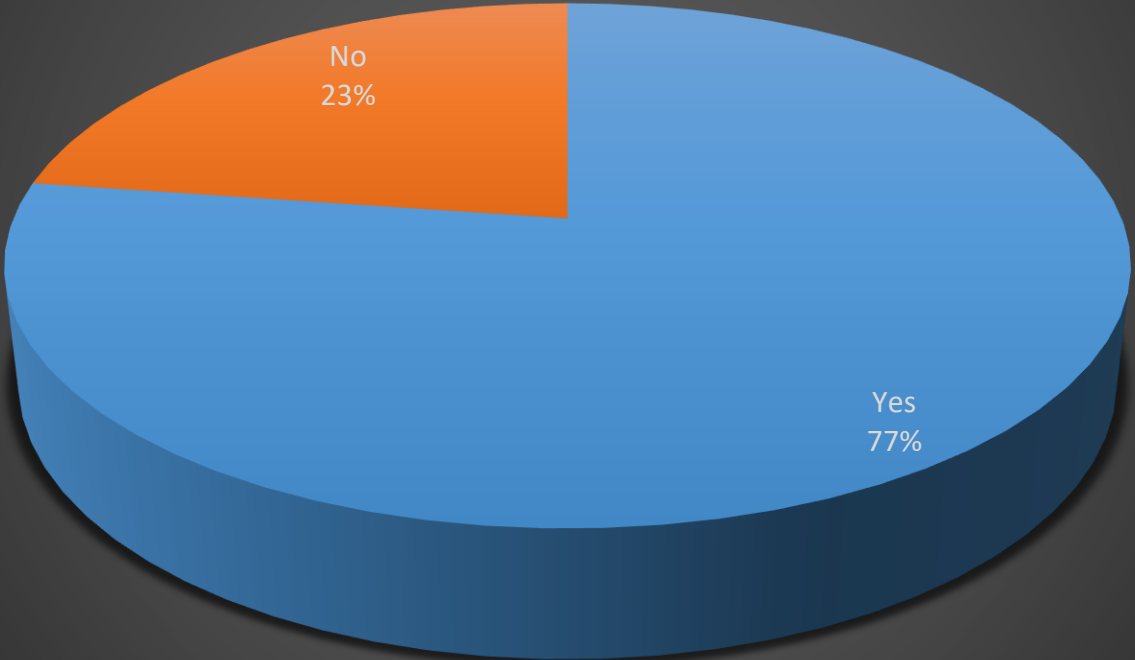
Digital Signature Usage - Global examples

Aadhaar eSign

Aadhaar eSign is an online electronic signature service in India to facilitate an Aadhaar holder to digitally sign a document. The signature service is facilitated by authenticating the Aadhar holder via the Aadhar-based e-KYC (electronic Know Your Customer) service.

American Bank Systems, IMM to provide digital lending platform for community banks

IMM, an eSignature provider for financial institutions, has partnered with American Bank Systems (ABS) to provide digital lending platform that leverages signing capabilities for community banks.

The eSignature provider will integrate IMM eSign with ABS' CoPilot Loans, CoPilotDeposits Origination Software, BankManager Tracking and Imaging solutions enabling community banks to electronically process loan and account opening transactions from origination to closing to electronic filing, all in a digital environment.

ABS also provides technology solutions that help assess, monitor and lower compliance risk of financial institutions. The integration of IMM eSign with ABS' CoPilot and BankManager automates the entire loan and account opening process. Additionally, customers can access and sign important documents electronically, at a time and place that is most convenient to their schedule.

Deutsche Bank introduces digital signatures for corporates

Deutsche Bank has announced the implementation of a digital signature feature to speed up account openings for its corporate clients.

The bank says document and contract signing remains one of the most important and frequent processes between banks and its clients and until today involves a high degree of manual processing. Deutsche Bank's first corporate client to incorporate DocuSign as a solution was US-based Honeywell. Clients can use the signature to open accounts, sign documents and buy products from the bank.

The solution is available to corporate and institutional clients in the US, the UK, Germany, Belgium and the Netherlands. Deutsche Bank clients in Asia-Pacific and Middle East will be able to use DocuSign in order to implement digital signature in 2019, according to bank officials.

Cryptomathic, SwissSign launch e-signature solution for European banks

Cryptomathic has announced the launch of its centralised e-signature solution for Qualified Electronic Signatures (QES), in partnership with SwissSign. Utilising the combined solution for QES, banks and other institutions operating in Switzerland and the EU can now deliver an end-to-end digital customer experience by introducing digital signatures that carry the same legally binding status as those that are hand-written.

The solution is deployable across all common digital channels including web browsers and mobile applications. The central signing solution utilises an organisation's existing authentication infrastructure to deliver QES, allowing organisations to reduce costs, enhance agility, enable digitalisation and minimise liability risks.

Vendor Landscape

Vendor Landscape - Digital ID , Onboarding and eKYC

The below is an Indicative overview – Not a comprehensive list.

Vendor Landscape - eSignature Solutions

E-signature solution providers - The below is an Indicative overview, not a comprehensive list.

DocuSign · SignNow · Sertifi · docVerify · Secured Signing · SignaSHARE · signen blockchain · HELLOSIGN · KeepSolid Sign · IdenTrust · eSignLive · Contractbook · Adobe Sign · InsureSign · GetAccept · Signable · OneSpan · Docsketch · digi · PENNEO Digital Signature Platform · SignEasy · SigningHub · eOriginal · SIGNIFLOW AMERICAS · sphereon · CITRIX RightSignature · PandaDoc

Challenges facing Digital onboarding

Variety of Risk areas - Arab Countries Survey insight

What kinds of risks do Arab Countries anticipate from the implementation of E-KYC?

Key Challenges in Digital onboarding, eKYC

- No common Global standards for eKYC

- Address Verification (Especially unbanked and underprivileged sections)

- Periodic updation of eKYC and Legal documentation status

- Disparities in eKYC compliance legislation and mandates (FATCA, GDPR, IFRS9)

- Enhanced due diligence demands additional scrutiny and documentation

- Cybersecurity provisioning is demanding (to avoid phishing, ID misuse etc)

- Some regions present internet connectivity challenges prevent digital banking

outreach

Conclusion

Conclusion

- Digital identification has been established as a means to propel economies and create deep and lasting value to the quality of life of the citizens and also to the efficient and cost effective functioning of the Governments

- Almost all Arab countries embarking upon digital identification for their citizens as part of their vision and digitization roadmap

- The technical architecture towards achieving true customer digital on-boarding with robust e-KYC and compliance, AML, ATF deterrents is quite mature and several case studies are available to be adapted

- Survey feedback from the Central banks of the Arab countries reveal that the vision of the Arab countries is to focus and lead in the domain of e-governance for betterment of the lives of their citizens and residents

- The challenges are not unsurmountable and there are many enabling foundational technologies and vendors who can provide solutions in this space.

Enabling a Digital Revolution

Government	1. Move from e-government-focused digital initiatives to full digital economy development 2. Empower national digital agencies 3. Create policy frameworks that foster, and do not hamper, digital innovation 4. Seize the opportunity of large public IT spending to create home-grown IT players at scale
Business	5. Take the once-in-a-lifetime opportunity to create critical digital platforms for the region 6. Step up the collaboration among corporations and digital disrupters in the region 7. Embrace agility through digital to address the ever-faster business environment
Funding	8. Scale digital VC funding and increase visibility of investment opportunities
Talent	9. Create digital curricula and seamless learning pathways from primary schools to higher education and into employment 10. Rethink how to attract and retain digital talent and reconsider applicability of nationalisation to digital