COURSE TITLE: INNOVATIONS IN FINTECH

LECTURE: CREDIT TECHNOLOGY

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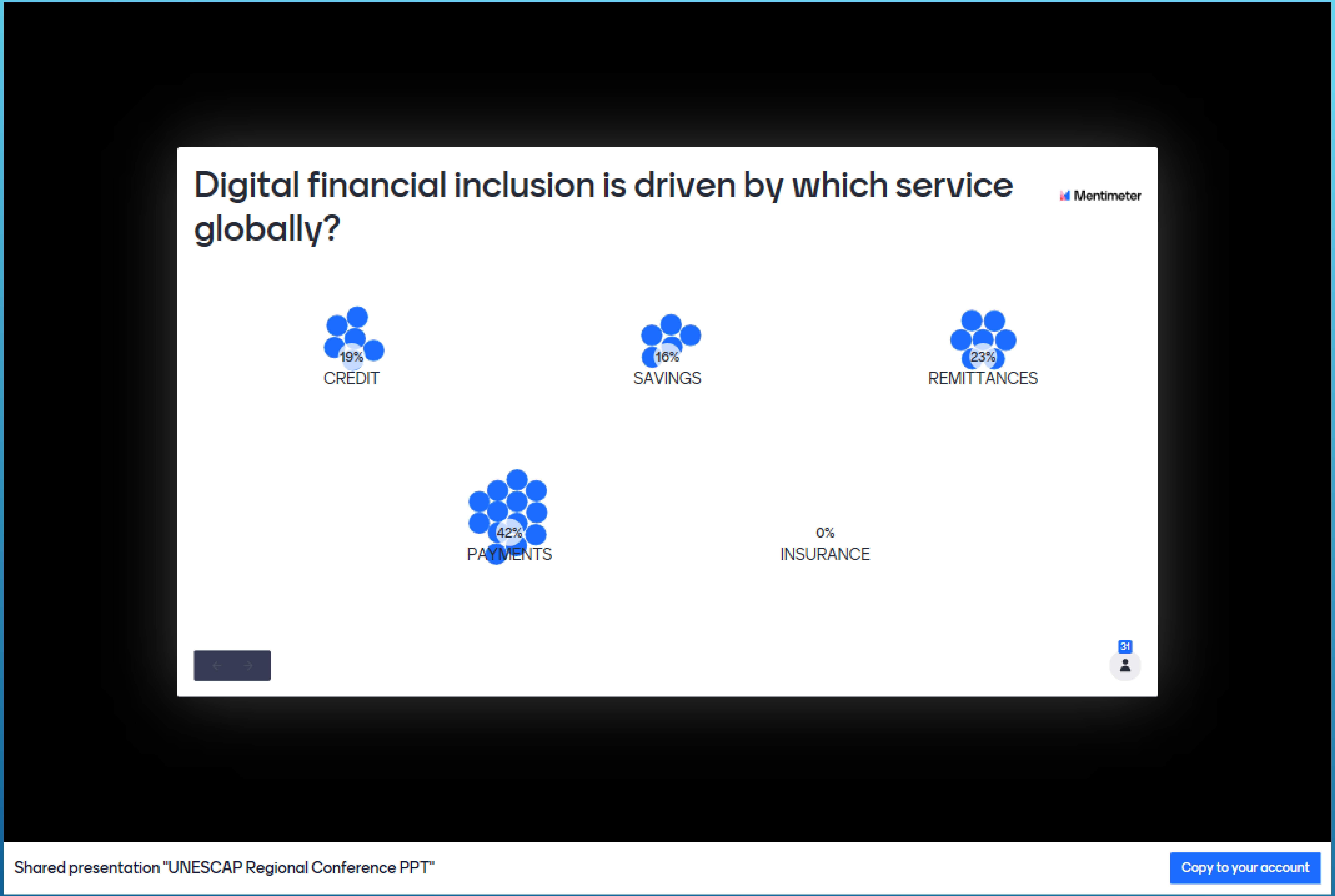
A few definitions

DIGITAL FINANCIAL INCLUSION	The use and promotion of digital financial services (DFS) to advance financial inclusion
DIGITAL FINANCIAL SERVICES (DFS)	The broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances and insurance
DIGITAL CHANNELS	Refers to the internet, mobile phones (both smartphones and digital feature phones), ATMs, POS terminals, NFC-enabled devices, chips, electronically enabled cards, biometric devices, tablets, phablets and any other digital system
FINTECH	The use of technology and innovative business models in the provision of financial services

Source: Alliance for Financial Inclusion


Digital financial inclusion is driven by which service globally?
Mentimeter
19%
CREDIT
16%
SAVINGS
23%
REMITTANCES
42%
PAYMENTS
0%
INSURANCE
31
Shared presentation "UNESCAP Regional Conference PPT"
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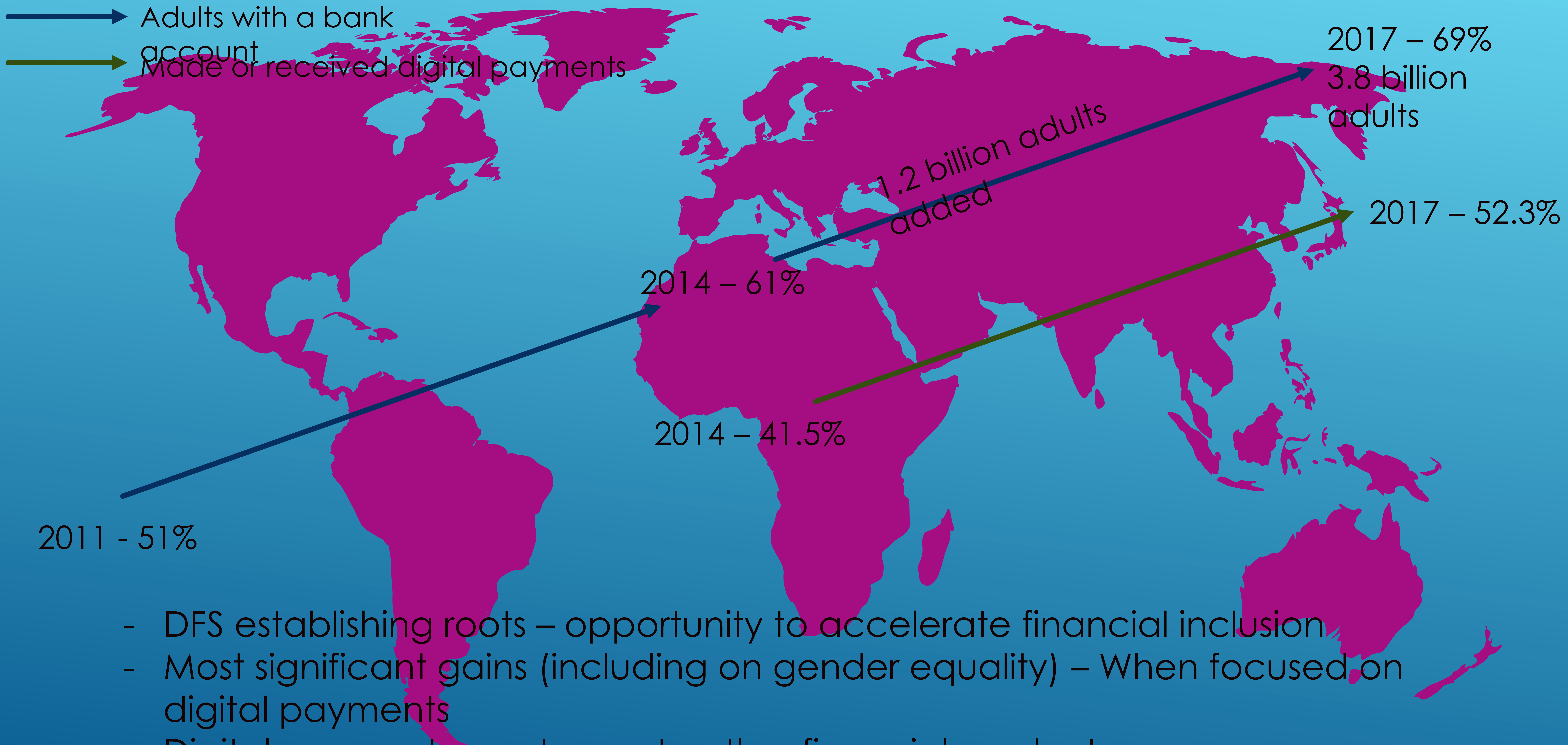
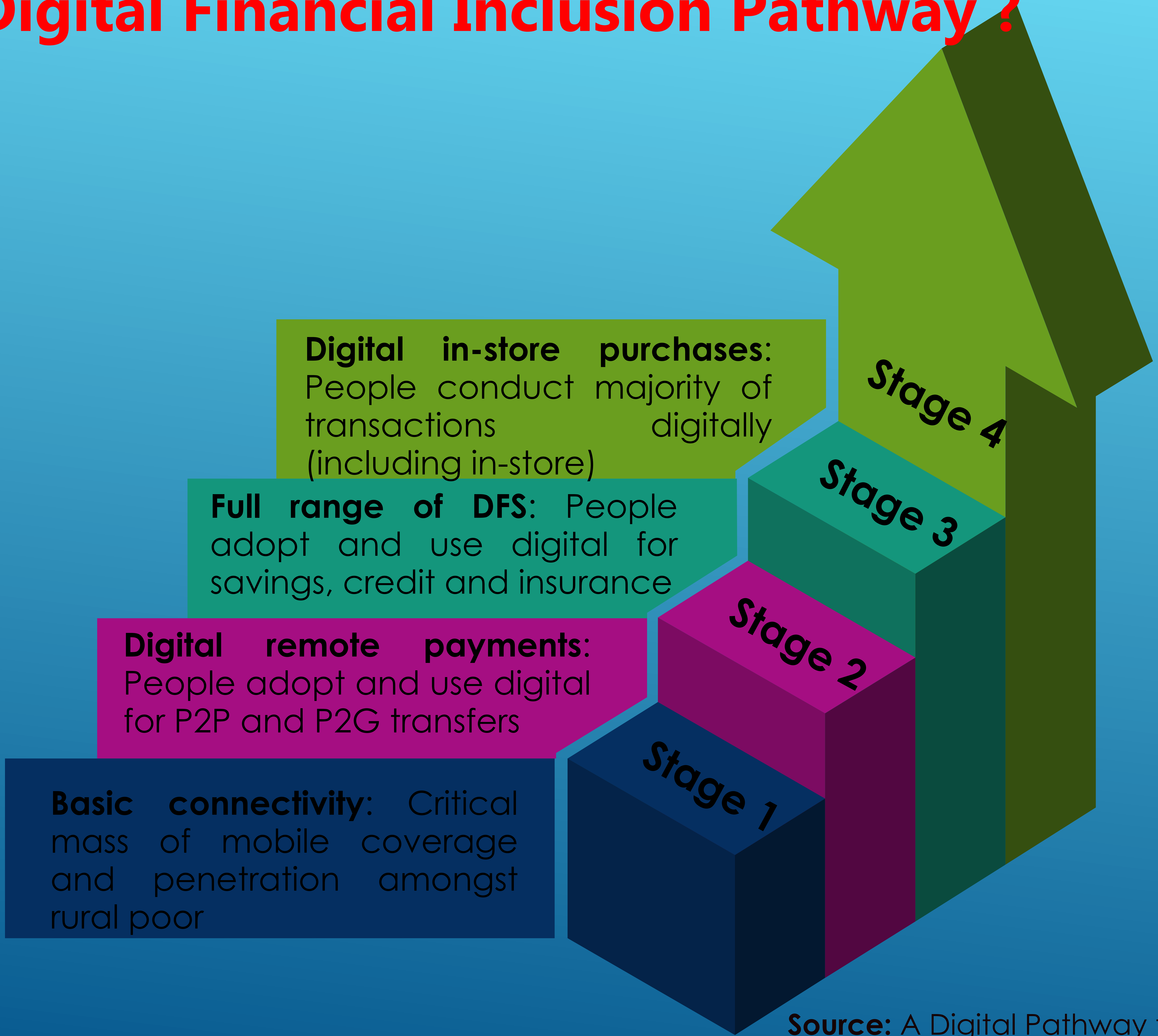
Financial inclusion and DFS (% of adult population)



- DFS establishing roots – opportunity to accelerate financial inclusion
- Most significant gains (including on gender equality) – When focused on digital payments
- Digital payments – gateway to other financial products

Source: Global Findex Data 2018

A Digital Financial Inclusion Pathway ?



Why leading with payments is preferred

- Overcoming initial trust barriers
- Strong demand for secure, fast and convenient transfers
- Limited range of prudential regulations can be applied – preferred by regulators
- Allows for adopting a range of providers (e.g. MNOs)

Source: A Digital Pathway to Financial Inclusion, Dan Radcliffe and Rodger

Basic regulatory enablers

01
Nonbank E-Money Issuance

Licenses for non-bank DFS providers to issue e-money accounts without being subjected to the complete range or prudential norms

02
Use of Agents

Permit banks and non-banks to use agents such as retail shops to service customers

03
Risk Based Customer Due Diligence

Proportionate anti-money laundering framework that require simplified CDD for lower-risk accounts and transactions

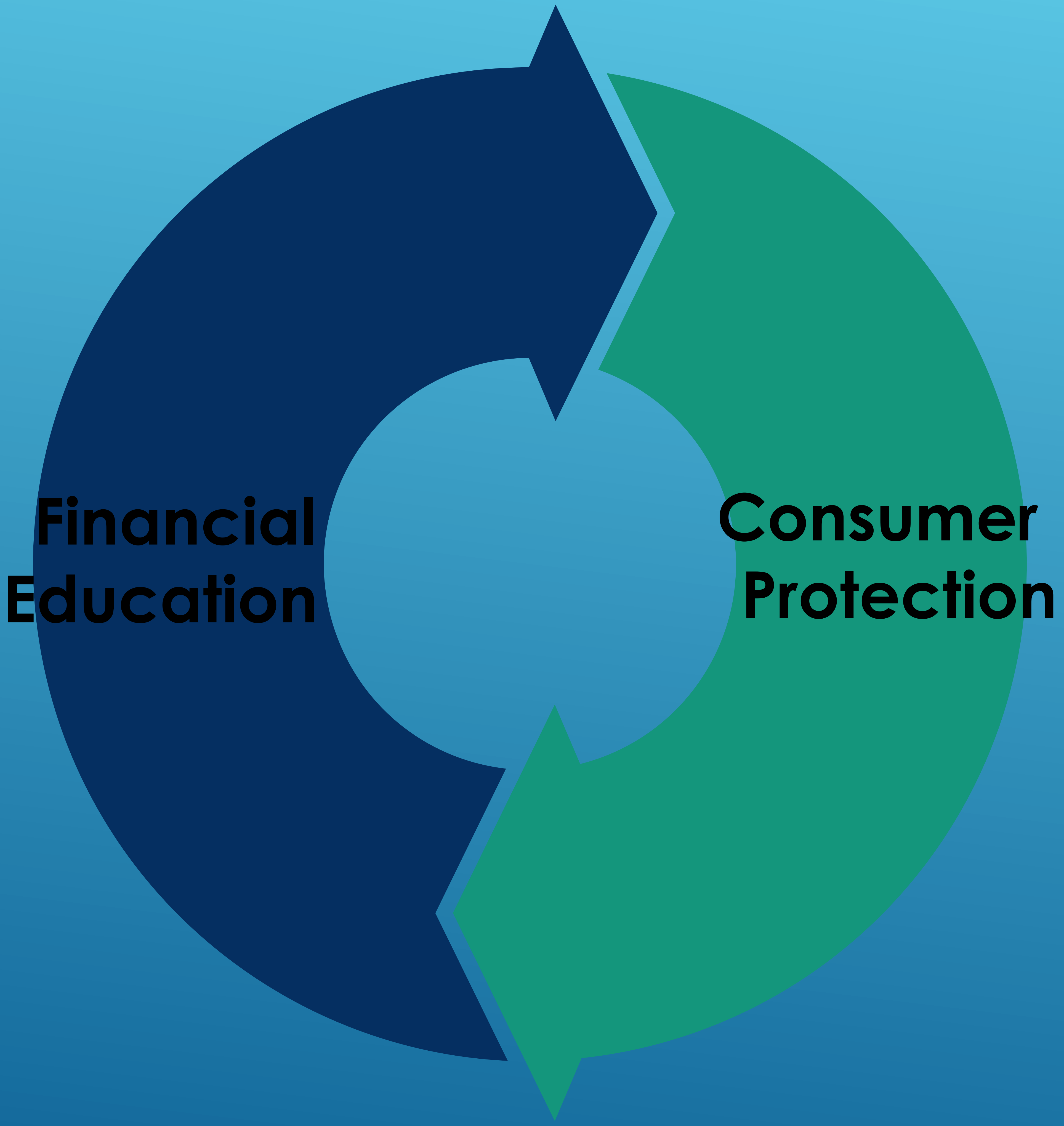
04
Consumer Protection

Tailored consumer protection rules for all kinds of DFS providers and products

Source: Basic Regulatory Enablers for Digital Financial Services, Stefan Staschen & Patrick Meagher (CGAP), 2018

A boarder enabling ecosystem is critical

E.g.:
How to use digital tools for purposes such as accounting and storing/generating invoices



E.g.:
Appropriate products
Transparent pricing
Grievance redressal mechanism

Spotlight on Regulators

Regulation and regulators will be crucial in the context of DFS

'The regulatory perimeter needs to be reviewed and perhaps redefined, new providers licensed and supervised, cyber-security standards improved, consumer protections made more robust, and data protection and privacy and competition laws strengthened, among others. There is a growing need to better equip regulators to deal with the challenges ahead, and this is an area that is often overlooked by the development community.'

Great Expectations: Fintech and the Poor

MSMEs and DFS

1

FIs reluctance to lend

Lack of financial and/or credit history - inadequate or inappropriate collateral

2

Digital alternative

An alternate route possibility of accumulating data points (including alternative data)

3

Big Data and AI

Helping FIs better understand credit risks and repayment frequencies

4

'Accumulated digital data can complement the limited data disclosed by SMEs and reduce the cost of information asymmetries'

Fintech for Asian SMEs (Nemoto & Yoshino, 2019)

MSMEs - DFS - access to non-credit services

Mobile Wallets

Savings account

Payments and transfer options

Payments/transfers

Digital footprint

Cash-flow based lending possibilities

Accounting software

Generates financial statements

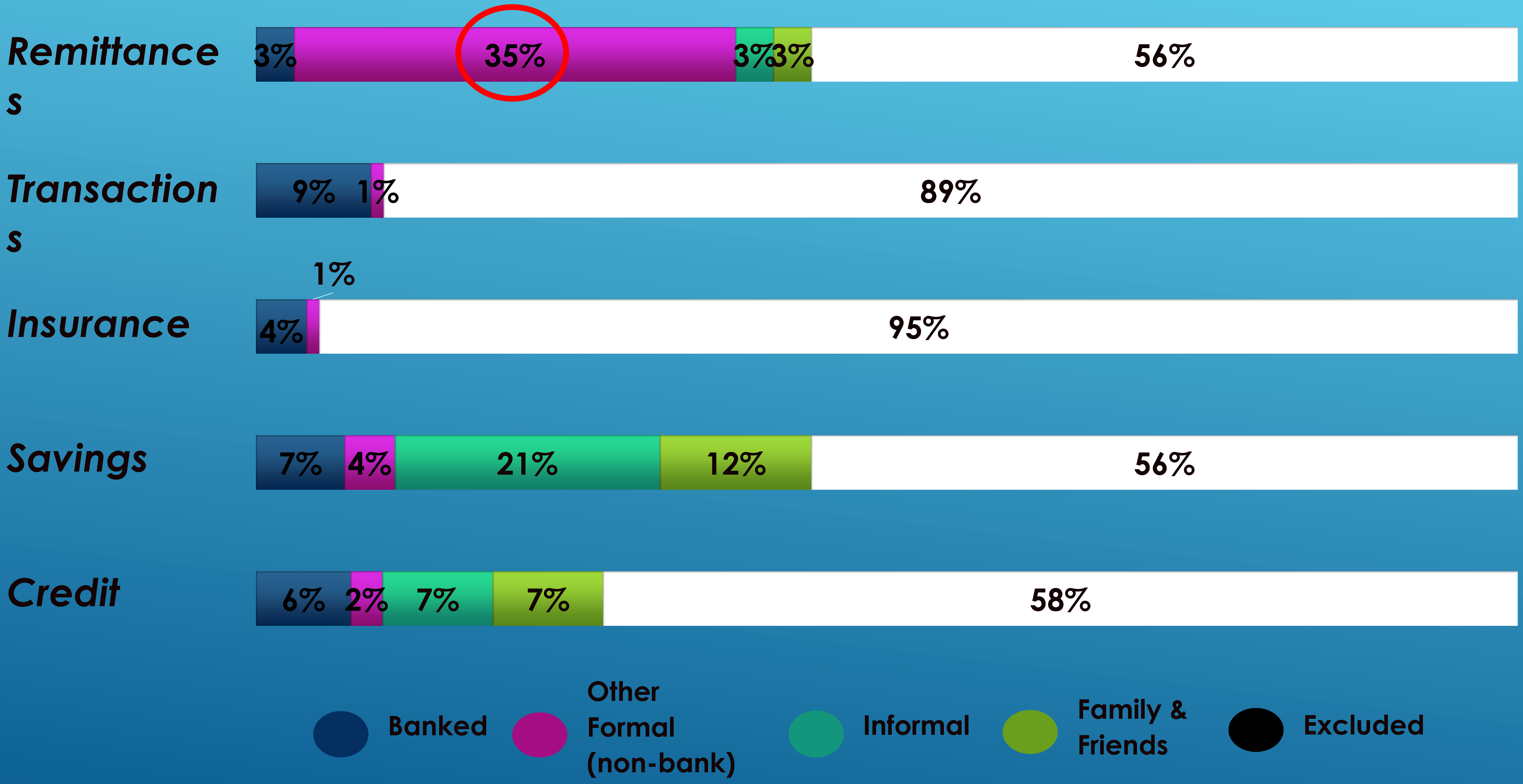
Invoice financing possibilities

Financial inclusion in the target countries (% adult)

Country 2014 - **2017**	Account [&]	Financial Institution[$]	Mobile Money a/c	Made/received digital payment	Borrowed (FI)	Saved (FI)	Borrowing for business/farm[^]
BANGLADESH	31 – **50**	29 - **41**	3 - **21**	7 - **34**	10 – **9***	7 - **10**	4 – **10**
Male	35 – **65**	33 – **50**	3 – **32**	[illegible]	10 – **10**	8 – **10**	6 – **12**
Female	26 – **36**	25 - **32**	2 - **10**	4 - **21**	10 - **8**	7 - **10**	2 - **8**
BHUTAN[#]	34	34	NA	17	4	23	3
Male	39	39	NA	21	4	24	4
Female	28	28	NA	12	4	21	2
CAMBODIA	22 – **22**	13 - **18**	13 - **16**	18 - **16**	28 - **27**	4 - **5**	15 - **16**
Male	24 – **22**	15 – **18**	14 - **6**	[illegible]	25 - **23**	5 - **6**	15 – **16**
Female	20 – **22**	11 – **17**	13 - **5**	16 - **15**	29 - **30**	3 - **5**	15 – **16**
LAO PDR	27 - **29**	27 - **29**	NA	**13**	18 - **9**	19 - **18**	**6**
Male	27 – **26**	27 – **29**	NA	**12**	19 - **10**	20 - **17**	**8**
Female	26 – **32**	26 – **32**	NA	**15**	17 - **8**	19 - **19**	**4**
NEPAL	34 – **45**	34 – **45**	NA	9 – **16**	12 – **13**	16 – **17**	8 - **14**
Male	37 – **50**	37 – **50**	NA	12 – **20**	15 – **13**	19 – **16**	10 – **15**
Female	31 – **42**	31 - **42**	NA	7 - **13**	10 - **14**	14 - **18**	7 - **13**

Source: Global Findex Database, 2018

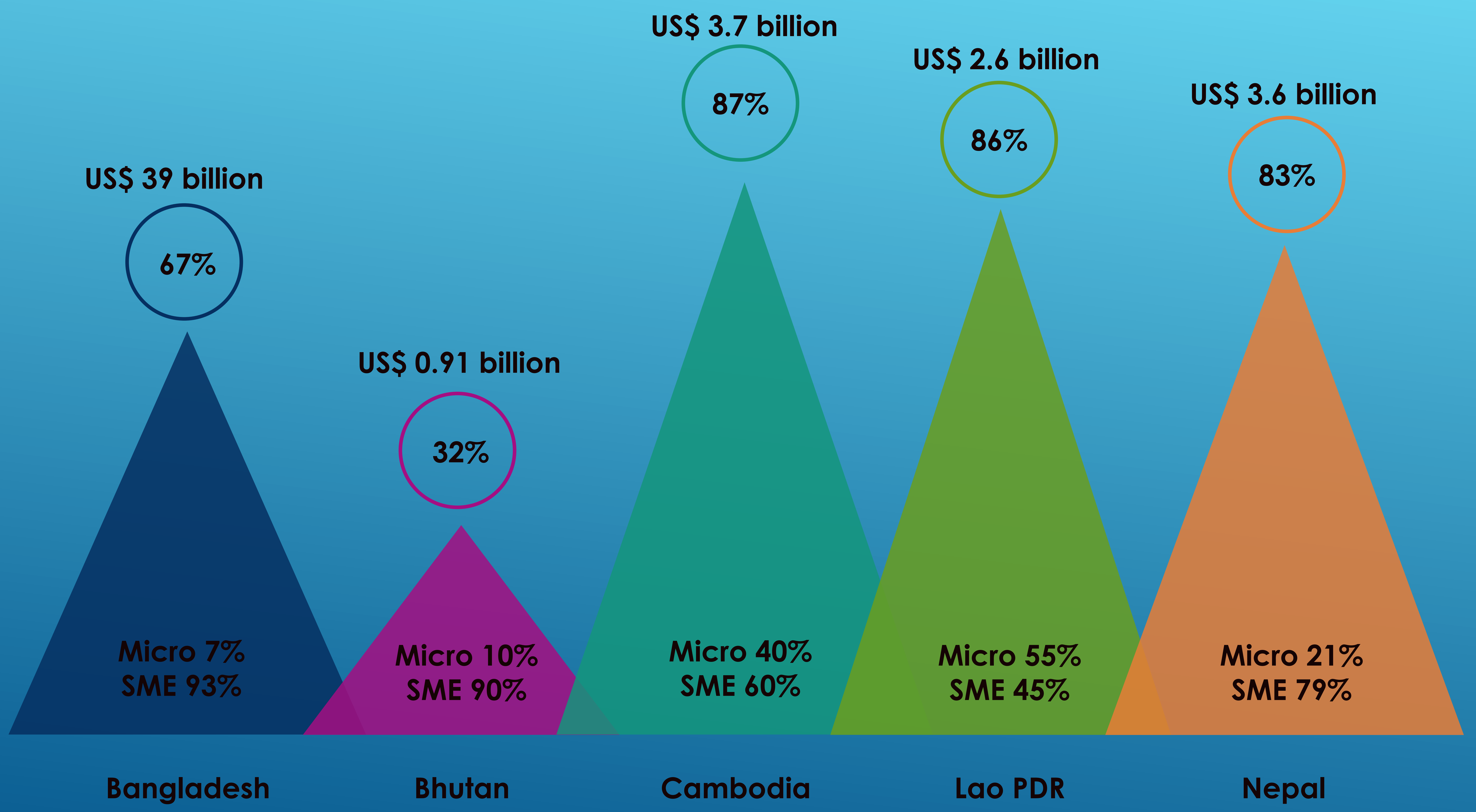
Financial inclusion in Cambodia



Source: Cambodia Financial Inclusion Roadmap 2017 / Finscope

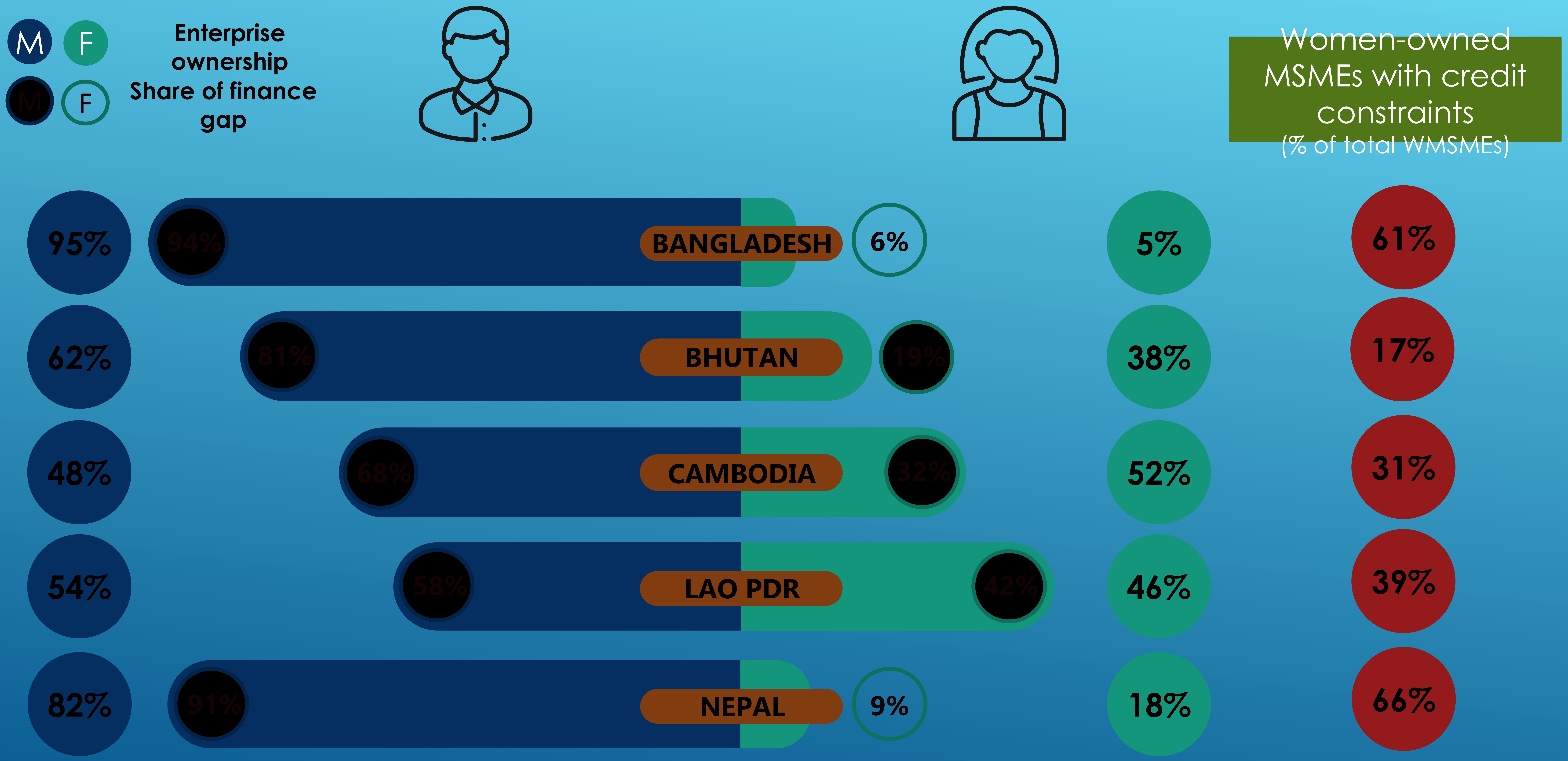
Formal MSME access to finance

Source: SME Finance Forum (2019)



Formal MSME access to finance: Gender gap

Source: SME Finance Forum (2019)



Supply side

Country	Banks	MFIs	Payment Service Providers	RCO/VFs	Capital Markets/VC
Bangladesh	✓ 70%	✓	✓		✓
Bhutan	✓ 89%	✓	✓	✓	✓
Cambodia	✓ 84%	✓	✓		✓
Lao PDR	✓ 96%	✓	✓	✓	✓
Nepal	✓ 93%	✓	✓		✓

Others include – Pawn shops, leasing, insurance companies, cooperatives

Demand side

Ease of Doing Business

Indicator	2020 Rank (out of 190)				
	Bangladesh	Bhutan	Cambodia	Lao PDR	Nepal
Ease of doing business (overall)	168	89	144	154	110
Getting credit	119	94	25	80	99
Enforcing contracts	189	29	182	161	154
Resolving insolvency	154	168	82	168	83

Source: Ease of Doing Business (2020)

Entrepreneurship

- Cultural issues – entrepreneurship is not viewed as a career option. Failure is viewed negatively
- Risk acceptance and institutional support
- But this is CHANGING
- Governments are increasingly adopting policies to encourage entrepreneurship

Common constraints in MSME access to finance

Constraining Factors	Demand Side	Supply Side
AWARENESS	• Lack information about products and services offered by formal FIs • Lack of awareness of FI processes	
RISK	• High degree of informality restricts access • Absence of collateral or lack of adequate collateral	• High reliance on collateral-based lending • Immovable assets not accepted as collateral
KNOWLEDGE	• Low levels of financial literacy - accounting, business planning	• Lack of staff skill to conduct cash-flow based assessments
PRODUCT & PROCESS	• Inadequate loan sizes limit growth • Informal lender offer better suited products	• Short loan terms • Market segmentation - by loan size, not by client characteristics • Same credit appraisal tool applied across all types of enterprises

Sources: Multiple

Constraints faced by WMSMEs

Similar Challenges as male counterparts

Challenges may be more severe these are often entrenched in gender stereotypes, limited education opportunities, and restricted mobility

Cultural and social norms

- **Perception** - women cannot manage businesses or have the necessary leadership skills for business. These may restrict business hours, dealing with male suppliers/customers, government officials

- **Dual role** - businesswomen and homemakers - restricts mobility leading to poor access to networks, trainings, often prevents expansion of the business

Sources: Multiple

DFS and A2F

Infrastructure

Country / Indicator	4G (% population)	3G (% population)	2G (% population)	Mobile Connections (% penetration)	Mobile Ownership (unique subscriber)
Bangladesh	17	94.2	95.5	93	52.6
Bhutan	55	88	98	107	53.5
Cambodia	93	90	99	153	67.2
Lao PDR	9	83.7	98	81	65.5
Nepal	32.1	72.7	92.5	134	53.6

Sources: GSMA Mobile Connectivity Index (2018)

Growing agent network

Bangladesh	Aug-15	Aug-19
No. of agents	**533,898**	**951,115**
No. of registered clients (million)	2.82	7.35
No. of active accounts in (million)	0.95	3.30
No. of total transaction	102,073,061	204,220,475
No. of daily average transaction	3,402,435	6,587,757
Product wise information	Amount (in crore BDT)	Amount (in crore BDT)
Inward Remittance	2.54	34.37
Cash In transaction	5,399.36	12,524.16
Cash Out Transaction	4,689.25	12,346.07
P2P transaction	2,246.05	8,196.47
Salary Disbursement (B2P)	119.00	903.27
Utility Bill Payment (P2B)	117.64	487.82
Merchant Payment	-	407.23
Government Payment	-	9.42

Sources: Annual Reports of Central Banks and Supervision Reports of Central Banks

…Growing agent network

Cambodia	Dec 2017	Dec 2018
Internet banking transactions		1,032,674
Value of internet banking transactions		US$ 5.1 billion
Mobile banking services transactions		14,074,983
Bank and NBFI payment transactions		92,924,651
Bank and NBFI payment transactions value		US$ 16 billion
Bank and NBFI payment agents	**23,022**	**10,285**
PSP Agents		**24,164**
PSP transactions		51,800,296
Payment transaction value		US$ 7 billion

Sources: Annual Reports of Central Banks and Supervision Reports of Central Banks

Lao PDR - Pilot
2014 to 2017 – 0 to 446 agents

Services
Phase 1 (2014 – 2017): OTC, cash remittances, cash to own (deposits) and cash to others (payments/transfers)

Phase 2 (2017 onwards): Interbank transfers, cash withdrawals, opening on the spot basic bank accounts with an ATM card, and payment of road tax (P2G)

Nepal dashboard

Nepal	Mid-July	
	2017	2018
Number of Branchless Banking center	1,008	1,248
Number of mobile banking customer	**2,438,222**	**4,711,097**
Number of Internet customer	766,958	810,674
Total no of ATM	1,874	2,252
Number of Debit card holders	4,694,066	5,307,970
Number of credit card holders	68,966	104,721
Number of prepaid card holders	101,458	96,816

Mobile banking services:

- Balance inquiry and mini statement
- Last transaction information
- Withdrawal alerts
- Cheque book inquiry/request
- Inter-bank and intra-bank fund transfer
- **Utility bill payments**

Population covered by access points		
Branch – 2,882	ATM – 7,812	BLB – 17,668

Registered Agents		
July 2019 149,000	Activity rate 40% - 50%	Activity rate – rural 60% - 70%

Sources: Annual Reports of Central Banks, Supervision Reports of Central Banks, Central Bank Reports on Payments

Basic regulatory enablers

01

Nonbank E-Money Issuance

- Payment Service Provider Regulation are in place
- Non-bank e-money allowed

(except Bangladesh)

02

Use of Agents

- Significant increase in agent numbers

03

Risk Based Customer Due Diligence

- Practiced. E.g. in case of higher value transactions, additional KYC needed

04

Consumer Protection

- Target countries need specific DFS related consumer practiced rules

Creating and enabling environment

‘Digital Bangladesh’

- Regulation on Payment Service Providers (2014), Mobile Financial Services and the agent banking models (2018)
- Fostering innovation via the Digital Financial Services Lab
- Scaling up the National ID effort (SmartNational Identity)

Creating and enabling environment

'Towards cashless and digital society' in Bhutan

- Agent banking (2016), E-money issuer (2017), and Payment and Settlement Systems (2018)
- A payment gateway - to enable interoperability, internet banking, P2P, G2P, and P2G payments
- Bank of Bhutan e-wallet app - CHHARO - for online purchase of goods and services (2018)
- Digitised the G2P and G2G payments (2019)
- Payment system to allow for real time fund transfer and to multiple accounts (2019)

Creating and enabling environment

'The match has been lit' in Cambodia

- National clearing system (2012), Fast Payment System (2016), Cambodia Shared Switch (2017),
- PSP Regulation (2017) – licenses for payments, e-wallets and use of non-bank agents
- Bakong (2019) – blockchain for cross platform transfers, augments interoperability

Creating and enabling environment

'Dawn of digital finance' in Lao PDR

- Began in 2014 –
- Enacted Payment Systems Law (2018) - Mobile money and agents driven
- Financial Inclusion Roadmap prioritises - payments infrastructure
- The four core areas of intervention under this
  - Strengthening the regulatory framework
  - Improvements to the payment infrastructure
  - Pilots on mobile money
  - Strengthening agent networks, and increased interoperability

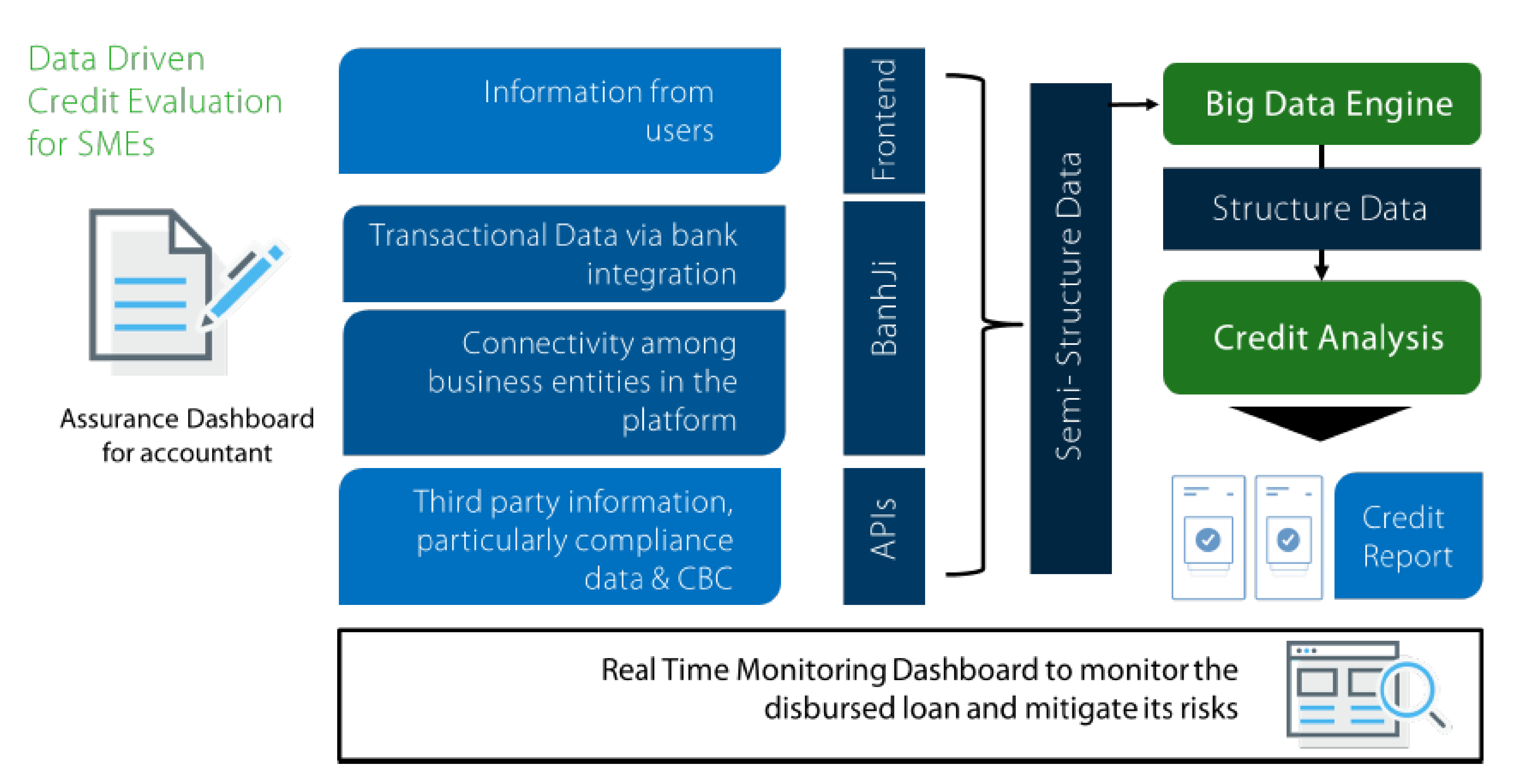
Digital finance 'on top of the world' - Nepal

- Mobile money and agents driven
- Payment Settlement Bylaws (2015)
- National Payment System Development Strategy (2014)

Wing + Banhji collaboration: Using alternative data

Specialized Bank (Payments + Transfers)

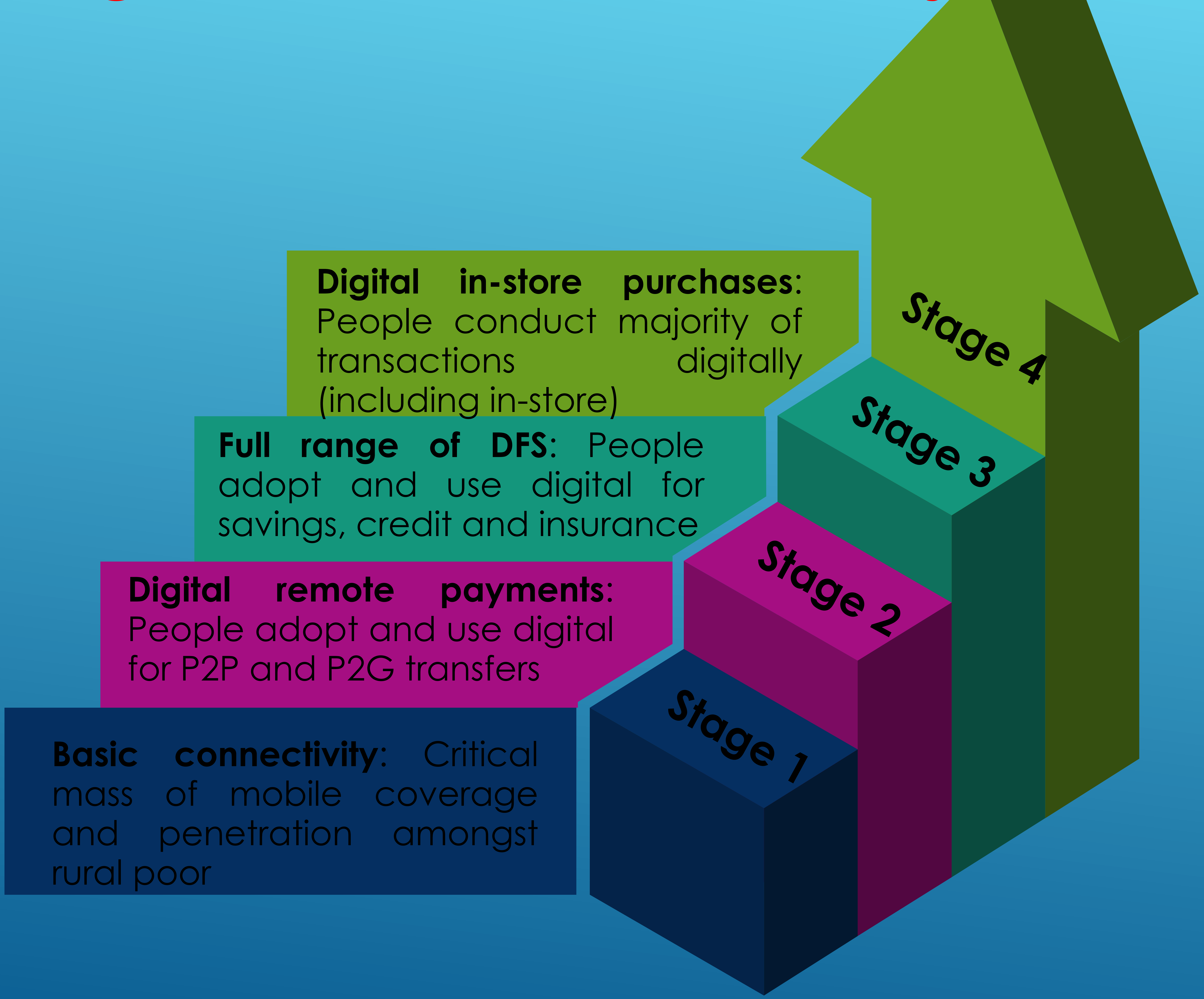
- Wing providing free of charge access to Bhanji's
- Improving SMEs' real-time visibility & insight into their financial position and performance



Alternative credit decision (Online accounting software)

Sources: Sim Chankiriroth, Report on Financial Technology (FinTech) in Cambodia (2017); Khmer Times, Wing as corporate solution provider (2019)

Which stage of digital financial inclusion are you in ?



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