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ABSTRACT

Instant interbank transfers within Kenya is a capability that is yet to be explored to its optimum capacity. Similar systems are present in other parts of the world and is slowly gaining popularity in Africa, currently big in Nigeria where it boasts successful implementation as Nigeria's most preferred funds transfer method in its financial sector. The full potential of this system in Kenya not only remains unutilized by the industry but also unexplored by scholars. This study aimed to explore the possible opportunities presented by the system, how to put it to use for better payment methods, improved customer experience and its place in enhancing the country's overall financial system. The study concluded that this capability plays a significant role as a potential game changer in the country's financial sector. Instant interbank payments allow individual consumers, merchants, corporates, FinTech's, banks and international money transfer companies to access an endless list of possibilities that can change the way they do business and power payments. It opens up a whole new world of mind-blowing possibilities of efficiency, real-time payments, realization of 24/7 economy, intermediation, corporate cost-cutting, affordability, return of liquidity to the banks, seamless access to utilities, interoperability, regional partnerships, improved customer experience among others. All these will have an overall key role on enhancement of the country's financial sector.

Keywords: *Instant Interbank Transfers (IIT), Interoperability, Liquidity, Financial Sector Enhancement, Fintech, Payments.*

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INTRODUCTION

IIT refers to a bank's capability to debit its account and instantly credit another. With changing times and most of the world gearing towards being a 24/7 economy, real-time money transfer will be a paramount need to make it work. Kenya has had one of the most innovative money transfer methods in the world, which has for a long time served the much-needed solution of easy payments. It has however lacked instant interbank transfers. The previously existing money transfer methods close to real-time credits have been RTGS (real time gross settlement) and the world renown innovation Mpesa. Mpesa allows users to move money through a mobile phone wallet, make payments to merchants, purchase utilities, airtime, receive and send money from bank accounts. RTGS enables one to send money to another bank within the same day but not real-time, it's also characterized by cut-off times.

This makes real-time interbank payments long overdue; it will largely bring payments up to speed of digital processes and financial inclusion as highlighted by Mai et al (2015). It will also bring liquidity back to the banking industry as compared to holding it in other environments outside the banks. Unlike SA (South Africa) whose mobile wallet moneys are held in a bank account system, Kenya's mobile wallets are held out of the banking system hence billions of monies circulate outside the banks for over a month before finding its way back; beating the essence of banks' existence. With clients' increased travel, experiences, changing needs, diaspora remittances and a growing economy, it's only a matter of time before their demands for this solution arise. This is common in all industries where customer changing needs and technology are among the major change drivers, according to Amayo & Mwirigi (2016). Therefore, it is high time the providers embrace the system and proactively rather than reactively meet customer's needs.

Kenya is currently running vision 2030; a blueprint launched in 2008, aimed at improving quality of life by transforming it into a newly-industrialising, middle income country with a high-quality life in a clean and secure environment. It is divided into several sectors from its four main pillars; economic, social, political and macro & enablers. Among the sectors of the economic pillar is IT enabled services, under which the government founded Ecitizen; an online platform for application of government services. According to Ondego & Moturi (2016), there has been a history of unsuccessful ICT investments in the country despite lots of funds invested by the government and donors. Ecitizen on the other hand has been successfully implemented and needs support systems to improve it further.

An instant interbank payment system is well aligned to this sector as it corresponds to the government's vision of not only providing services online, but also enhancing ICT as an industry driver and developing ICT businesses. According to Ngugi et al (2006), the country is also focusing on capital markets by developing its stock market and introduction of new instruments in the bonds market. Therefore, there couldn't be a better time for the country to have instant payments to improves services, efficiency, government offices effectiveness and an overall improvement of its citizens' quality of life. Instant interbank payments will improve these platforms by being used as a means of payment.

Diaspora remittances are an extremely important element of Kenya's economy, hence need to be enhanced and guarded against factors that stifle its growth. According to Bodomo (2013), African diaspora remittances are bigger and better than foreign aid donor funds. This is owed to the fact that they not only go directly to the intended recipients hence less misappropriation but are also devoid of terms and conditions like interest rates and many other conditionalities that come with donor funds. As a result, the remitted funds directly bring about

families' development and a consequent national development all the way to the grassroots. There's no better way to improve this sector other than providing IIT capabilities for it through regional and global partnerships.

With Kenya's agenda of financial inclusion, this solution would be perfectly aligned. Kenya's USD.27Billion inward diaspora remittances in 2018 (CBK, 2019) could go up in case senders are provided with a more affordable and instant method. By end of 2019 quarter 1, the inflows were recorded at a total of USD.650 Million, a 3.7% increase from 2018's inflows. This confirms the growth of Kenyans in diaspora and their increased desire to invests back home; hence the need for a robust and more enhanced system to support this for further growth. World renown IMTs (international money transfers systems) would partner if provided with their preferred specifications like account validation. An example is Wave, which holds up to 30% of inward Kenyan diaspora remittances. Successful provision of this capability to IMTs will earn Kenya a lot of incoming money which will in turn boost the economy.

IIT will also cater for the poor. Most payments in the country are done either in cash or through mobile wallets. The population that uses these methods are not only the unbanked, but also those pushed by extra costs that come with the mobile wallet transactions in addition to costs of transferring money to the wallet from the bank, or withdrawal from an ATM to deposit into the wallet. Through IIT, this population will be catered for as they'll be able to pay for goods and services by incurring only one; bank to the service provider. Failure to cater for this group highly impacts the economy as it makes up a significant part of the country's total population, as backed by Haradhan (2013) who states that more than 60% of Kenya's total population lives below the poverty line. The number is despite Kenya being among the most literate countries in Sub-Saharan Africa and the largest economy in East Africa Region. Low-income earners in Kenya lie within a monthly income of KES ≤ 14000 (US$ 177.5), Olielo (2013). It is agreeable that for one earning this much, there's enormous strain on their finances as they need to provide food, clothing, shelter, medical care and education among other necessities. Some of these families need to pay for other utilities, the lower the fees associated with payments, the more manageable life would be for them.

IIT in Kenya is currently provided by Pesalink, which is a real-time 24/7 service that allows one to send up to kes.999,999.00 (Approx. USD.9,999.00) per transaction from one bank to the other. The system is accessed by customers through their bank channels; internet banking platform, mobile banking apps and USSD (Unstructured Supplementary Service Data). The system has been running as one meant to facilitate instant interbank transfers, and currently needs to be commercialized in order to realize its full potential and encompass all parties that can benefit from it while at the same time improving the economy. The company is proud to have made several milestones albeit the challenges of a start-up. It is currently running at an above 90% success rate, has over 20 banks signed up and enjoying 98% market share of customer deposit accounts.

The service is accessible to anyone who holds a bank account in a bank that's live on the system. The system uses a user's phone number as a unique identifier. The phone number is mapped to bank account numbers on the back-end, enabling routing of transactions accordingly and also easy access of customer data by use of their phone number which display all the linked accounts. As a result, one doesn't have to worry about disclosing their account number. There's another option of selecting 'send to account' where the sender will input the recipient's account number. Pesalink was launched in 2017. It provides the convenience of real time credits, 24/7

availability, efficiency, no cut-off times and affordability.

Purpose of the Study

The study sought to analyse the capabilities presented by IIT and how to capitalize on it to successfully achieve better payment methods, customer satisfaction and an overall improvement to the country's economy. There has only been one country in Africa that has successfully optimized instant interbank payments; Nigeria. Kenya is the second one with its recently introduced system. The country being known for its disruptive financial sector innovations, it is only a matter of time before the capability is fully developed to provide all the solutions it holds within its capability. The system is yet to be embraced fully by the banks and other relevant players in the country's financial sector, this is due to fear of change, which is known to be reluctantly embraced by the intended 'recipients' as they view it as a threat to their stability as reiterated by Muriithi & Mugambi (2014).

Once banks and financial institutions embrace it, only then will they realize that it wasn't really a competitor but rather an innovative assistant with immense potential in terms of overall value to their operations and financial status. The system provides a wide range of solutions that will change the way banks, FinTech's and other players do payments. Its capabilities are enough to completely enhance the country's economic sector to a whole new level. These capabilities have not only been unutilized and unexplored further but also unstudied via research, hence the necessitation of this study.

LITERATURE REVIEW

IIT present a massive opportunity for banks, the government and other financial players in the market for improvement of efficiency and revenue generation. This is agreeable to other researchers who reiterate that it is one of the most important current trends in modern banking (Sadłakowski 2017). This goes a long way to explain that it has been a long overdue solution for Kenya. There are rapid changing customer needs, increased demands from customers for superior systems, need for faster payments, need for reduced costs of payments and collections, need for more efficient methods of payment for utilities and government services and an overall need to develop the country's financial system. This makes instant payments the default way to go to achieve a faster and cost-effective payment method as an alternative to cash, checks, credit and debit cards as stated by Katz (2002).

Despite its endless benefits, instant payments may pose a risk to the industry as it means everything around it is real time, including fraud. There is also risk in terms of system dysfunctionalities as it is purely dependent on technology, this is as stated by Rochet & Tirole (1996). They also further reckon that the same poses a risk to liquidity. As much as this may be a true statement, it is not entirely true as it only poses a small risk to liquidity in instances where a system may be unavailable. It is however important to note that its positive surpasses the negative, this is because the system will result in bringing back liquidity to the banking industry as compared to staying merchant tills, mobile wallets and betting company wallets.

METHODOLOGY

The researcher carried out an exploratory research focusing mainly on having informal discussions with existing and potential users which included: individual users, bankers, fintech employees, merchants and IT specialists with keen interest on FinTech's. The researcher also gathered information from existing secondary data sources. In order to assure representation of all groups in the population needed as suggested by Achaya et al (2013) and achieve improved accuracy, the researcher used stratified sampling to identify the potential respondents to approach for the discussions. This is as a result of the

researcher having knowledge of the specific areas that would require/use the system.

RESULTS

Industry Changing Benefits of Instant Interbank Payments

The system presents several benefits to the industry which will be highlighted in the opportunities discussed in this paper, and are listed below:

- Return of liquidity to the banking industry
- Instant payments
- Reduced costs
- Improved efficiency
- Reduced TAT (turnaround time)
- An overall Improved economy through 24/7 availability of payment methods
- Increased inward diaspora remittances for the country
- Financial inclusion
- Provision of cash out methods for betting companies
- Mitigation of cut-off times & transaction amounts limits presented by most existing systems
- Easier collection methods for merchants
- Improved quality of lives

Opportunities Presented by IIT

Current Ongoing Usage

Instant Bank to bank transfers

Currently the over 20 banks offering the solution provide improved customer experience by delivering instant credits as compared to the traditional value dates of same day/next day. As a result, money transfers to loved ones, emergency payments, payment for utilities and even salaries have improved. Bank customers are happier hence enhanced patronage, referrals and more usage. Being a fast world, customers have become more informed and demanding in terms of their need for speed, efficiency and great experience. Mai et al (2015) state that Instant payments solve the gap of unmatched immediacy and ubiquity of digital processes in commerce and social life.

Government bonds purchase

Before instant payments, clients would purchase the bond by paying to the government through mobile money or bank transfer. The 2019 M-Akiba Bond (Kenya Government Bond Issue) was much easier and instant as customers purchased through pesalink. It involved movement of money directly from the buyer's bank account to the Bond's designated account, with the client details passed accordingly for instant allocation. As a result, there was reduction on the workload that previously came with manual allocations and reconciliation. This not only makes the purchase faster but also earns more purchases. Previously, some investors would be locked out in case they were using the traditional bank transfer methods that are characterized by cut off times. Currently, one is able to send money up to past 1500hrs of the RTGS deadline. Ultimately, the incorporated instant inter bank payments improves economic efficiency, investment and growth. It is also well placed as it is aligned to the country's Vision 2030 among whose strategies include improving the bonds markets as highlighted by Ngugi et al (2006)

Opportunities to be Explored

Banks' Opportunities

Interoperability

When all banks come together as one unit, nothing can beat the industry. It'll be stronger with a consolidation of all their resources and technology. Interoperability is the ability of banks to work with each other as a unified system without imposing restrictions or extra charges on each other's clients. This would achieve innovative developments where clients will be able to withdraw from any other bank's ATM or agent without additional conditions or restrictions. Currently, one can withdraw at another

bank's ATM but at an extra charge which is normally way too punitive. As a result, one is subjected to inaccessibility to their money until they get to a location with proximity to their respective bank's ATM.

The same applies to bank agents. Agency banking is where banks appoint agents to carry out limited banking services on their behalf, mostly set up in places where the bank lacks physical presence. It has deepened financial inclusion by promoting accessibility of banking services even in the most remote areas. According to Njihia & Mwirigi (2013) the system enables clients to convert cash into electronic money and vise versa hence enhancing financial sector deepening. This is however yet to be optimally realized, due to the existence of restrictions where cannot access money through another bank's agent, e.g. an Equity Bank client can't access their money at a Co-operative Bank agent. Several potential clients are therefore locked out hence frustrating customer experience and leading to missed out revenue by both the agent and the bank.

With instant payments, interoperability can be achieved by leveraging on the already existing agency banking. Banks could avail their account details to each other, and leverage on pesalink by availing the API to agents. Upon request for a withdrawal, the system will simply query the other bank and instantly initiate a debit and corresponding credit to the agent, who then gives money to the client. The reverse happens for a withdrawal. The country's economy will achieve an overall ease on transaction costs, as supported by Choi & Whinston (2000). This will ensure customers embrace the system hence increased usage which consequently opens up a whole new world of further financial inclusion, movement of money and world class banking systems.

Bulk payments

Using IIT, banks can facilitate bulk payments instantly and at a reduced cost; hence more value. An example of such payments is salaries processed by their corporate clients every end of the month. Currently, these are processed via RTS by either the client bringing the list to the branch for manual posting, or doing it themselves via internet banking platform. With IIT, the bank simply needs to utilize the connection to process the same.

This capability has benefits as stated below:

Table 1: Comparison with Systems Currently used for Bulk Payments

	IIT	RTGS/EFT	Comparative Benefit
Efficiency	File is uploaded on a designated portal and processed	Each transaction is posted manually	Improved efficiency, speed & instant credits
Cost cutting	The bank will redeploy its staff to other value-adding tasks	Banks have up to over 20 employees for manual payments processing and reconciliations. This might go up upon growth of its customer base	Reduced costs by cutting down the reconciliation teams to a leaner structure. Redeployment of staff to add value to other fields such as sales

The cost cutting element is also presented to banks in terms of what they pay for the existing systems and to the customer in terms of what the current methods cost them. Each RTGS costs the bank up to kes.25.00 payable to KEPSS (Kenya Electronic Payment and Settlement System). The amount would be much less as payment to the IIT provider is Approx. 50% of this amount. This means the system

costs the bank much less per transaction. The same applies for clients, RTGS costs between kes.250.00 to kes.500.00 across the industry, while pesalink costs from kes.48.00 to kes.125.00 depending on the specific bank's tariff. This presents a massive opportunity for the corporates and individual users to access better payments which are not only faster but also drastically less costly as compared to the existing options.

Use of IIT as a back-end utility

This refers to using the system to process interbank transfers that traditionally use EFT, SWIFT & RTGS. Such payments are STOs (standing orders), RTGS, EFT (electronic funds transfer). For RTGS, the industry practice is to ensure the request is submitted latest 1500hrs on a working day, and is promised to be credited same day. This is processed by the bank via KEPSS (Kenya Electronic Payment and Settlement System); an NPS (National Payments System) owned and operated by CBK. As a result, most clients are locked out in cases of failure to submit in time. Requests submitted on Friday after cut-off time are required to wait until Monday and those submitted on a holiday have to wait until the next working day. EFT may have no cut-off time but funds are credited the next day regardless of the time of submission. STOs are recurring transactions set by clients for the bank to automatically initiate debits on the due date. This involves instant debit on the said date and either same day or next day credit depending on the process used.

According to Lai (2018), instant interbank transfers present a faster means for banks. The system is also less costly. It can be done by inbuilding the routing of transactions such that at the back end, the transaction route will pick IIT upon leaving the bank. On the mobile & internet banking platform, banks can inbuild this capability such that a transaction initiated by the customer automatically goes through IIT. This is not to say that the bank should display RTGS on the channel but use a different method. It would be a crude method that will yield consequences by not only CBK but also lawsuits with regards to consumer protection. All banks are mandated to display the full cost and disclose all details pertaining to a transaction to the client. Therefore, instead of displaying RTGS and using another means at the back, the bank can have two menus under send to other bank. This would be: one menu for transactions of below kes.999,999.00 and another for those above. The system will the automatically route the ones below via IIT. Below is a breakdown of the cost benefit of routing RTGS via pesalink. It would also apply for STO depending on the system currently used by the bank to remit the moneys.

Table 2: Comparison of Revenue gained by to Bank for RTGS

	RTGS	IIT (Amounts <kes.1M)	Benefit
Per transaction charge to customer	Kes.500.00	500.00	At same cost, customer gets instant transfers.
Revenue gained by the banks per transaction (Of the charged amount, the bank pays a fee to KEPSS/IIT service provider)	Kes.475.00	491.40	. Bank collects the samkekes.500.00 for each transaction, and pockets more when they use IIT . 3.45% increased earnings For 30,000 transactions monthly, the extra revenue would be kes.492,000.00

One would argue that it wouldn't work for EFT as banks don't incur a cost for it, they also enjoy the benefit of debiting the customer same day but remitting funds the next day, hence enjoying overnight availability of funds for trade as balance sheet position does not change overnight. However,

wouldn't it be better to send this money instantly via IIT? The balance sheet position might change and money won't be available for the bank to trade with, however opening up IIT for EFTs would definitely mean all other banks are remitting same day hence there's more fresh liquidity coming in. As a result, there's balance sheet growth, instant credits for customers hence happy clients and more referrals. Some banks record way higher counts of incoming transactions than outgoing**.** This system will therefore mean all banks are releasing money instantly hence an even higher value of incoming funds.

Payment to Merchants at Points of Sale (Collections)
This would entail using IIT as a mode of payment for goods and services at a point of sale. Currently, other than cash and card payments, the other widely used payment method in Kenya is mobile money where money is moved from mobile wallets to merchants' mobile wallet tills. During payment, the customers key in the till number and the money is wired to the respective phone number's wallet. The service provides options where the cost is either incurred by one party or shared depending on the tariff the merchant prefers. With IIT collections would be straight to the merchant's account number as compared to going to a mobile money wallet which holds the money for a number of days and also charges for the service upon withdrawal. At the point of sale, the client will pay from their bank's channel, to a designated IIT till number which is mapped to the merchant's account number.

Table 3: Comparison of IIT and M-Pesa till collections

Impact to Merchants		
M-pesa (using mgao tariff for kes.70,000.00)	**Pesalink**	**Savings/Benefits**
1. Incurs cost per transaction of kes.165.00 for paybill	1. Approx. half of the current mobile wallet cost	50% savings
2. Limited amount of kes.70,000.00 per transaction hence limiting merchant's sales	2. Payments of up to kes.999,999.00	Unlimited sales
3. Option of instant account credits at a fee	3. Money goes straight to the account at no extra cost	
Impact to Individual Clients Paying for Goods & Services		
1. Client incurs tiered costs per transaction, Max is kes.220.00 for business bouquet and kes.55.00 for mgao tariff	2. One standard cost regardless of amount. E.g. kes.48.00 for pesalink transactions on NCBA Loop Account	Reduced cost
2. Up to kes.70,000.00 per transaction (Higher amounts would call for multiple payments e.g. kes.1M calls for 15 transactions hence 15*55=7825.00)	2. Can send up to kes.999,999.99 per transaction.	Easier payment Less costs

Benefit to Banks

Liquidity-Banks are businesses, they not only earn transactional charges & net interest income (NII) but also NFI (non funded income). NFI is the 'sweetest' income for banks. This is because, they are not paying any interest in return, neither is it payment for a process which of course comes at a cost. All the moneys for the merchant will go straight to the bank account, hence funded accounts for the bank to use in trading and lending out while at the same time providing a convenient solution to its corporate clients. The payments will also mean money

circulates within the banks by moving from customers' accounts to merchants' accounts.

Increased revenue-the bank will earn more revenue through the per transaction costs levied on both its the individual clients and the merchant. Once this solution is available, individuals will hold their money in the bank accounts and transact from there. As a result, the bank will get more revenue from the transaction fees it would have otherwise missed if the payment was done in cash or through mobile money.

Liquidity bank to the banking environment- Currently, merchants' M-pesa tills can hold up to kes.50 Million. Merchants can use this money to trade amongst themselves by lending within the tills. As a result, money that finds its way into the wallets may stay out there for months before finding its way into the banks. The banking industry is therefore missing out on millions of monies that would have otherwise come into their environ to increase their lending float & trading capability. With this IIT solution, given its benefits to both the merchants and payers, banks will go back to holding liquidity which is one of its main functions in the industry.

E-Commerce (Collections)

E-Commerce would be the same solution s above, with the difference being that the system will be used in online checkout pages as opposed to paying via the bank's platform. Currently, there is visa, PayPal and Mpesa, among others. The capability would involve adding IIT as another option, a would then be provided with a link through which they can input their details, authorize and have their account debited. The same happens wish Visa payment, only that with Visa, Merchants incur an interchange fees of up to 3% of the transaction value. Most merchants agree to absorb this while a few pass it to clients. As a result, there's either reduced revenue or lost business when clients choose to leave. Geerling (2018) states that this situation calls for an increased demand for more efficient and effective digital payment methods. With growing volumes of online sales and a continued decline in use of cash, IIT will come in handy.

Table 4: Comparison of IIT fees with Visa on e-commerce (for transaction of kes.70,000.00)

	Visa (Kes)	IIT (Kes)	Savings (Kes)
Charge to merchant per transaction	2,100.00	Approx.50.00	2,050.00
Charge to Client	Nil if not passed on by merchant 2,100.00 if passed on	48.00 (sampled CBA Loop pesalink charges)	2,052.00

Benefit to Merchants

- Reduced costs-No ridiculous interchange fees
- Instant credit to their bank accounts
- Easier reconciliation
- Customer retention

Benefit to Banks

- Increased credits into bank accounts hence more liquidity
- More corporate clients as they will use the solution as a selling point

Benefit to Paying Clients

- Less costly when paying the merchants who pass on the visa charges to them
- Less costly in cases where the merchant previously only had Mpesa as a payment option, and client had to not only incur the paybill charges but also charges of moving money from their bank account to Mpesa first before transacting

Opportunities Presented by IIT to Government

Purchase of Government Services

As mentioned earlier in the paper, the Kenyan government has migrated all its government services to an online platform where users can access all services at the click of a button. Currently, payment for these services is either through Mpesa or Equitel. Both these are mobile phone wallets by Safaricom & Equity Bank respectively. IIT being added as a payment option, will enable the government collect the funds real-time into their bank account, customers will also pay straight from their bank account instead of the current process of having to fund their mobile wallets first. Implementation of this will involve integration through an API by the banks, clients will be able to get a confirmation of validity of their bill reference, and proceed to make payment. The government office will enjoy more efficiency, instant credits to their bank account and easier reconciliations. ICT will have been used to make a valuable contribution towards the operations of and the services offered to citizens by a government, Ondego & Moturi (2016)

Purchase of train ticket (SGR)

The government of Kenya boasts successful construction of a standard gauge railway as part of its Vision 2030. The railway runs from Nairobi to Mombasa, with an ongoing construction of another that runs all the way to Uganda. Payment for train tickets can also be done using IIT through a link on the booking page, which provides a portal for the traveler to key in their details for instant account debits and a corresponding credit to the SGR's bank account. The back-end pf the link can be built with a functionality that communicates customer details to the office for automatic allocation of the ticket. As highlighted by Harris et al (2016), ICT plays an important role as a key enabler in freight transport, this applies for the SGR's use of technology as well.

Collection of fees by the County Government

Currently, parking fees collection is done through Jambopay; a payments company which collects the money in a wallet, pending transfer of the collections to the county's bank account at the end of an agreed period. As this may be a working solution, it doesn't provide instant account credits of the collections, a solution that would be most preferable for this service. It would also be less costly considering pesalink's transaction cost is nil for amounts below kes500.00, and parking fees is within this amount. It would therefore provide affordable payment options for the citizens, efficient collection for the County Government office, increased liquidity for the bank and an overall improvement of government services and economic growth.

Opportunities for Utilities' Payment-Improved Lives & Less Corruption

Payment for utilities such as water, electricity, garbage collection, internet and telephone services are currently done mostly in cash or through mobile wallets. The money is then banked in the respective bank account at the end of a period. Use of IIT services for these will ensure:

- Instant credit of funds into the provider's bank account
- Drastically reduced cases of corruption and theft; where the agents may squander the money or collude with the person paying so as to provide services at a lower fee and fail to pass record of this through the relevant system
- Instant validation hence less time and resources spend doing reconciliation of cash/mobile payments
- 24/7 availability of renewals, this would apply for those who prefer to transact with cash and would need to withdraw cash from their bank account first. This population will be catered for by enabling them to access their money round the clock, and seamlessly make payments without the inconvenience of time of day or banks' operating hours
- Life improvement by catering for the poor too. Most people who prefer to pay in cash do so due to challenges bearing an extra cost that comes

with the utility bill payment transaction in addition to the initial cost of transferring money to their mobile wallet/withdrawing from the bank. With instant interbank payments, they'll be able to access their money and make payments in only one transaction without worry of extra costs.

Opportunities Presented by IIT to Merchants

The earlier mentioned e-commerce and point of sale collections present a massive opportunity to merchants. They will realize reduced transactional costs, instant bank account credits and increased sales volumes. The merchants will also have easier reconciliation processes from the reports provided by the IIT system provider and the same day settlements by CBK.

Future Opportunities

Instant interbank payments present endless opportunities for various sectors of the economy and payment companies.

Huduma Number-linked connected accounts

With this, there will be traceability of fraudulent funds by being able to quickly find all accounts linked to that particular number, put them on a fraud watchlist shared by all financial institutions and other relevant parties like embassies, employers, credit reference bureau, etc. As a result, fraud will be drastically reduced as the perpetrators would know how easy it is to trace them. Huduma number (equivalent of a social security number in western countries) is a new system currently being implemented by Kenya. All citizens will have one number to which all their personal details are linked. It would make it easy to catch fraudsters by freezing availability of all the services available under their huduma number, which will compel them to present themselves. This capability will go a long way in fighting fraud within banks, which has been a headache for the industry for decades. The same has been experienced not only in Kenya but other countries e.g. Nigeria, where fraud has caused banks to collapse as highlighted by Akindele (2011).

Cash Out for Betting Companies

In Kenya, most betting companies have challenges finding a bank that agrees to hold their bank account; this is owed to their nature of business in relation to the banking industry's regulations. This makes it impossible to have their clients send the betting placement money straight the bank, but instead to a wallet owned by the company. The companies end up holding billions in the wallets, which becomes a financial markets regulatory risk as it poses the question whether they are a deposit taker or a bank. The money therefore needs to be cashed out as soon as possible in order to reduce the pool. As banks have no problem receiving the cash out, it is important to use the most efficient cash out method while at it; IIT. This will be attained by the betting company consuming an API from their bank, they'll provide a link on their App through which their customers cash out winnings straight to their respective bank accounts. eventually the betting companies won't face regulatory challenges, CBK will be less worried, clients will have their money instantly into their accounts and banks will earn increased liquidity values.

Saccos

Saccos do a lot of collections from their members' monthly savings and a lot of disbursements of loans borrowed. Some operate entirely as banks; they however are not registered as such with CBK hence do not have a unique identifier for banks known as a bank code. They can however still enjoy the instant interbank transfers; movement of clients' money from their accounts to other banks, loan disbursements to other bank accounts and incoming moneys.

School Fees Collection

Despite there already being a bank to bank transfer where the payer inputs the account number and

narration of the payment details, this does not suffice for school fees collection. Mostly, parents do cash deposits in order to properly capture the student details, some schools/universities have special deposit slips tailor-made for them hence one must go make payment at the branch. Banks can build tailor made solutions specific to schools to enable them achieve more efficient school fees collection methods, accepting special characters as per school admission numbers. This will in turn earn the bank more accounts from schools and parents.

Clearing Cheques

Currently in Kenyan banks, clearing cheques takes up to 24 hours provided it is banked by 1500hrs. The process is owed to them having to go through the clearing house and also the funds coming from a different bank. However, instead of 24 hrs. delay, the same can be mitigated by passing clearing cheques through the IIT system. The credit will not only be same day but also not restricted to cut-off times. According to Katz (2002), this will be more cost effective if compared to the traditional cheque processing method. It is however an implementation that might take a long time as the banking industry and regulators need to figure out how to do this with or without the existing parties. Banks will benefit by finally being able to cut down on staff costs and redeploy them to other revenue generating departments like sales or innovation, most banks have a whole department dedicated to clearing.

Inward Diaspora Remittances

In 2018 Kenya's diaspora sent a total of USD.27Billion home (CBK,2013), 45% from the US, 30% from Europe and 22% from SA. This would have been more in case the costs and method of remittance was more affordable and easier respectively. Bodomo (2013) states that the remittances grow by the year. This research however believes that despite the mentioned growth, it is still stifled from reaching its optimum, due to inflation which may render remittance costs higher by the year. Of each remittance, almost 9% goes towards the costs, eating up a huge amount of the sender's/recipient's money depending on whether the cost is shared or borne by one. Traditionally, Kenyans largely use Western Union where one is required to go to their bank and pick the physical cash. Other methods are sending money directly to one's bank account via SWIFT messaging, which might take days to be credited.

IIT will solve all these challenges. This can be achieved by Kenyan banks partnering with overseas IMT agents, clients will then use the agents' platforms to easily remit money instantly. This requires further build and technical work to be done by both parties, as most IMTs insist on having validation of the recipient account before submitting the send request. Kenyan banks have not yet embraced this capability as they aren't comfortable disclosing their clients' details to a 3rd party. However, with changing customer needs and imminent interoperability, this will be compelled to come to fruition in the near future. An example is an IMT called Wave, which controls 30% of diaspora remittances to Kenya. Wave would be happy to use pesalink but cannot do so now as it requires the partner banks to provide validation. An overall easier enabling environment will be availed for diaspora hence bringing in more remittances. The diaspora fraternity will as a result contribute to economic development, given that their main contributions are sent towards of development and business investment as stated by Brinkerhoff (2012).

FinTech's Powering payments

Kenya's vibrant ICT innovation industry has seen the rise of various FinTechs, which power payments for merchants and various corporates. The solution works in such a way that they collect payments on behalf of these companies and transfer it as one lumpsum at the end of an agreed period. They also do disbursements on behalf of the companies, e.g. lending companies who initiate several disbursements in a day to their several borrowers. These lenders hold a bank account somewhere and

would traditionally have to initiate manual disbursements of these various transactions, using the available bank solutions of either RTGS or EFT; whose cost would still be relatively high even with negotiation. FinTech's will therefore come in to make it easier by providing a platform through which they'll credit the disbursements instantly, with several tailor-made solutions as per the lender's requirements. With instant interbank transfers, FinTechs will not only provide easier, customer friendly solutions but also instant credits into bank accounts hence more efficiency and cost effectiveness.

Challenges

Just like any other new innovative system that brings with it massive valuable benefits, demerits are inevitable. The system comes with a number of these, which with time can be worked on to ensure 100% success rates.

- Not all banks are onboarded-This makes it hard to quickly implement projects that might need all banks to have the services.
- Real time debits and credits-Albeit this being one of its biggest selling points, it's also a disadvantage as it translates directly to real time fraud, need for real time support, real time feedback, real time transactions and good dispatch. This will require the service provider to continually add its resources and quickly change into a 24/7 operating company.
- Fraud-Given that money moved fraudulently will be accessed and withdrawn in real time, it poses a great challenge to recovery efforts.
- Slow adaptability-Despite all its value adds, some industry players look at it as a competitor rather than a complementary service to improve their operations and revenue. As a result, some banks have the service on their portal but are reluctant to take up the various projects, some set very low transaction limits hence stifling one of the ultimate intended values. This is also partly owed to fears of embracing change; it will however be overcome once the players try it out and successfully implement and realize that it is working to their advantage. Research has proven that clients are happier when a change is implemented and works to their advantage as reported by Amayo & Mwirigi (2016)
- As compared to RTGS which can be recalled after, instant interbank transfers are hectic to recall. This is especially if the funds have been credited into the wrong account. Depending on the recipient; funds may be utilized upon receipt, funds may still be available but they refuse/take time to authorize debit. The banks being restricted to debit an account without the drawer's duly executed authority, it eventually inconveniences all affected parties and also compromises consumer protection basics which require arbitration models to be fast and efficient as highlighted by Okoye & Ezejiofor (2013)
- There might be slow adaptation especially in areas with a large number of unbanked citizens.
- For corporates and FinTechs, some may not be able to afford the upfront integration fees needed. This however should change once they realize the immense value the connection will bring to them and opportunities of recovering the cost. According to Lai (2018) despite instant payments' benefits, its implementations can come at greater complexities and costs.
- Frequent system downtimes on banks' end highly impacts service delivery. This could be as a result of technical hitches or system upgrades. It is manageable as the company will inform all relevant parties to advise their clients accordingly. It however becomes challenging in cases where a bank is experiencing downtime and is unwilling to acknowledge for the same to be communicated accordingly, or takes time to resolve.

CONCLUSIONS

Instant interbank payments for Kenya is an exciting long overdue solution. Companies in the financial industry will be significantly disrupted as technology develops and makes digital and technological disruptions the new norm and business change drivers. This presents more of an opportunity than a threat to the industry, as it brings automation, efficiency, speed, financial inclusion, cost effectiveness among many other benefits. It is high time this is acknowledged by the industry and embraced. The system has an overall contribution to the economy by virtue of it presenting an opportunity for financial inclusion, interoperability in the banking industry, provision of 24/7 services and money movement, cost effectiveness, improved customers and citizens'' experience, easy access to government services, catering for the poverty stricken population and bringing back liquidity to the banking industry. An easy example is where a bank may decide to stick to RTGS, little do they know that all their RTGS users are shopping for a cheaper and more convenient option and will take off as soon as they discover pesalink. According to Ngugi et al (2006), Kenya's Vision 2030 aims to achieve annual economic growth of 30% financed from mobilization of local resources, using instruments that enable adequate allocation of resources efficiently to achieve growth objectives. Instant interbank payment is well placed within this objective.

It's however not necessary to get to the above stated point, all parties in the financial industry need to realize that they complement each other and the imminent banks' interoperability also applies to them, in terms of partnering and working as one unit. This is bound to happen in the near future and see all parties on one table. There are endless options e.g. each main party on the financial industry buying stakes and maintain the system's sustainability and safety, partnership between mobile money service providers and IIT providers, whitelabeling the solution and offering it to banks and other players to limitlessly innovate around it, etc. Interoperability is inevitable and it should not only be looked at as banks working as one unit but also incorporating major players in the financial industry.

It is the researcher's conclusion that an instant interbank transfer system is what the country and the region at large need to achieve world class financial and economic standards. It is the next big thing and is high time the industry embraced it and put it to use to realize its full potential for their benefit and the benefit of the country's economic sector. This can only be achieved through exploring the opportunities it presents and all parties coming together to work as a unit. The future of money is with banks, part of their values have been taken over by mobile money providers and FinTech. Instant interbank payments provide them with a solution to reclaim this, bring back liquidity to their environment and provide the value they are meant to. Once the banks realize that they are not each other's competitor, neither is instant interbank payments but rather a complementor, they will see its values. They'll all come together and form the strongest unbeatable financial unit in the country and region.

RECOMMENDATIONS

- The paper recommends that all banks and financial institutions should embrace instant payments; specifically, pesalink in the case of Kenya. Rather than look at it as a competitor, they should explore the numerous opportunities it presents for them to do their business better and realize an overall growth in revenue and their bottom line. Failure to do so will mean they lose clients who demand for it, as they'll choose to leave to other providers who are proactive enough to implement it sooner.
- Partnerships-Other financial players like M-pesa, Visa, Kenswitch, Pesapal & Mastercard may either view pesalink as a competitor or want to use it

only for their specific transaction natures. However, it is high time all these players looked at it as an opportunity to merge and create one global player. If all these players partner, there will be a strong instant payments system that's made even better by combining all their muscle of technologies, innovation, finances and market share. This will propel Kenya from a regional player to a global player competing with among the best known financially strong countries worldwide.

- The government should implement use of IIT in all its government services platforms for easy access of these services and overall improvement of public sector service industry; in line with its Vision 2030 pillars of financial inclusion and life improvement.
- Explore the possibility of white-labelling the solution and handing it to the banks. Banks having ability to apply a wider range of capabilities, they will achieve more innovative solutions to present to both their individual and corporate clients hence more value realised.
- The solution should also be marketed more to create more awareness.
- It is high time the industry or government explores interoperability for a better stronger future.

Areas for Further Research

- Use of instant interbank transfers for clearing cheques
- Possibility of partnerships between the system and other regional instant payment methods to realize regional cohesion and strengthening the African financial sector. This can then be extended to other worldwide IMTs, making the world a global village.
- Exploration by IT gurus, of the other possibilities presented by instant inter bank payments; the researcher believes that they have not been exhausted.
- Interoperability and intermediation for the banking industry

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