

BRICS Cooperation Models

Promoting knowledge exchange to enhance socio-economic development

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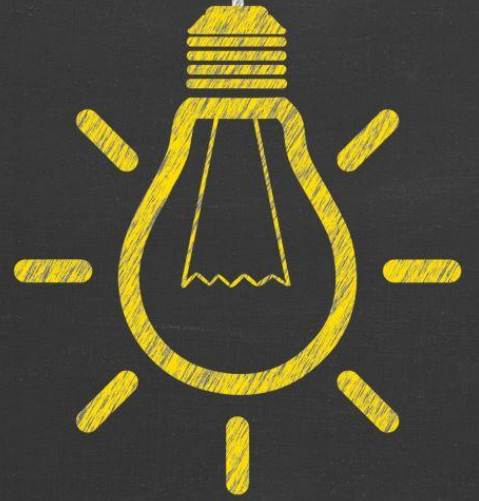
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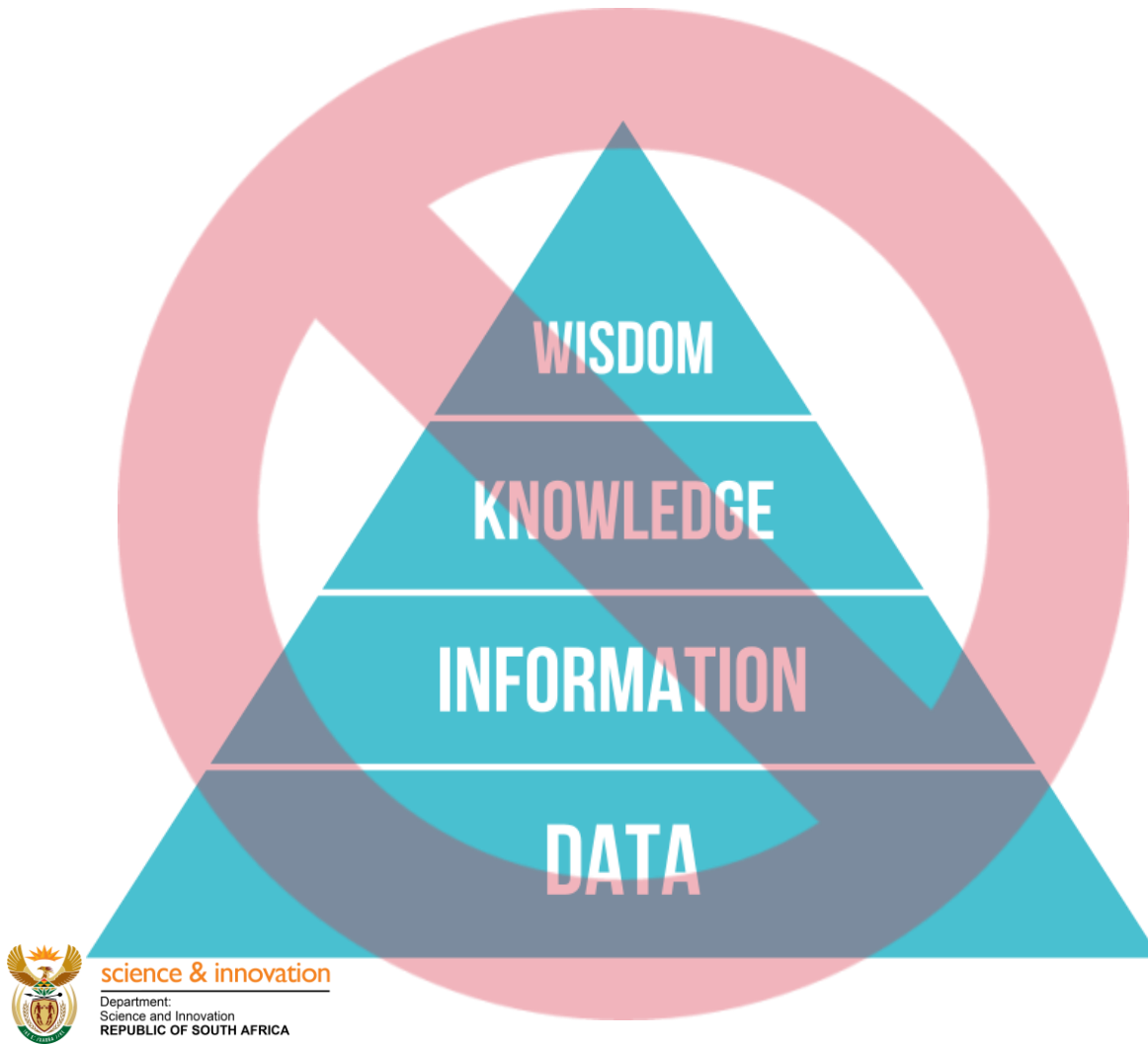
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Knowledge sharing theory



What is knowledge?



- Ackoff (1989) Hierarchy
 - Is knowledge a possession?
- What about tacit (unwritten, cognitive capacity) knowledge?
- Can knowledge be learnt / enacted through practice?
- Is knowledge a justified true belief (Plato)? What is true?
- Can knowledge be digitised?



Multiple definitions of knowledge

- “ability to discriminate within and across contexts” (Swan, 2008)
- “the individual ability to draw distinctions within a collective domain of action, based on an appreciation of context or theory or both.” (Tsoukas and Valdimirou, 2001)
- Several authors have tried to link digitisation to a definition of knowledge
- Organisational knowledge: “a learned set of norms, shared understandings and practices that integrates actors and artefacts to produce valued outcomes within a specific social and organisational context.” (Scarborough, 2008)
- My Professor (Kinghorn, 2015) “knowledge is the ability to make sense and act accordingly.”
- Definition remains contested
 - Key question – is knowledge a possession or a practice?
 - Does it influence you to act?
- How do we share something we can’t define?

Understanding Knowledge Creation

- S-E-C-I Model (Nonaka & Takeuchi, 1995)
- Describes the process of knowledge creation in an organization and sharing
- Distinguishes Tacit from Explicit knowledge
- Socialisation – shared experience
- Externalisation – codify/document knowledge
- Combination – connect new idea to old codified ideas
- Internalisation – learn, practice, embody the idea



Organising for knowledge sharing

Bureaucracy

- Hierarchical
- Centralised control
- Formal rules for exchange
- Difficult to learn something new

Adhocracy

- Minimal hierarchy
- Self organised /
Decentralised control
- Few or no rules of exchange
- Difficult to manage

Understanding Trust



Companion

Trust developed through friendship

Moral judgement



Competence

Perception of other's competence
to do the job

Respect of ability



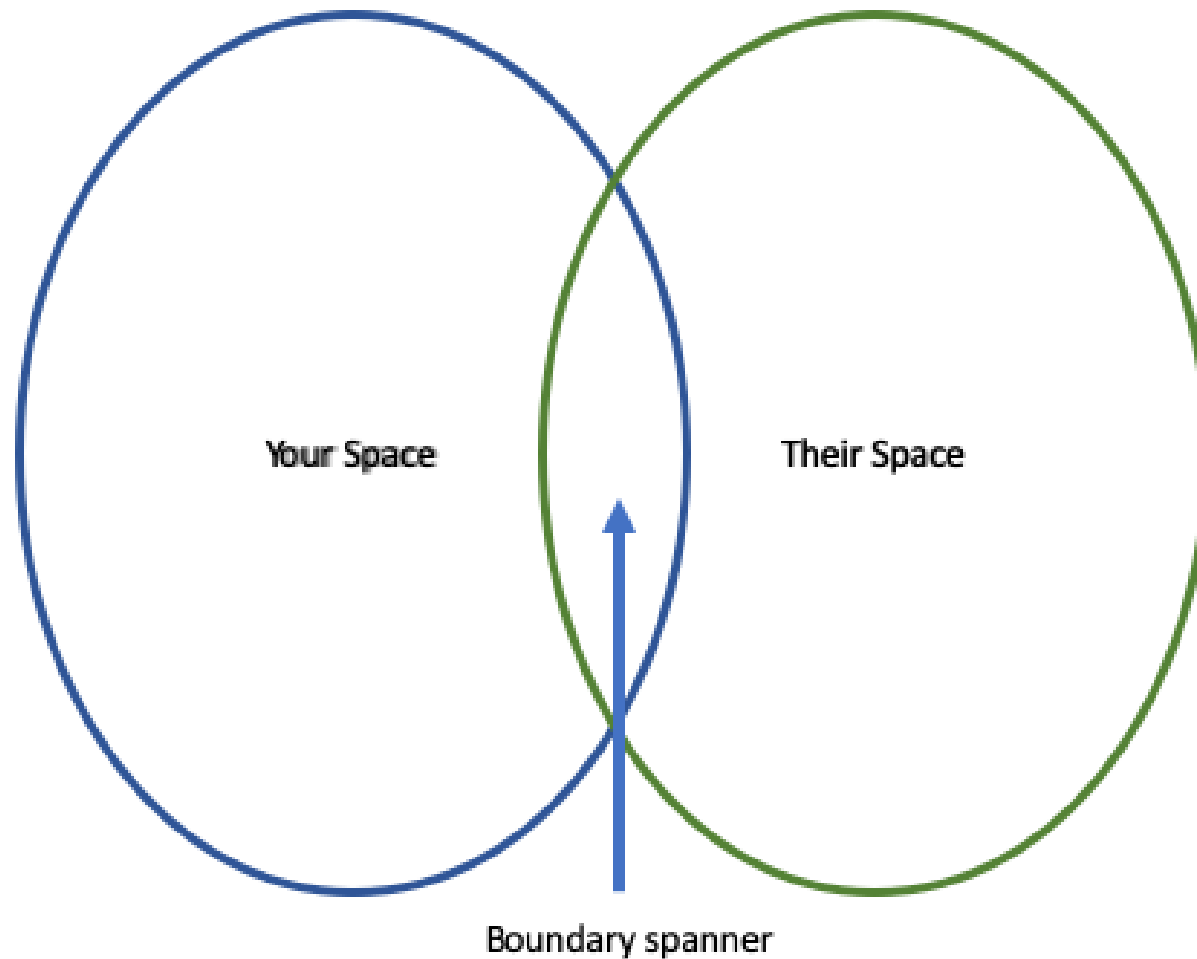
Commitment

Based on contractual agreement

My contract protects me from non-delivery

The Role of boundary spanners

- Manage relationships in a different context / across departments / countries / etc.
- Overcomes a silo-mentality
- Reduces suspicions
- Builds companion trust
- Breaks Gatekeeping
- Act as knowledge brokers



So what?

How can knowledge be globalised or freed up – not constrained by location?

What is the value of tacit knowledge in accelerating innovation?

Which forms of exchange are more conducive to knowledge exchange?

Knowledge is not the domain of the ivory tower, the R&D department or the super academic.



Importance of knowledge sharing in BRICS

BRICS Heads of State Support for knowledge sharing

2020

Developed a Strategy for BRICS Economic Partnership 2025
Developed guidelines for promoting Effective Participations among MSMEs for International Trade
29 Other reports and strategies produced

2019

Collaborative research in TB
Developed the BRICS Energy Research Cooperation Platform
28 Other reports and strategies

2018

Focus on People to People Cooperation
Vaccine Research & Development Centre

Past BTTC Recommendations for knowledge sharing

Recommend
collaboration between
Government, Business,
Academia and Civil
Society.

Focus on resources
required for joint
research

Facilitate technology and
knowledge transfer

Recommended setting
up a framework
programme to jointly
finance research projects
(similar to the EU FP7)

Knowledge and Information Sharing Challenges

Comparable data not available at sub-national levels or on topics not covered in the BRICS Joint Statistical Publication

Documents usually not translated into other languages

Statistics usually not translated

Business and research are separated into silos – not fostering Research/University to Industry collaboration

Ownership, funding and management

Intellectual Property protections

FinTech Partnerships between China and Africa

Case Study





Promoting financial inclusion in Africa, through partnerships

The Belt and Road Initiative needs a foundational financial architecture to promote trade and mutual growth in Africa and China

Inclusive growth strategies are a priority in Africa

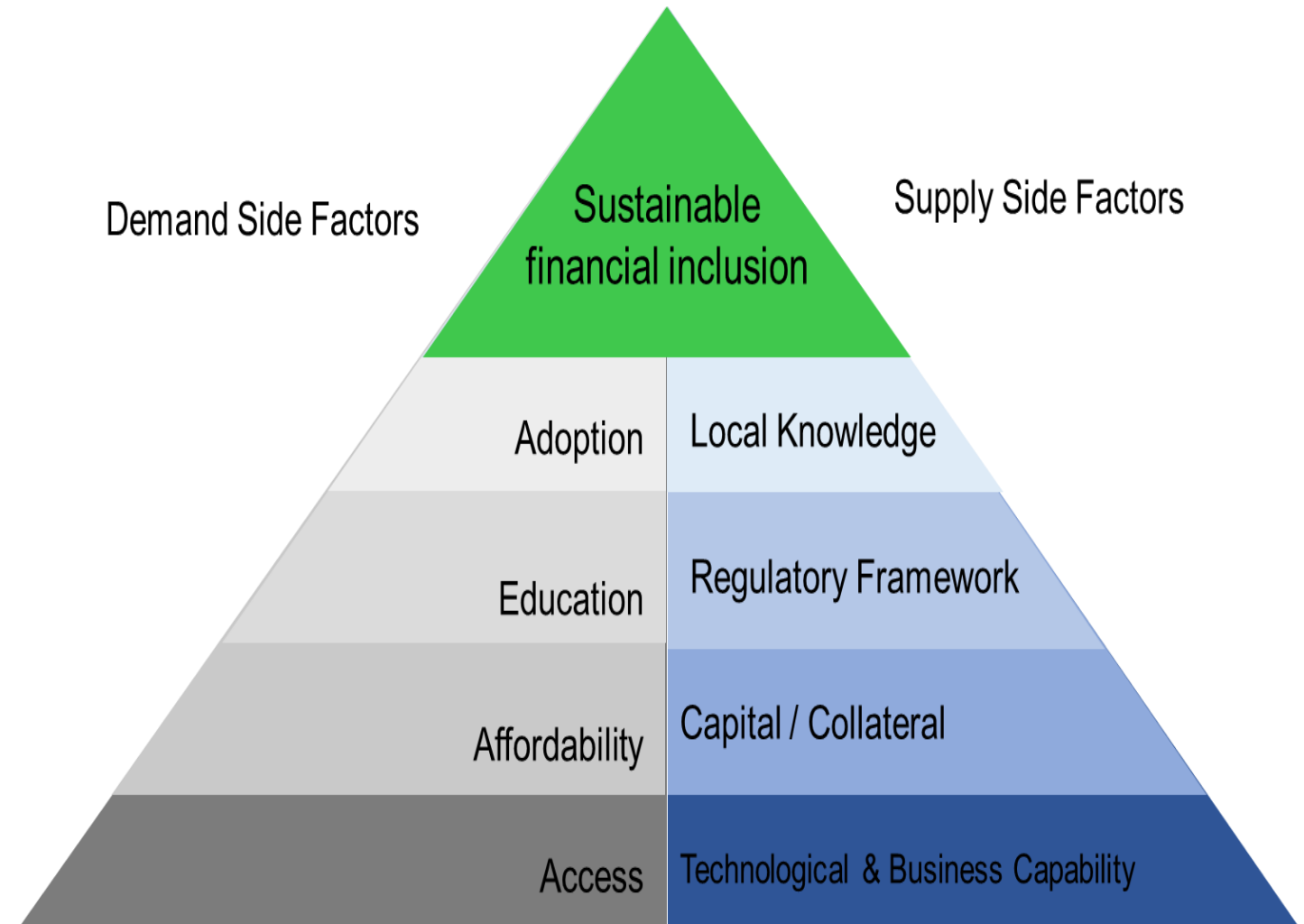
Drivers of financial inclusion differ in each country and community

Africa must define its needs and reasons for partnerships with China

Chinese investors and potential partners need guidance in how to navigate the risks of venturing into Africa

Drivers of Financial Inclusion

- Important to consider factors affecting the consumer and the FinTech provider
- Goal is to develop a sustainable FinTech sector

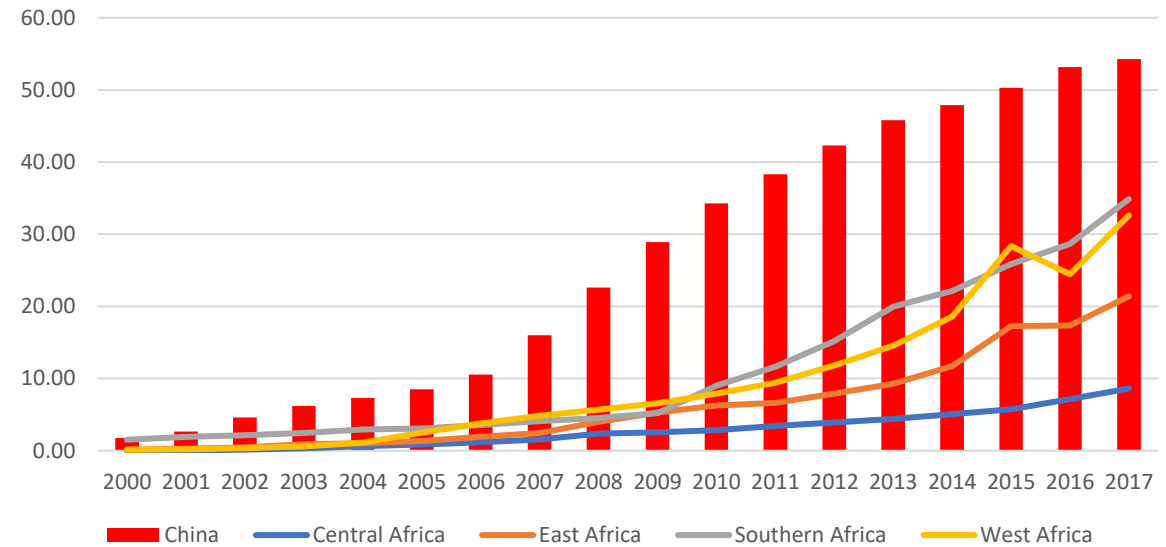


Chetty et al (2018)

Access

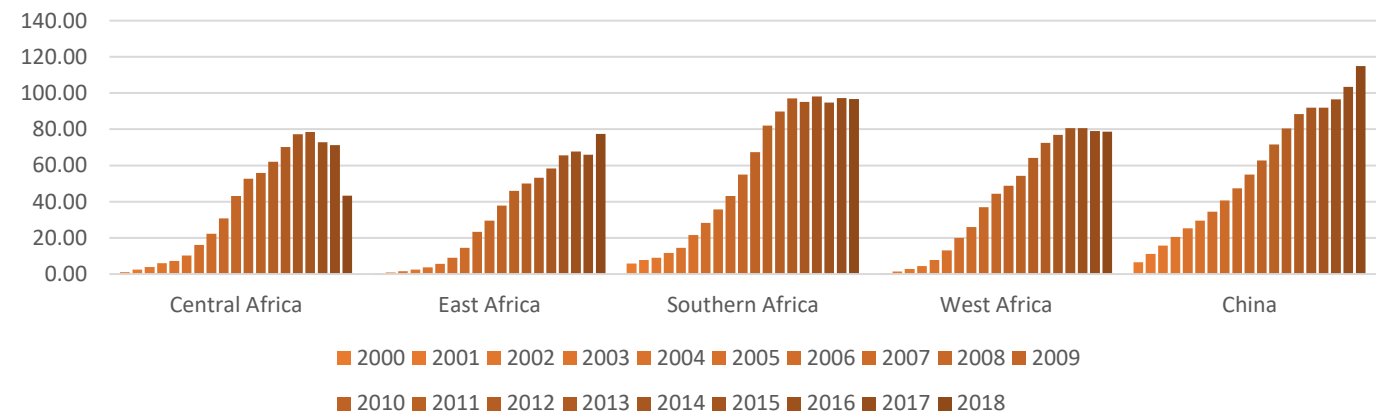
- Internet access is far lower in SSA than China
- Highest in Southern Africa (35%, 2017)
- Cellular connections have grown rapidly
- Predominant connection is via 2G Network (61% to 93%)

Internet Access Estimates



Source: International Telecommunications Union

Mobile-cellular telephone subscriptions per 100 inhabitants

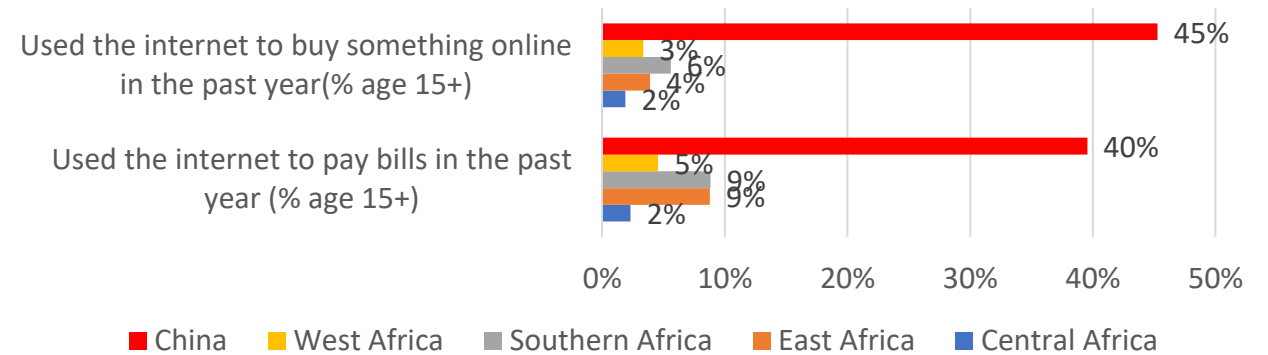


Source: Statistics South Africa & Internet Telecommunications Union

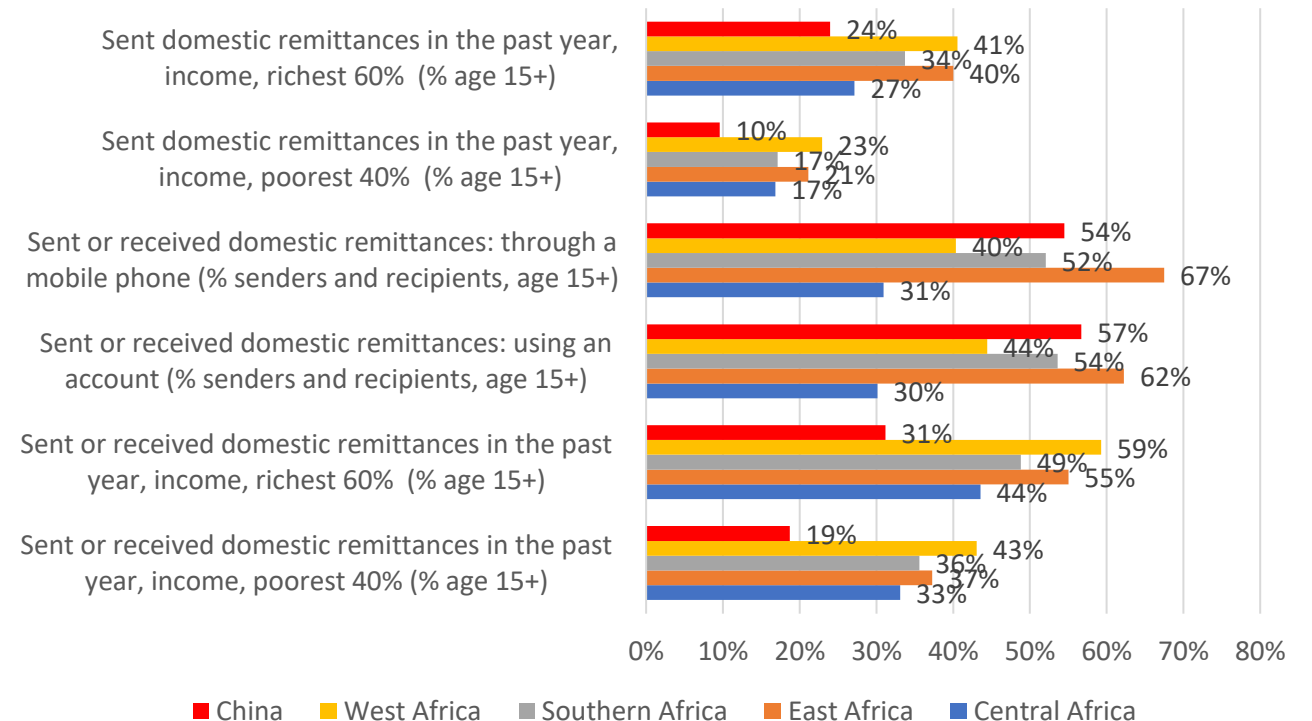
Payments in SSA

- Few individuals use the internet to pay bills or buy products
- The need to send or receive remittances drives payment demand in SSA – more prevalent than in China
- Domestic, Mobile Remittances most popular in East Africa (67%)
- Providing Remittances is the entry point to the payments market

Types of Internet Payments



Remittances Trends



Savings in SSA

- There is a savings culture in SSA
- Poor communities benefit from group savings initiatives
- Savings clubs are often unregulated
- Digitising and formalising savings club processes is an entry point

		LOAN DEPOSIT		
	DATE	DETAILS	¢	P
1	18/10/06	1st 2nd	575.000	
2	7-11-06			
3	16-11-06			
4	24/11/06			
5	28/11/06			
6	5-12-06			
7	19-12-06			
8	9/1/07			
9	23-1-07			
10	6-2-07			
11	27-2-07			
12	8-5-07			
13	7/3/08			
14				
15				

REPAYMENT		BALANCE		INITIALS
¢	P	¢	P	
		575.000		
42,000		533,000		
50,000		483,000		
50,000		433,000		
50,000		383,000		
50,000		333,000		
50,000		283,000		
50,000		233,000		
50,000		183,000		
50,000		133,000		
50,000		83,000		
50,000		33,000		
Out 3.30				

Challenges faced by FinTech Start- ups

High failure rate of Start-up
businesses in Africa

Start-up requires access to
expert knowledge and
mentorship

ZAR 250m / RMB 125 m Capital
Investment threshold to secure a
banking license in SA

Regulatory processes can be
restrictive

Strengths of FinTech Start- ups

FinTech start-ups recognise the importance of designing a product in line with the needs of the market

Formal sector has found product design irrelevant

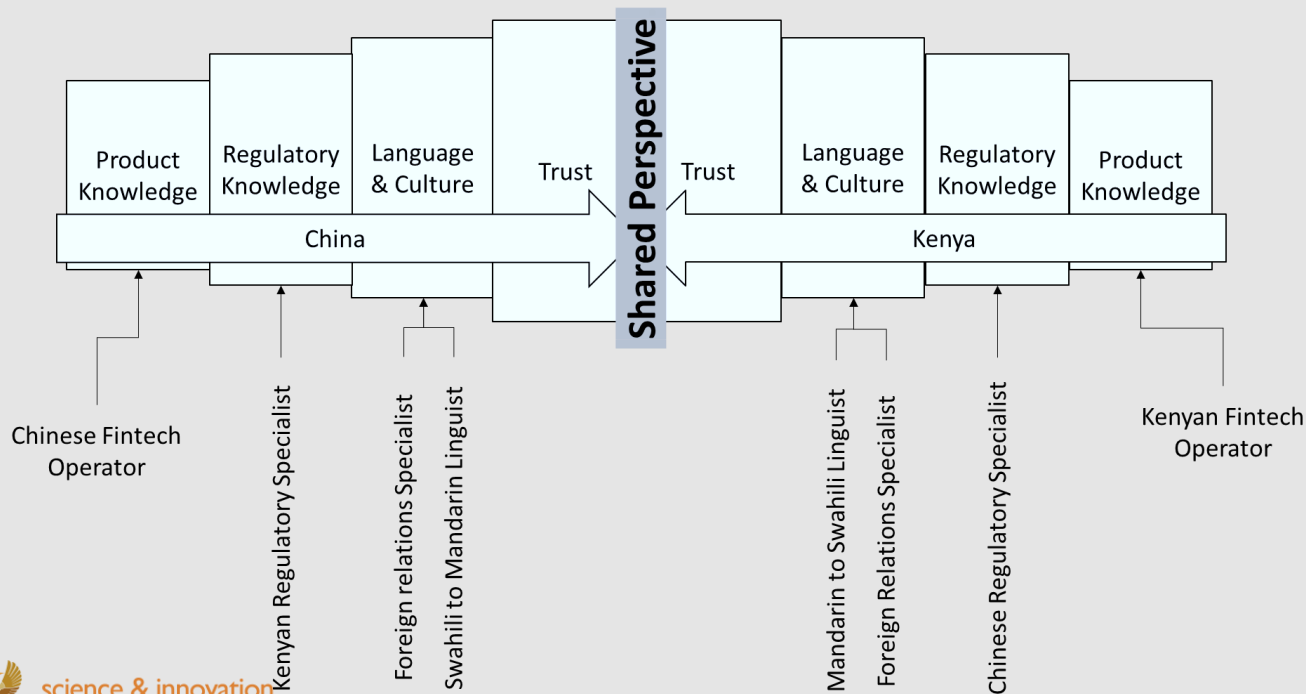
Start-ups possess in-depth tacit knowledge of local market concerns

Knowledge is valuable in the absence of big data sources, when starting up



Can partnerships &
knowledge sharing
strengthen Africa's FinTech
sector?

Incubators / Accelerators / Fintech Associations can act as knowledge intermediaries



- Knowledge Intermediaries strengthen the bonds between FinTech networks across international borders
- Is a need to share knowledge about social, cultural, political, economic and regulatory constraints
- The knowledge collected by the intermediary can be shared amongst the FinTech Association network
 - helps build the capacities of the local entrepreneurs as they start to engage with foreign markets
- Intermediaries can access knowledge and information and make this more accessible, particularly when they are in a foreign language
- By engaging closely with a foreign network of operators, the intermediary can build strong forms of trusts with their foreign counterparts

Model 1: Capital Investment & FinTech Programmes

The Chinese partner secures a minor stake of equity in a specific start-up

Investment needs to be channelled appropriately to high-potential start-ups.

Must improve the service offered by FinTech Incubators and Accelerators.

Model 2: FinTech Product Offering

The Chinese partner identifies a high-potential start-up or established FinTech operators and opts to partner,

Providing infrastructure and product/service support

The African partner provides insights into the local market and unique market needs

This strategy leverages Chinese technological expertise and local African knowledge.

Model 3: Mergers and Acquisitions

The Chinese partner opts to quickly enter the market through the acquisition of an African company.

This method is complex due to the legal and regulatory concerns → Delays

Chinese based business models are unlikely to succeed in a developing market context, without being tailored to local needs.

Model 4: FinTech Joint Ventures

The Chinese and African FinTech organisation develop a new joint institution

New institution is separate from their current organisations. Is a unique structure unimpeded by legacy business processes.

May retain skills but may can be more costly

Conclusions


Recognise the unique product requirements of the consumer

Need to support the capabilities of the FinTech innovator

- Strengthen Incubators and Accelerators

Lobby Governments and the FinTech sector to form national FinTech Associations

Identify which partnership engagement model is most appropriate based on your objectives

A tall, white wind turbine stands on the right side of the frame, its three blades reaching towards the top right. The background is a deep, dark night sky filled with countless stars. A prominent, bright band of the Milky Way galaxy stretches diagonally across the sky from the bottom right towards the top left. The overall color palette is dominated by deep blues, blacks, and the warm, golden-white light of the stars and the galaxy.

BRICS Cooperation in Renewable Energy

Case Study 2

How do we expand knowledge sharing and cooperation in BRICS?

BRICS need to reduce reliance on fossil fuels, reduce GHG emissions and transition towards renewable energies

Cooperation and knowledge sharing is vital to accelerate this path

BRICS Energy Research Cooperation Platform must be expanded, integrating contributions from

- Local Governments
- Private sector through Renewable Energy Associations
- Academia

Need to engage Consulate Offices to drive partnerships at city level, through International Relations Ministries

- Facilitate dialogues
- Act as interface between RE Associations

What can the BRICS offer and what do they need?

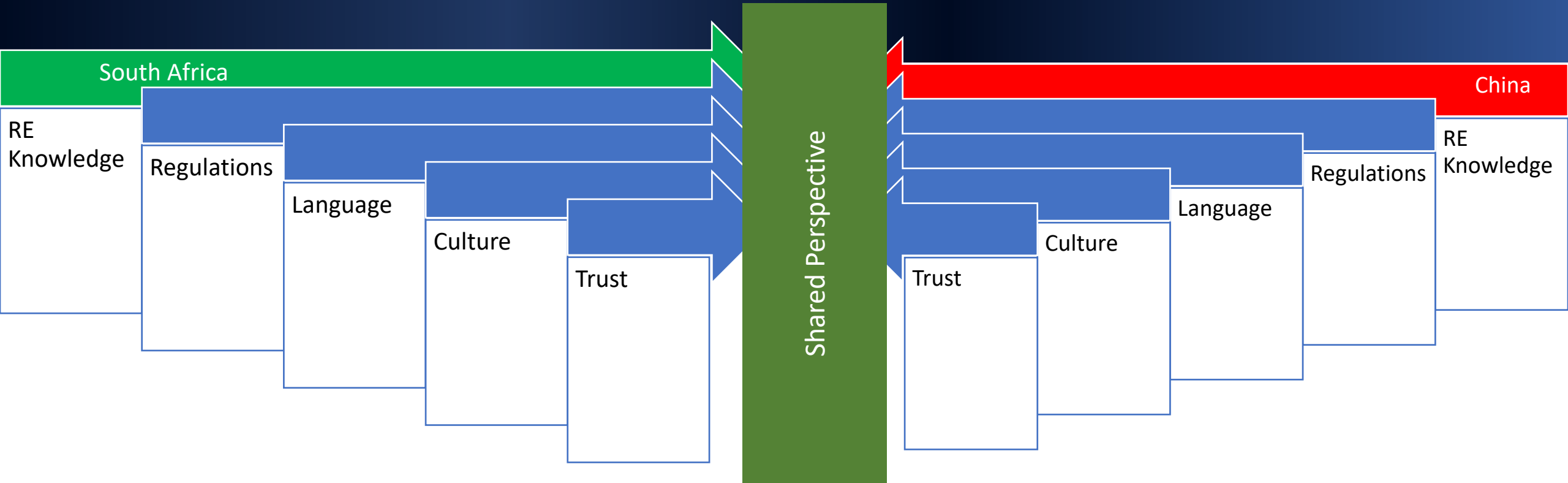
	Brazil	Russia	India	China	South Africa
Solar	Expand up to 2035, interested in heat resistant products	Needs components for photovoltaic installation		First in world of installed capacity	Has good locations for solar projects
Wind		Needs components like gearboxes, blades	Strength in gearbox manufacturing, tower construction. Supplies Brazil and China	Rapid acceleration of wind capacity	Has good locations for solar projects
Hydro		Needs telemetry systems, drilling hydraulic wrenches, etc		Ability to produce turbine engines for power plant	Rivers offer potential sites for new projects
Clean Coal		Will be expanding coal plants	Exploring, utilising carbon capture & storage (CCS) systems	Needs to promote CCS. Needs supply of high quality coal products	Plans to invest in CCS
Batteries	Expand energy storage and storage processing		Needs to decentralise storage		Southern Africa produces relevant raw materials, plan to expand manufacturing
Biomass/Biofuels	Has competitive advantage		Interested in collaborating in extracting biodiesel raw materials	Strength in utilising/recycling waste raw materials	Expansion could boost municipal revenue, sites available across country
Smart Grids	Mathematical models, IoT software systems	Needs digital modelling techniques,	Had success in Smart Grid tech	Advanced smart-grids	Need to expand transmission infrastructure
Energy efficiency			Had success in LED lighting	Have advanced energy-efficient equipment	
Other		Needs industry safety techniques, Needs tech for arctic conditions	Strength in software development, engineering and consulting	Manufacturing engineering, chemical, light products	Need to expand component manufacturing and construction to create jobs. Policy framework needs development at local level

Role of BRICS Renewable Energy Associations

- Are non profit organisations
- Majority were launched in last decade
- Members are a mix of Private sector representatives, academia & regulators
- Protect fledgeling industry which competes against dominant energy producers
- Have deep local knowledge
- Disseminate information and knowledge
- Facilitate creation of new standards



Renewable Energy Associations / Consulate Officials can act as knowledge intermediaries



- Consulate officials can engage on behalf of the sector
- Association can pool resources and have deep local knowledge and understand regulations
- Consulate offices can assist with language and cultural translations – helping to build trust

- RE Association acts as a buffer protecting interests of local sector
- Must build trust to commence knowledge sharing and partnership building

Recommendations

BRICS Energy Research Cooperation Platform must be expanded to include RE Associations, Local Governments and academic institutions

International Relations Ministries should engage their Consulate Offices to identify strategic partners, via RE Associations

- Promote dialogues, exchange programmes, research agenda

BRICS NDB to make funds available for establishing knowledge partnerships, accessed via Consulate Offices

Key Take Away Messages

Knowledge is both tacit and explicit

- Sharing strategies must cater for both forms

Trust is very difficult to achieve in general

- Harder across the BRICS

We need intermediary institutions to act as buffers

Local knowledge is key when entering a foreign market

Thank you

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