**Industrial Attachment Log Book**

**Name Priveledge Tatenda**

**Surname Mtemashinga**

**Registration Number B1747335**

**Program Computer Science**

**University Bindura University**

**Place of Attachment Steward Bank**

**Department Information Services**

**Supervisor Mr V Gumbo**

**2. Company Background and History**

Steward Bank was launched in July 2013 following Econet Wireless Zimbabwe’s acquisition of TN Bank, a subsidiary of TN Holdings Limited (now known as Lifestyle Holdings). Following its launch, the Bank has since positioned itself as a mass-bank, focused on providing banking solutions through the use of technology.

Steward Bank is the first bank in the country to have convergence with telecommunications and together with its technology focus the bank is set to change the way Zimbabweans view banking.

The future prospects of Steward Bank are very promising, with a total capital base which stood at $75 million on 28 Feb 2013, which is well in excess of the Reserve Bank of Zimbabwe’s requirement of $50 million by June 2013. In addition to this the liquidity ratio has seen remarkable improvement from 5% at 31 December 2011 to 25% at 28 February 2013. In terms of the external credit rating, Steward Bank’s GCR Company rating has improved from a BB rating in October 2010 to BB+ in October 2012. All very positive indicators of a bright and prosperous future for the bank and its clients.

Products produced are as follows

Batsi the Bot. It is a Bot that will increase responses to customer queries by seconds compared to waiting for close to an hour to get a response from a human-assistant. Batsi is a major highlight of the exhibition because it underlies Square 2.0 and social media banking. The Bot will also be used to access banking services like requesting mini statements, bank balance enquiries, sending and receiving money etc. Batsi’s assistance will change the landscape of conversational commerce in Zimbabwe because many banks haven’t adopted this technology hence Steward bank initiative could cause ripple effects in terms of similar adoption of Bots by other banks.

Sosholoza is a revolutionary banking product we have introduced on the WhatsApp platform. Sosholoza offers Zimbabweans a universal and simple of speedily transferring funds from bank account to any wallet, from a mobile wallet to any bank. Sosholoza is really simple as there is no registration necessary. All you have to do is save 0777 222 333 to your contacts and send a message that says, “Hi”. Our bot, Batsi, will lead you through some short and easy steps and you are good to go. Banking on this platform is as easy as it is to send a message on WhatsApp.

**2.1 Mission Statement**

We provide customized innovative world class products and services through convenient channels, technologies and dedicated employees.

**2.2 Vision Statement**

To become one of the biggest banks in Zimbabwe by customers and balance sheet size by 2019

**2.3 Value Statements**

**HEPII**

**H**unhu/Ubuntu

We respect all mankind and take another person’s challenges as our own. We are not individuals…we are a community.

**E**xcellence

Our standard of service surpasses the ordinary, perfection is unattainable however we strive for excellence in every sphere of operation, continuously learning and improving on service quality.

**P**rofessionalism

We are experts and have specialized knowledge in our area of operation, performing our work with dedication.

**I**nnovation

We will innovate and continuously develop life changing products and services that create value for all our customers.

**I**ntegrity

As a bank our actions, methods, principles, expectations, and outcomes are ethical, honorable, truthful and accurate.

**2.4 Core Business**

It is a commercial bank in Zimbabwe which provides services such as accepting deposits, making business loans, and offering basic investment products that is operated as a business for profit. Its main aim is to make banking easier and able to reach from all corners

**4.1 Attachment Experience**

**14-16 August 2019**

**DESCRIPTION OF WORK DONE**

* Introduced to the IT stuff.
* Reading and understanding of the ICT documents including a security policy.
* Asked questions by the management on the policies which I had read in order to show my understanding of it before signing access forms, as a sign of agreeing to conform to the policies

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* To interact with the work flow and the quickly adapt with the working environment.
* I leant the required information needed in the organization and the security responsibility on use of the organizational resources such as the network and the personal computer for the company.

SUPERVISOR COMMENTS

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**19-23 August 2019**

DESCRIPTION OF WORK DONE

* Induction
* Channels monitoring

SKILLS APPLIED/ NEW SKILLS LEARNT

* In induction I learned about the products of the company that is, what the company produces for it to survive on the market. The company has online products which are Sosholoza, kashagi and many others. I leant how they market their products to their customers and risk department, what is does and what value it adds to the company.
* I leant about the process in which the channel moves from the point of sale going through the postilion which is a payment switch which is used to determine where the card belongs to. We used Real Time Monitoring which goes to the Postilion payment switch server. The real time monitoring will be showing the transaction manager which manages all transactions that passes through Postilion. It also contain the TermApp which manages all POS that is if it is down, no transactions will go through which comes through the Point of Sale and lastly there is eSocket server which is manages all services that are done through the \*236# which is for account opening.

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**26-30 August 2019**

**DESCRIPTION OF WORK DONE**

* Employee registration on the ZSS portal
* Accessing the ZSS portal
* Channels monitoring

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* ZSS portal is used for accessing transactions on all channels be it transactions from POS machine, wallet to bank and bank to wallet to mention a few. The ZSS portal gives us access to all accounts that are in ZSS that is, revealing balances if a customer have an unsuccessful payment which might have deducted the customer account so as to reverse the transaction through the operation team. On giving access to employees, a user has to sign a access form specifying what the user needs and the document is to be signed by the line manager and any other manager for authorization. The security department will the sign to give us permission to give the user credentials that is, username and password, to access the portal.
* I leant about the process in which the channel moves from the point of sale going through the Postilion which is a payment switch which is used to determine where the card belongs to. It uses the post card to determine the details of the card that is the name, the card number and the account number. If the card belongs to the Steward bank, it then proceeded to either the ZSS or the T24 for the transaction to succeed and if the card belongs to other banks it then goes through ZIMSWITCH which will determine the card issuer through the Bank Identification Numbers (BINs).

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**02-06 September 2019**

**DESCRIPTION OF WORK DONE**

* Employee registration on the Steward Bank portal
* Accessing the Steward Bank portal
* Channels monitoring

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* Steward bank portal is used for accessing transactions on all channels be it transactions from POS machine, wallet to bank and bank to wallet to mention a few. The SB portal is also used for normalization that is, checking if the transactions are up-to-date. All transaction from the core banking that is, T24, are displayed on this portal.
* I leant about the postbridge which manages all services that are managed by the Steward bank such as StewardbankPOSs which manages all POS from the merchant, StewardBankISave which manages all transaction that are done through ISave accounts, StewardBankBranchpos which manages all Point of Sales in all branches of Steward Bank, PEX which manages all VISA cards transactions for Steward bank and StewardBankMobileSnk which manages all mobile transaction be it wallet to bank or bank to wallet. When the Postbridge is down, all services mentioned above will be down and no transaction will be available to all this services.

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**09-13 September**

**DESCRIPTION OF WORK DONE**

* Channels monitoring
* Banking jargon

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* In channels monitoring we have HSM loader balancer which is responsible for accepting pins. When the password is wrong it will decline the transaction and return a response code of wrong pin.
* The issuer is the one who provide the payment cards to the customers of the bank on behalf of the card networks that is, ZimSwitch and MasterCard. ZimSwitch provides cards which are used locally that is the payments cards are only used within the borders of the nation. In Steward bank, for a person to access such a card through you use the \*236# and create an account and issued the card after having deposited an amount of 10 rtgs. MasterCard are card issued by the bank to its customers which are mainly used to transact beyond the borders of the country. For someone to access the card he/she has to apply and after granted, will have to deposit 10 usd for the account to function.
* An acquirer facilitates payment card transactions on behalf of merchants. The merchant is a company registered through a bank for example pic and pay merchant. The acquirer is the one who owns the account of the merchant where the money goes after a customer does a transaction through a point of sale (POS). Where there is use of the point of sale it is known as the acquirer.
* **Payment Card Association** are cards which are mainly used in the payment of goods and services beyond the borders of the parent country. A bank card association is an organization owned by financial institutions that licenses bank credit card programs. The organization are which gives the license are known by the name Visa and MasterCard. For a company to use these association cards, it has to pay a certain fee to access the privileges associated with the card associates. After paying the company will be able to access and use the company name and the cards which are owned by the organization. The card associations gives the card owner privileges to transact to any company within and beyond the borders of the country.
* **Payment Switch** are switches which are used to communicate with from the point of sale to the banking account. It facilitates the validation of the payment card that is validating if the password entered is correct and also checking the name or the details of the card holder. Postilion and Sparrow are one of the example of payment switch. In Steward bank we use postilion which uses post card to show the details of the card that is, the name of card holder, the card number and the account number which is used to link with the account in the banking system where the deduction of the money in the account will take place. It also uses the HSM loader balancer is used to validate that is, checking if the password enter is correct so that the transaction process will continue.
* **ZimSwitch** is an organization that integrates all the banking institutions that is if a steward bank card is transacting on the POS of Stanbic bank, the ZimSwitch is responsible for linking the card with the Steward bank account using the Bank Identification Number (BINs) that is 502195 for Steward bank accounts. It is responsible for issuing cards for use locally that is the cards will be carry money which transact locally. BINs contains the first six digits that appears on the primary account number which will show where the transaction belong for example CBZ BANK LIMITED starts with 601237 and FBC BUILDING SOCIETY starts with 504992.

**A sequence diagram for a POS ZimSwitch transaction, that is how a transaction that is done by a CABS customer done on our Steward Bank POS gets routed (get Visio installed on your machine)**



* From the customers point, the customer swipes his/her CABS card on a POS owned by Steward Bank. The POS will send a request to the postilion and the postilion will check if the card belongs to the Steward bank or not. In this case it does not belong to the Steward bank and the postilion then sends request to the ZimSwitch. The ZimSwitch will be able to direct the request to the CABS account through the use of the Bank Identification Numbers (BINs). The CABS contains 588892 on its first digits of Pan Number which the ZimSwitch will use to connect to the CABS bank. It then sends request to the CABS bank were the cabs will check the validity of the card, the sufficient balance for the transaction and also it will check if the pin entered is correct. If it is valid then it will the CABS will deduct the amount transacted and then it sends response that the account has been deducted and the transaction was successful.



* If the bank does not send the response to the bank at a given time it will reverse the transaction that is it will send the reversal request to the bank as shown in the diagram above. The bank will reverse the transaction that it did in the cardholder account and then issues the response from the bank to POS machine where the customer has made the payment.
* **Prepaid Cards** are cards that are loaded with hard currency that is mainly the usd currency. These cards gives you access to purchase goods and services beyond the borders of the mother country using plastic money. As Steward bank we mainly use the visa branded card and MasterCard. These cards will be under the Steward bank and every transaction that happens is controlled by PEX which monitors the flow of each and every transaction which is done using these prepaid card.
* **Debit Cards** are cards which are used by customers to transact using the local currency. Most of these cards are owned by an organization called ZimSwitch. In simple terms this is the plastic money used to transact in the local markets and cannot be used to transact markets that are beyond the border of the mother country. These cards are the same as the prepaid cards but the difference is that they are used to carry money in local currency. The money is immediately transferred directly from the cardholder's bank account when performing any transaction.
* **Credit Cards** are cards which allows a customer to purchase his/her goods on credit and the amount credited has to be redeemed in the agreed time with the bank. The card issuer creates an account which enables the customers to by the goods and services on credit and grants a line of credit to the customer of the bank, from which the customer can borrow money for payment to a merchant.
* **EMV card** stands for Europay MasterCard and Visa cards. It is a chip embedded card which was designed to enable secure payment at compatible point of sale (POS) terminals. When the card holder inserts his card for payment, the terminal communicates with the card issuer's system for authentication and a single-use transaction code is issued that is the card will be used to transact at most for a single time. EMV cards can also support contactless payment through near-field communication (NFC) wireless connectivity. Near Field Communication (NFC) is a wireless connectivity standard that uses magnetic field to enable communication between devices when they're touched together. When the chip gets in contact with the point of sale, it then creates a unique code for each transaction and sends that code through the credit card processing system to authorize the transaction. This will make it difficult for the card cloner to access the information about the card since there is a different code sent on every transaction. After the code has been used it cannot be used again.

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**16-20 September**

**DESCRIPTION OF WORK DONE**

* Report creation for daily transactions.
* Channels monitoring

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* We will be creating daily reports which contain the following information type of transaction, amount in the transaction and number of transactions on the transaction type for example on banking services, Balance inquiry, Mini-statement inquiry, Wallet to Bank and Withdrawal
* On channels monitoring we experienced disconnection on some of our server like postbridge and transaction manager. We restarted these services through connecting to the server remotely using remote connection which is used to login to the server. In the server we use windows 2012. For us to restart the services we use the start menu in the system, we then search for services then restart the services. There are some cases which will require us to restart the whole server when the services are disconnecting several times.

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**23-27 September**

**DESCRIPTION OF WORK DONE**

* Recording of channel queues.
* Hourly records on transaction volumes.

**SKILLS APPLIED/ NEW SKILLS LEARNT**

* In the channels queue, we record after every 15 minutes so as to know if our system running properly. For channels with a zero queue are available, our services will be running properly but when the queue value is up, the services will not be functioning properly. The channels that we will be recording are STEWARDVISA, STEWARDMastercard, SBZISave, Banking Services, ATM, BranchPOS, MOBILE, POS Notify and POS.

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