CHANGING IMPERATIVES IN CROSS BORDER PAYMENTS

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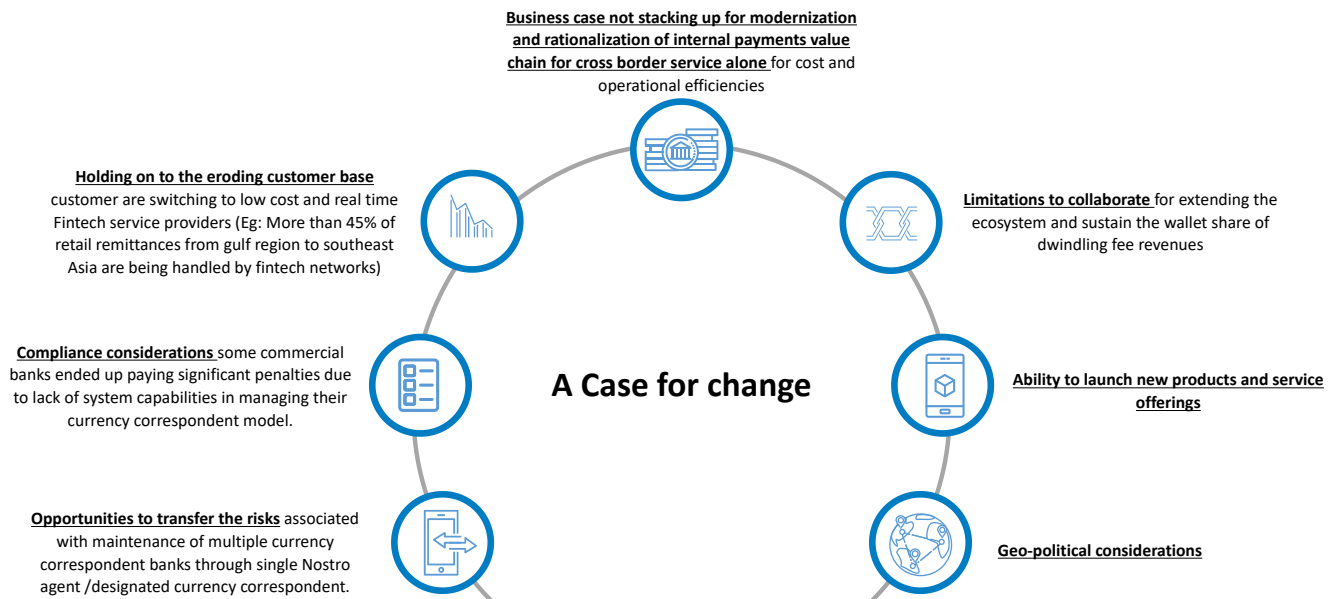Navigate your next

Contents

1. Foreword

In the current world order, more than 80% of cross border payments are processed through the correspondent banking network. Banks are aligned with the correspondent banking model since 1973 and sustained it through its phases of maturity. It is currently seen to bring in innovative variants while retaining good old correspondent banking model. Lately, alternatives are being evaluated by banks for multiple reasons. Broad classification falls into 2 buckets: technology driven cost effective and efficient alternatives and the shifting power centers of world politics. The focus of this paper would be on tech alternatives and the motivation for their adoption. These are led by Fintechs and card networks who have the leverage of global presence and are establishing alternative cross border transaction platforms with specific objectives.

Although SWIFT is helping in evolving the current operating model to keep it relevant through interventions like CBPR+ (adoption of ISO 20022 messaging standard), GPI initiatives (near real time payments in select corridors and improved status tracking) etc., the correspondent banking model still falls short in serving the current day demands of customers and banks.

Based on our engagements, some of the business cases for alternatives include:

Business case not stacking up for modernization and rationalization of internal payments value chain for cross border service alone for cost and operational efficiencies

Holding on to the eroding customer base customer are switching to low cost and real time Fintech service providers (Eg: More than 45% of retail remittances from gulf region to southeast Asia are being handled by fintech networks)

Limitations to collaborate for extending the ecosystem and sustain the wallet share of dwindling fee revenues

Compliance considerations some commercial banks ended up paying significant penalties due to lack of system capabilities in managing their currency correspondent model.

A Case for change

Ability to launch new products and service offerings

Opportunities to transfer the risks associated with maintenance of multiple currency correspondent banks through single Nostro agent /designated currency correspondent.

Geo-political considerations

Source: Infosys Consulting

2. Growing influence of market forces and geo level entities on cross border payments

It is no exaggeration to say that Fintechs are occupying this space faster while card networks are growing inorganically by acquisitions and investments. Innovation in the cross-border space is a matter of revenue streams capture and sustaining the growth. On the other hand, real time payments revolution in domestic payments are driving banks either to partner or become full participants in the backdrop of the risks of losing-out customer base, revenue base and its logical extensions into cross border for seamless STP. This can be evidently seen through the initiatives of market leaders in the RTP space like UPI of India which is leading the way in bringing extended cross border ecosystems to their real time payments platform. Based on the influence of market and geo level entities, we see 6 key emerging operating model changes at the ecosystem level:

1. Democratized core infrastructure that facilitates and enables fintech or bank innovation on the edges	2. Asset-currencies (assets getting used as currency and vice-a-versa) with global uniform value and acceptance
3. Open and inclusive global commerce models driven by geo-neutral currency	4. Currency corridors solutions based bilateral and multi-lateral monetary unions (ex: Multi-currency RTGS /RTP platforms)
5. Hybrid and optimized revenue sharing ecosystems, extending beyond FIs – cost of remittance will reach its bare minimum	6. Advent of CBDC and active participation of central banks in citizen businesses

Source: Infosys Consulting

# 3. Historical basis and motivating factors for the proposed changes

3.1 High fee

Project Inthanon-LionRock use case for CBDC was based on the premise that correspondant banking fee is around 10% - 12 % of the total value of transfer in cross border transaction. This is further aggravated by <u>time to transfer.</u> It results in eroded value of actual transferred amount. This could be due to multiple reasons including currency trading and market speculations. An overall breakdown of costs associated with cross border transfer will reveal the reasons of innovation of divergence and shifting towards the models of experimentation[2]

| Area of cost for cross border payment	Percentage of impact
Foreign exchange / currency trade and associated mark up	10 to 12
Cost (opportunity) of liquidity maintenance in (multiple) currency correspondent banks	15 to 20
Compliance and regulatory restrictions driven costs and overheads	15 to 20

The above costs are exclusive of internal OPEX (operational Expense) and are dependent on efficiency of payment systems architecture and residual technology debt if any. They include

- Payment operations and treasury
- Cost of risk management (Herstatt and sanctions)
- Traceability premium
- Payment repairs and investigations
- Vendor product license
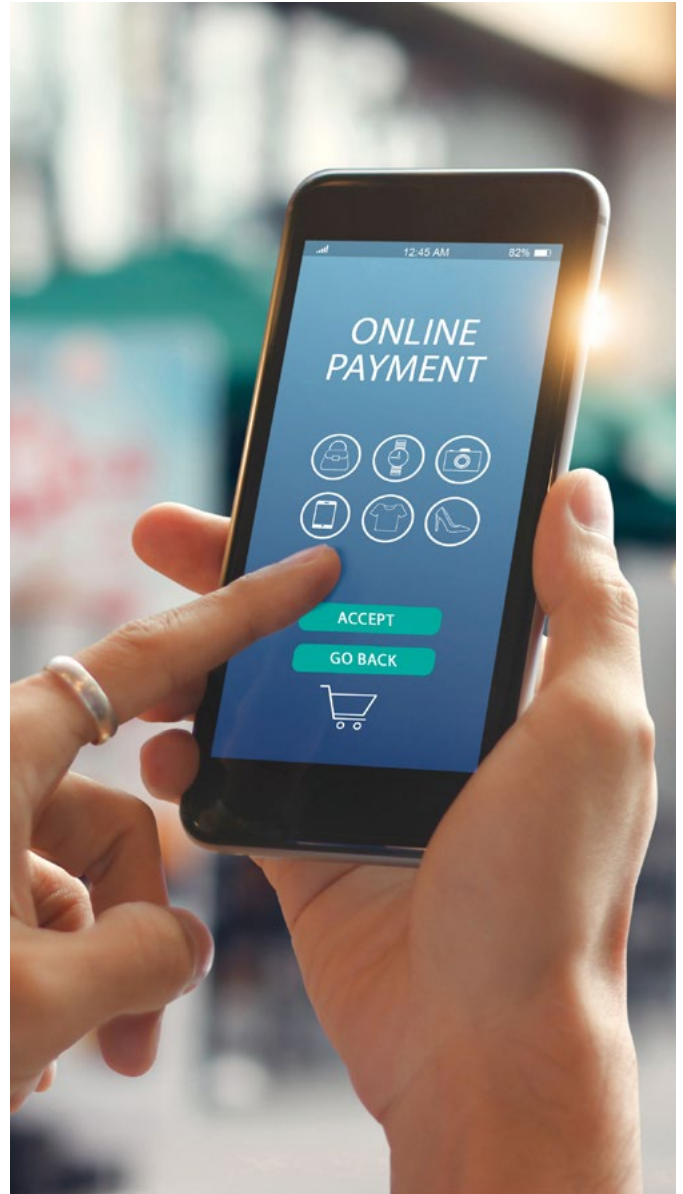
3.2 Limited transparency

Correspondent Banking Model Serial method: Despite the messaging format change and track and trace capabilities, the old problems persist, elaborated in the image below:
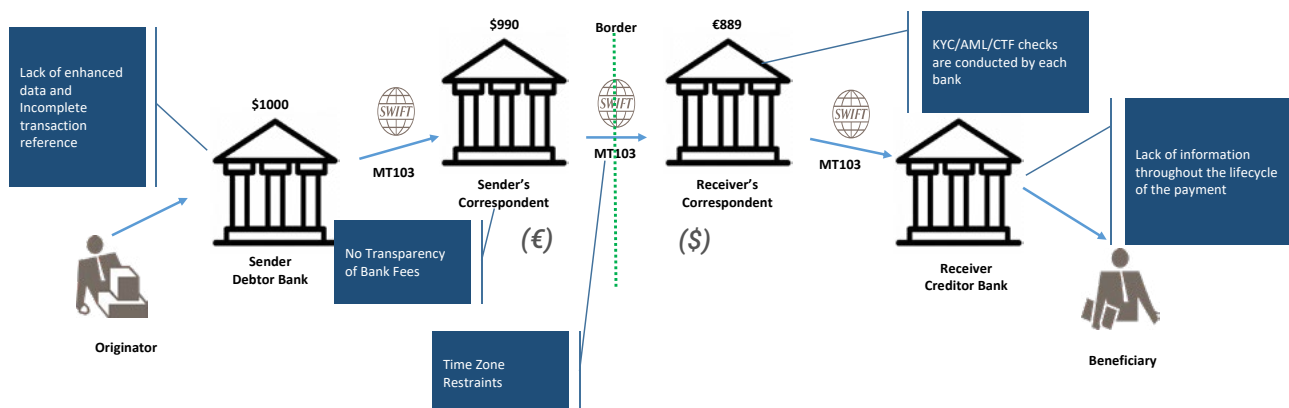
Source: Infosys Consulting

3.3 Treatment of exotic currencies and inconsistent SLA (Service Level Agreement)

The concept of exotic currencies (non-reserve currencies) and the way they are treated in the name of economic stability of the originating country is another historic scenario that results in thinking of alternatives.

3.4 Geo-political reasons

Geo-political reasons have caused cost escalations and are accelerating the innovative thinking to find opportunities in crisis.

Inflation in the first world cannot simply be attributed to Ukraine crisis alone. Central banks should be worried about the money creation bubble outside the regulatory framework. This is 100% speculation and cannot be aligned with any kind of economic productivity in a country. This has a knock-on effect on the third world countries where in M3 monies in the hands of public at large are being pumped into these speculatory models at a very high risk through illicit exploiting of/finding loopholes in cross border systems, despite significant restrictions.

3.5 Unproductive liquidity in multiple NOSTRO accounts

Maintaining funds at prescribed threshold levels in multiple NOSTRO accounts for cross border liquidity has been more than an opportunity cost. This is despite the opportunity for commercial banks having access to international financial markets and trade instruments for their treasury business offered by correspondent banks and fixed interest payouts on the monies held in these accounts.

More than liquidity governance, monitoring and risk management

has been the biggest weakness in this model for country specific banks as they face the wrath of penalties of their respective central banks.

While multinational banks have been innovating to capitalize on this weakness in the system, card networks have established their cross-border networks leveraging their reach across the world.

## 3.6 Payments driven currency Corridors history – a mixed bag

Currency corridors exist within the existing cross border payments models and messaging standards where some common themes and protocol expectations can be established within the limitations of correspondent banking model. One such model Central American Monetary Council (CMCA) as seen in Latin American markets represents a currency corridor on legacy SWIFT platform and transacting model. Central American Monetary Council (CMCA) - Multiple RTGS Systems to create Single Identifiable Payment Entity (SIP)
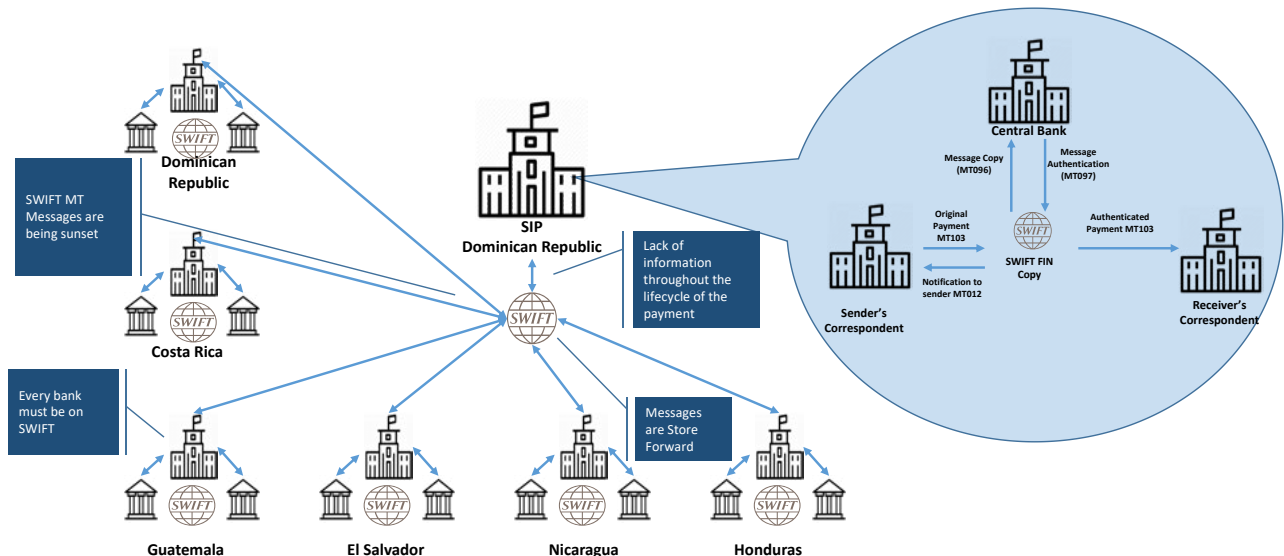
Source: Infosys Consulting

There is also an attempt for ACH Interconnectivity through International Payment Framework Association (IPFA). But this scheme received little adoption and hence was decommissioned. IPFA was focused on retail transactions with batches being processed over SWIFT Net-File Act End points being the commercial banks. It was the case in the CMCA model as well and at the same time high value payments were handled with low-risk coverage.
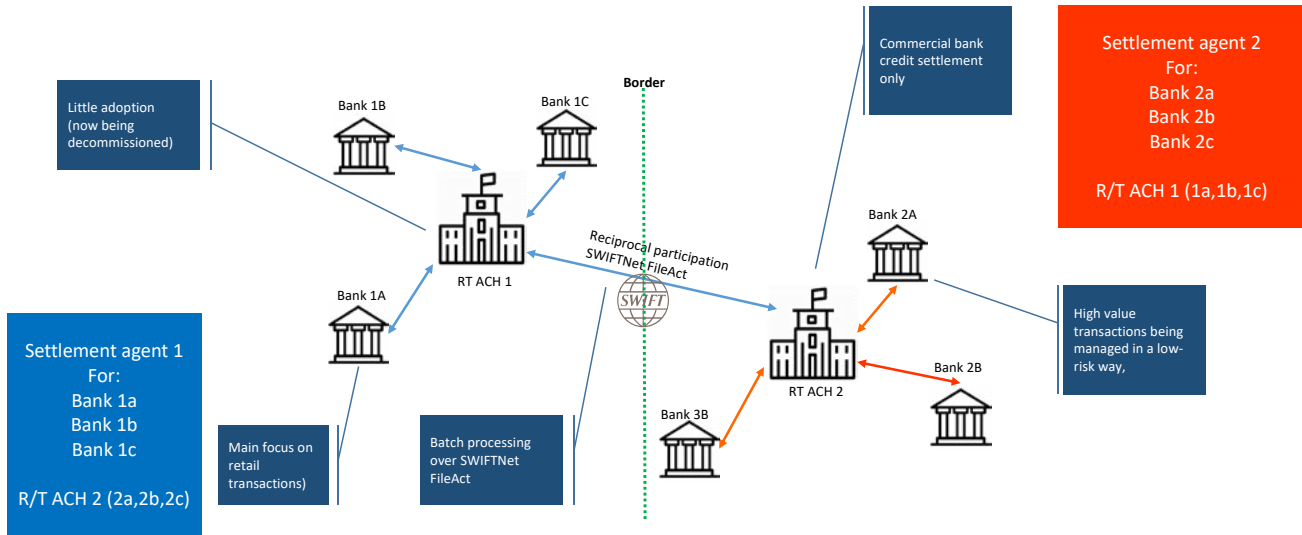
International Payment Framework Association (IPFA) - ACH Interconnectivity

Source: Infosys Consulting

4. Objective changes occurring the ecosystem

Initiative	Potential business benefit
Rationalization of NOSTRO accounts and potentially move towards a single cross-border payments aggregator service provider (SWIFT based / non-SWIFT based)	• Fee optimization • Reduced liquidity allocations • Transparency
Currency Corridors through central banks or designated commercial banks (bilateral and multilateral)	• Bilateral NOSTRO/VOSTRO settlements minimizing/eliminating reserve currency related hops • Extends the customer base • Reduced exchange fee of typical correspondent hops • Reduced pressure on exchange reserves yielding other economic dividends
Multi-currency RTGS platforms	• Brings designated commercial banks virtually into domestic schemes for each currency bridged with • Potential Near real time cross border
White labelled multi-option payment gateways	• Ability to derive least cost and fastest route cross border payment method based on the currency in focus of remittance

All these demands a specific levels of modernization interventions or capabilities uplift in the value chain of the banks. It is imperative that these transition states continue to innovate, and it is of paramount importance that commercial banks establish solutions that can open and inclusive payment infrastructure capabilities with longer shelf life in medium to long term

So, what are the ecosystem level solutions that are becoming available? With the backdrop of COVID-19 followed by the Ukraine conflict, there is significant increase of interest in alternative options of cross border payments. Due to sanctions driven compulsions, many payments are bypassing currency correspondents positioned in the US, Europe. These innovative models have started shifting the payments away from correspondent banking models making the alternative cross

border options a reality. Some of active interventions are:

1. Extension of country payments infrastructure as a service to other countries

2. Real time cross border service offered by card networks leveraging their penetration

3. Connected clearing houses for real time cross border payments with bilateral currency settlement arrangement

4. Multinational banks by virtue of their presence globally service as single multi-currency Nostro agent bank
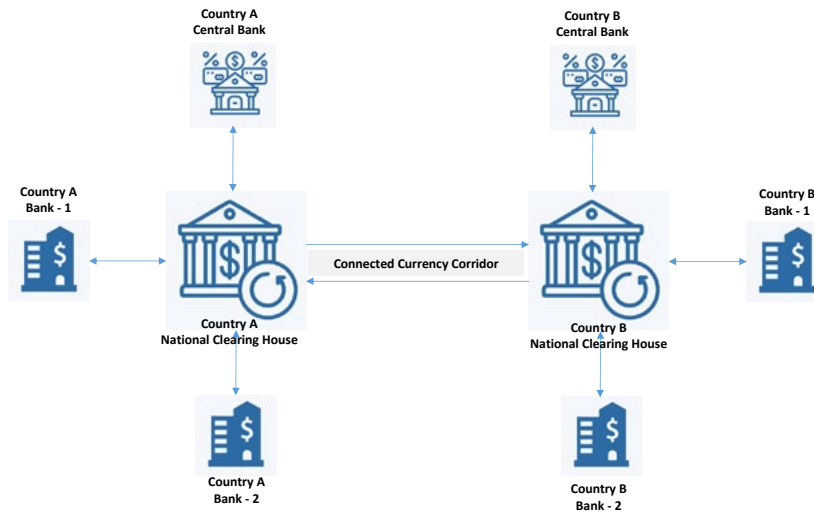
Source: Infosys Consulting

At the Next level of granularity, we see more models emerging to address the cross-border payments friction

Acceptance of exotic currency pairs is observed in isolated pockets and is significantly motivated by the oil trade. It is a well-known fact that acronym called Petro-dollar has not come into existence without a reason. All OPEC countries would like to leverage USD as a currency to run their oil exports business and this model benefits both US and oil exporting countries. This is highest transacted global commerce segment. Recently

developing economies with a high growth rate (averaging above 5% like India) are establishing pacts with countries in bilateral currency-based payments to reduce their oil bill and in some cases avoid sanctions in SWIFT network. Essentially there could large value net settlements offsetting that could reduce the cost of payments processing itself. A business case to be developed to establish the fungibility of this model in isolated objectivity keeping aside the geo-political compulsions.

Acceptance of exotic currency /Neutral currency for international trade

Existing model of currency pairing

Ex: N remittance initiated to P account

Currency pair 1 : NGN/USD
Currency pair 2 : USD/PSP

PSP account holding institution requests to remit USD in its NOSTRO account held in the bank in USA.

NGN remitting bank will instruct its USD correspondent in US to remit NGN remittance equivalent USD into the USD account of PSP account holding institution

In confirmation for USD correspondent, PSP account holding institution will make the cash available to customer to utilize in its resident /domestic account.

New model of currency pairing

Ex: ₹ remittance initiated to S$ account

Currency pair 1 : INR/SGD

INR account holding institution requests to remit SGD in its NOSTRO account held with the correspondent bank in Singapore into to account of receiving customer through its SGD NOSTRO correspondent.

On instruction rupee remitting bank, SGD correspondent bank will pay SGD to local recipient

This model bypasses usage of reserve currencies as a base for transacting in exotic currencies

Source: Infosys Consulting

It is not a hidden fact the migration and adoption of ISO 20022 is more of a band-aid approach rather than a wholistic modernization effort. The effort and cost associated with this modernization is not stacking up in terms of business case leading to adopt alternatives and protract the transformation journey with least disruption. This is more to do with internal reasons than external and some of the reasons include:

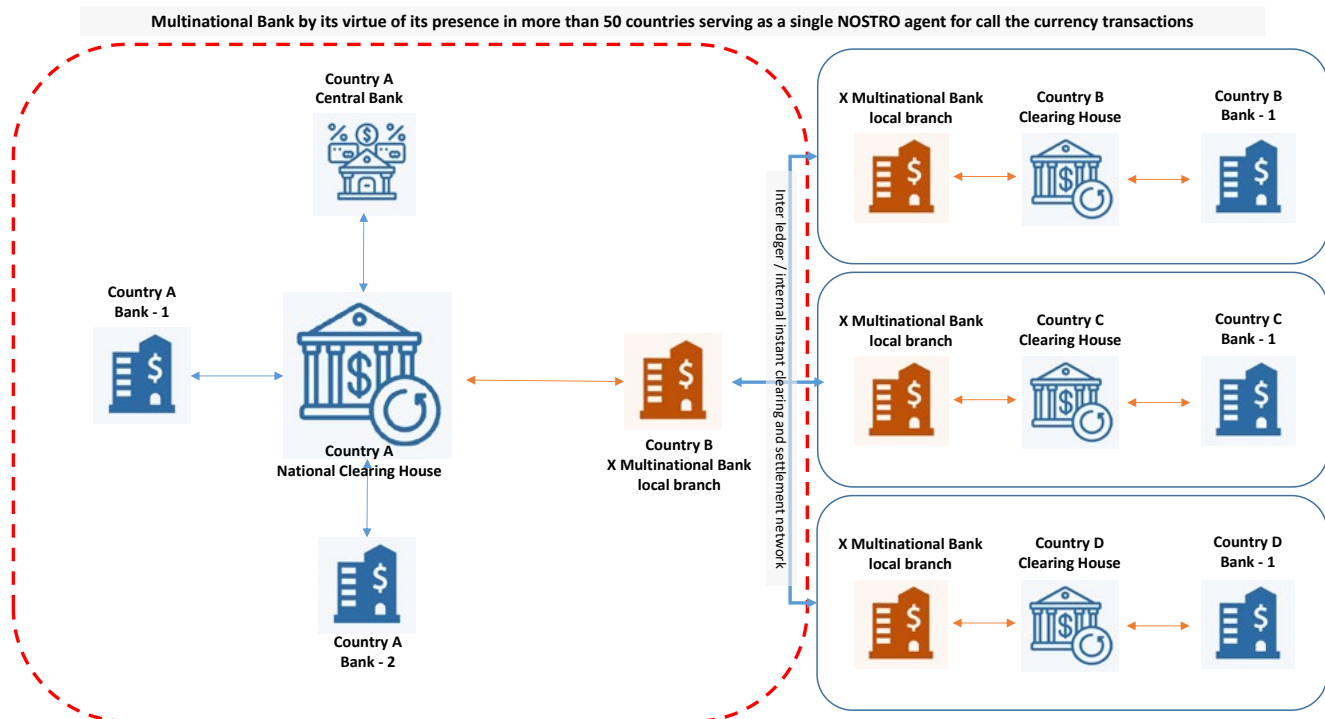|			
Payment engine products limitations coupled with significant cost of modernization	No silver bullet solution to do a lift and shift considering significant technology debt within the banks	Inability to realize the importance of adopting fintech like business operating models to survive the competition for tech companies	Skill gap – Banks and their SI vendors find significant deficit in skill gap in payments technology that drives innovative interventions

Source: Infosys Consulting

In the backdrop of these reasons **multi-currency NOSTRO agent bank is also seen as most light weight alternative** and a viable option with compliance in place. This is also an illustrative representation of **multi-currency RTGS** where a physical multinational bank branch by virtue of their presence and coverage of takes an advantageous position to offer this as a service. In a multi-currency RTGS a central bank of a given country can provide a virtual access to a commercial bank for other country of designated currency to clear and settle in wholesale payments through its domestic RTGS. They may be rotated to ensure fairness transparency and equitable opportunity distribution and it could be automated.

The physical bank model, coupled with efficient treasury service will prove to be a double whammy to gain market leadership.

Multinational Bank by its virtue of its presence in more than 50 countries serving as a single NOSTRO agent for call the currency transactions

Source: Infosys Consulting

Local banks get an advantage of doing cross border payments in cost effective and risk-optimized way by sharing the payment instruction for cross border through the local branch on multi-currency/designated currency nostro agent bank, through domestic vostro clearing. While the multi-currency nostro agent can provide the service of fast, cheap cross border payments leveraging their **inter-ledger or multi-currency wallet for wholesale and treasury payments** across its country location affiliates. Local affiliates in the destination country can cover the last mile of the payment through domestic clearing. Despite some limitations like messaging standard variances, this model can challenge the correspondent bank model and bring the traceability and observability features like SWIFT GPI into it. This is in existence and a mature model in cross border payment services.

The other emerging scenario is of bridging of clearing and settlement schemes of two or multiple countries through facilitation is another dimension of cross border payments optimization. In general, it is being facilitated either by vendor products or by approaches taken by banks themselves operating in specific geographies having interest in providing straight through processing for customers across the schemes. The invested models currently are Platform as a Service (PaaS) offering by leading vendors. However, PaaS model does not offer the required flexibility, control, competitive privacy, and autonomy required amongst the banks. Bridging service providers have their own set of technology debt limitations. Besides, they will leverage one large banks in each country to do pooling the transactions (depending on model/vendor) resulting in exposure of information of participant banks to the big brother pooling bank.

Adoption of CBDC

The pre-cursor to CBDC had been the blockchain based private entity interventions.

With ongoing CBDC and m-Bridge experiments across 80 central banks3, there is an emerging scenario to disrupt the traditional correspondent banking model in the next level of iteration. This will not only optimize the current in-transition models previously discussed in this paper but could potentially disrupt them in medium term.

A central bank of a country, if CBDC is adopted, could potentially become an entity to hold citizen account ledger or it could designate an identified commercial bank or specially created entity to become an account holding institution. Primarily it will disrupt the domestic clearing and settlement services. It will also hit card networks. Reason being most of these could become book transfers. On wholesale payments side, it can designate itself (Central bank) or a cordoned off entity as a NOSTRO agent for all the commercial banks in the given geography and allow that entity to handle the cross-border payments (an experiment that concluded between 2 large Asian central banks). This will however need some pre-requisites like implemented 2 tier CBDC operating model, plus an interoperability bridge with traditional fiat clearing and settlement system. This will be push model unlike previously discussed single NOSTRO agent model. Blockchain based solution is assumed to give decentralization, anonymity and reduced the intermediary friction. However, as an architectural design pattern, blockchain cannot address all payment use cases. (e.g. bulk singles /bulk multiple payments handling)
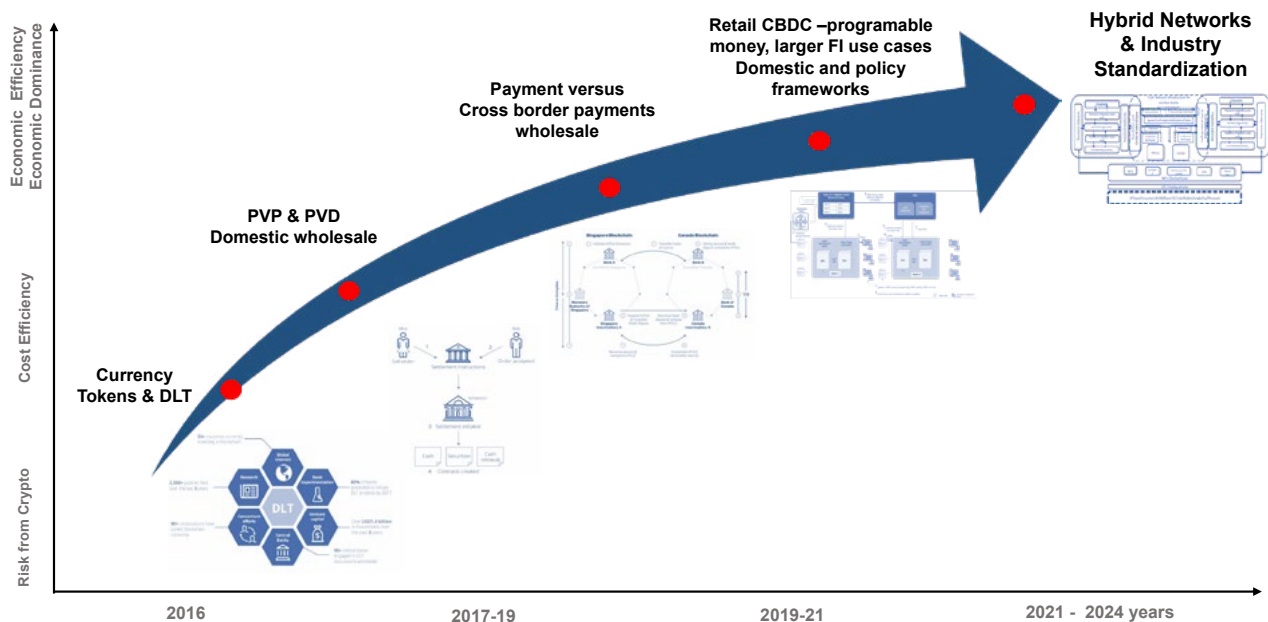
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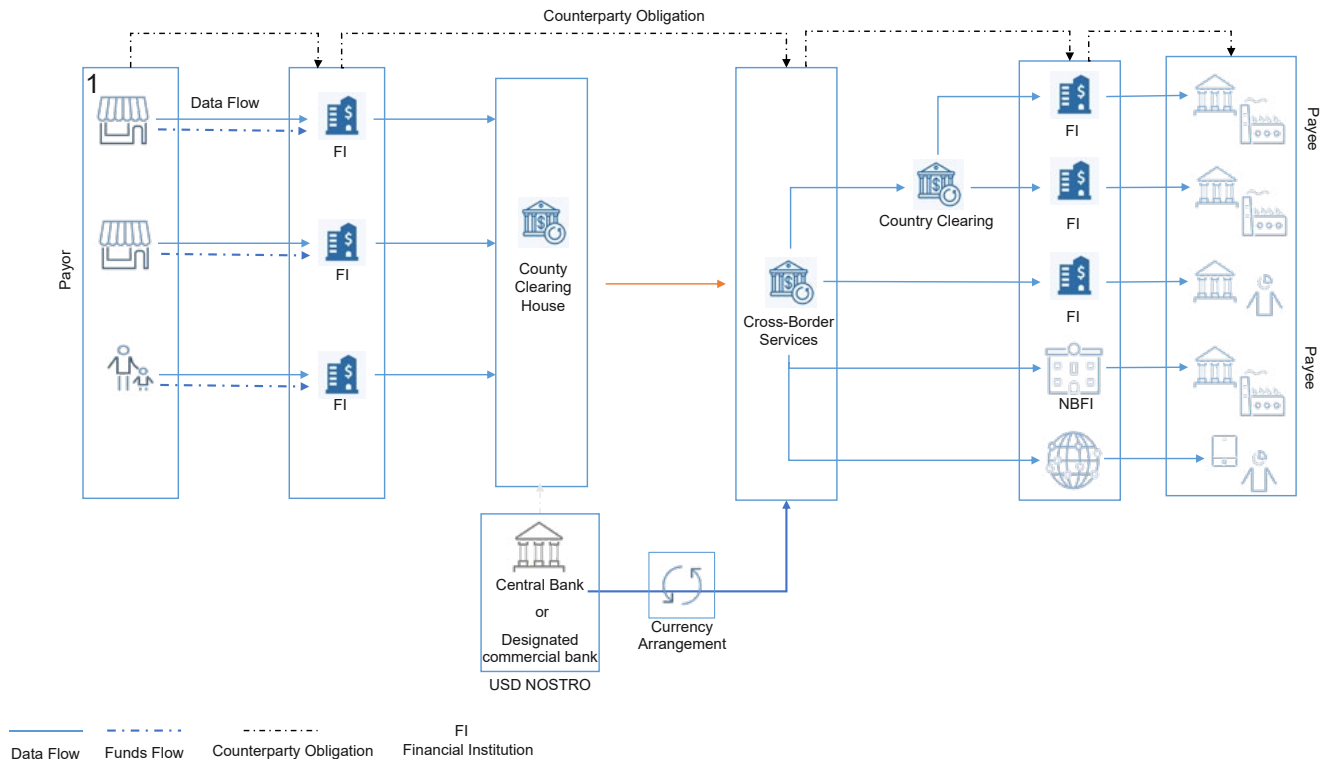
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Other private player models

There are few other cross border payment models being pushed by private payment players either piggybacking on existing rails or using new age currency gateways.

Real-time cross border payment solutions overlaying card networks interspersed with distributed ledger

While the previous set of solution are being designed and tested at scale by involvement of regulatory bodies and central banks, private players, especially Fintechs are proposing cross border overlay models that could help bring in near real time cross border payments at lesser cost and with negligible effort of modernization on the commercial banks side. They need to provision a universal gateway which can act as an orchestrator that can clearly direct a cross border payment to respective service provider for contracted set of currencies and products/service offerings. Banks can subscribe to many values added features beyond the basic infrastructure.

5.Conclusion

To remain competitive, banks should urgently evaluate their operating models and reconcile with the emerging market level solutions to capitalize on the opportunities. Foundations should be laid for adoptions cross border alternatives of today, tomorrow and day after.

We see a lot of interest in commercial banks in experimenting with Cross-border Payments and adopting new business models. They understand that competition will reduce their fee-income and hence to remain competitive they need to reduce costs and cannibalize existing revenue stream of high fees and FX Foreign Exchange margins. Thankfully, some of the operational and compliance costs will be significantly reduced with the adoption of structured remittance data (reducing false positives in sanction screening and related manual interventions). With the adoption of CBDC and other new-age models overall settlement risk can significantly reduce and related reduction of cost and make cross-border micro-payments economically viable. In our view, this can significantly grow cross-border payments value and volume ultimately increasing the revenue and profitability of the payment organization. To do so what are key changes that a commercial bank need to do in their payments value chain.

We have compelling experiences to align the payment architectures of commercial banks strategically to these kinds of changes globally besides making them cost and process efficient. Data quality and lineage matters the most and our solutions have given paramount importance to that aspect.
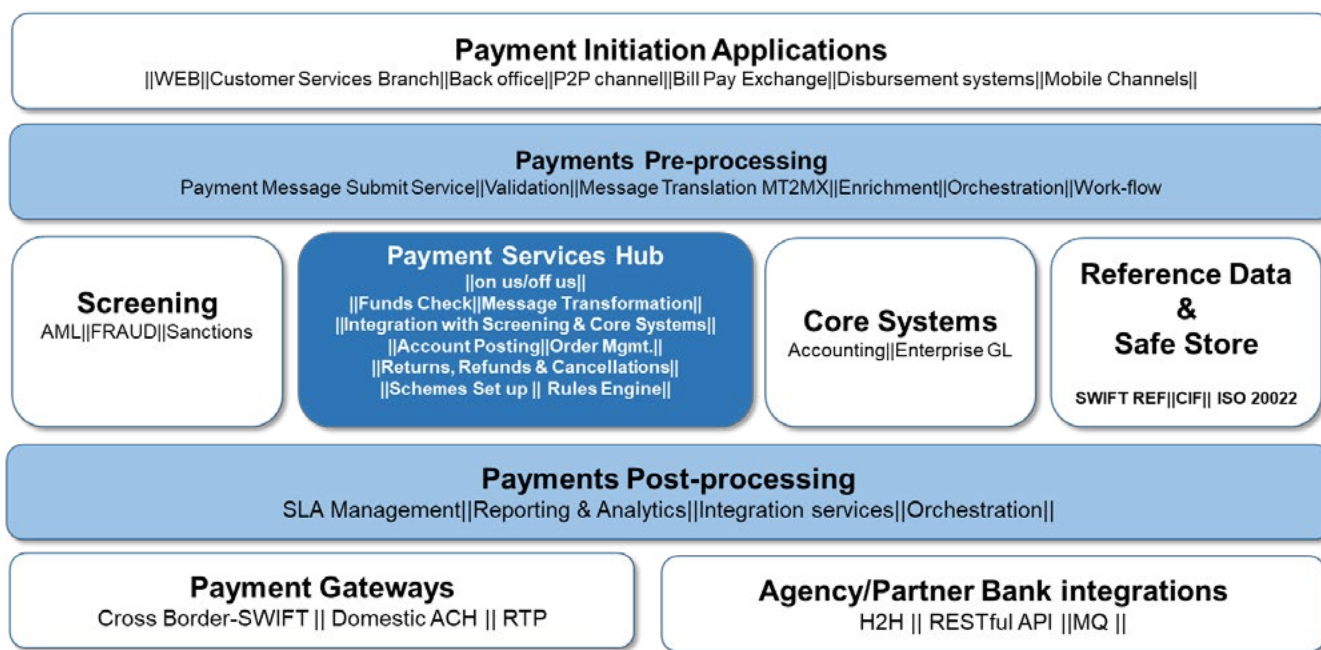
Source: Infosys Consulting

Payment initiation application: Additional capabilities like token and currency wallets that can handle CBDC or multiple fiat currencies that facilitate money movement additional solutions outside traditional payment rails

Payment pre-processing: Abstracted out microservices construct that can identify payment message, to route and receive to and from right payment engine, subscribed service or directly to a gateway

Core engine/Payments HUB: Ability to segregate processing of CBDC (in case it is a structured in a stable coin model) and traditional fiat (which can potentially continue to co-exist in smaller denomination) there could be digital currency ratio management which could involve transactions processed through traditional rails versus CBDC bridges and associated bank and customer wallets.

Post processing capabilities: Transition and new models of cross border payment processing would need differentiated SLA treatment and associated workflow through its life cycle of events. These capabilities should be added if they don't exist or uplift suitable to accommodate strategic changes of future

Gateway hub: A gateway hosting platform which facilitates multiple entities a bank can integrate with is required. Gateways derived and tagged in pre-processing layer will decide the route, cost, time and the gateway a payment traverses through and it is imperative these entry/exit points can become many or one single and standardized capability.

References:

1. https://blogs.worldbank.org/psd/paying-across-borders-can-distributed-ledgers-bring-us-closer-together

2. Project Inthanon-Lion Rock (hkma.gov.hk)

3. Project bridge: Connecting economies through CBDC (bis.org)

Glossary of Terms

Term	Definition
SWIFT	Society of Worldwide Interbank Financial Telecommunication
GPI	Global Payments Innovation is a solution from SWIFT
CBPR+	Cross Border Payments and Reporting +
STP	Straight Thru Processing
RTP	Real Time Payments. This is not a brand name as associated in the US with TCH-RTP but it is used in generic sense globally and interchangeable for faster payments and real time payments
UPI	Unified Payments Interface is a solution provided by National Payments Corporation of India to help bring banks' and Fintech to collaborate and provide frictionless digital payments for financial inclusion
M3	M3 in a typical central bank terms called Broad Money M1 + Time deposits with the banking system. M2 = M1 + Savings deposits of post office savings banks. M1 = Currency with public + Demand deposits with the Banking system (savings account, current account).
NOSTRO & VOSTRO	An account that a bank holds in a foreign currency in another bank while A vostro account is an account a correspondent bank holds on behalf of another bank. These accounts are an essential aspect of correspondent banking in which the bank holding the funds acts as custodian for or manages the account of a foreign counterpart
RTGS	Real Time Gross Settlement. This is a type of payment scheme used for high value payments and settled on transaction by transaction basis in near real time.
ACH	Automated clearing house. This is a technological solution deployed by designated entities by central bank of a country to clear and settle payments through banking system in net settlement mode. Ideally this is used for low value payments or a payment transaction value below identified threshold as defined by bank's association and central bank from time to time
Petro Dollar	Petrodollars are U.S. dollars paid to an oil-exporting country.
CBDC	Central Bank (issued) Digital Currency
OPEC	Organization of Petroleum Exporting Countries

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Sridhar is a seasoned banking consultant with 24 years of industry experience. He has expertise and extensive experience in enterprise architecture, program management, IT strategy and solution consulting. His experience includes branch banking, payments and core banking transformations, replacements, maintenance, application architecture blueprints development, business process re-engineering, operating model design and KM strategies including e-learning initiatives.

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