Bank Audit & Technology

Seminar on 'Bank Branch Audit' hosted by the Pune Branch of WIRC of ICAI

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Sanat Ulhas Chitale

(B.Com, FCA, ACA (ICAEW – UK), LL.B

Partner, M.P. Chitale & Co.

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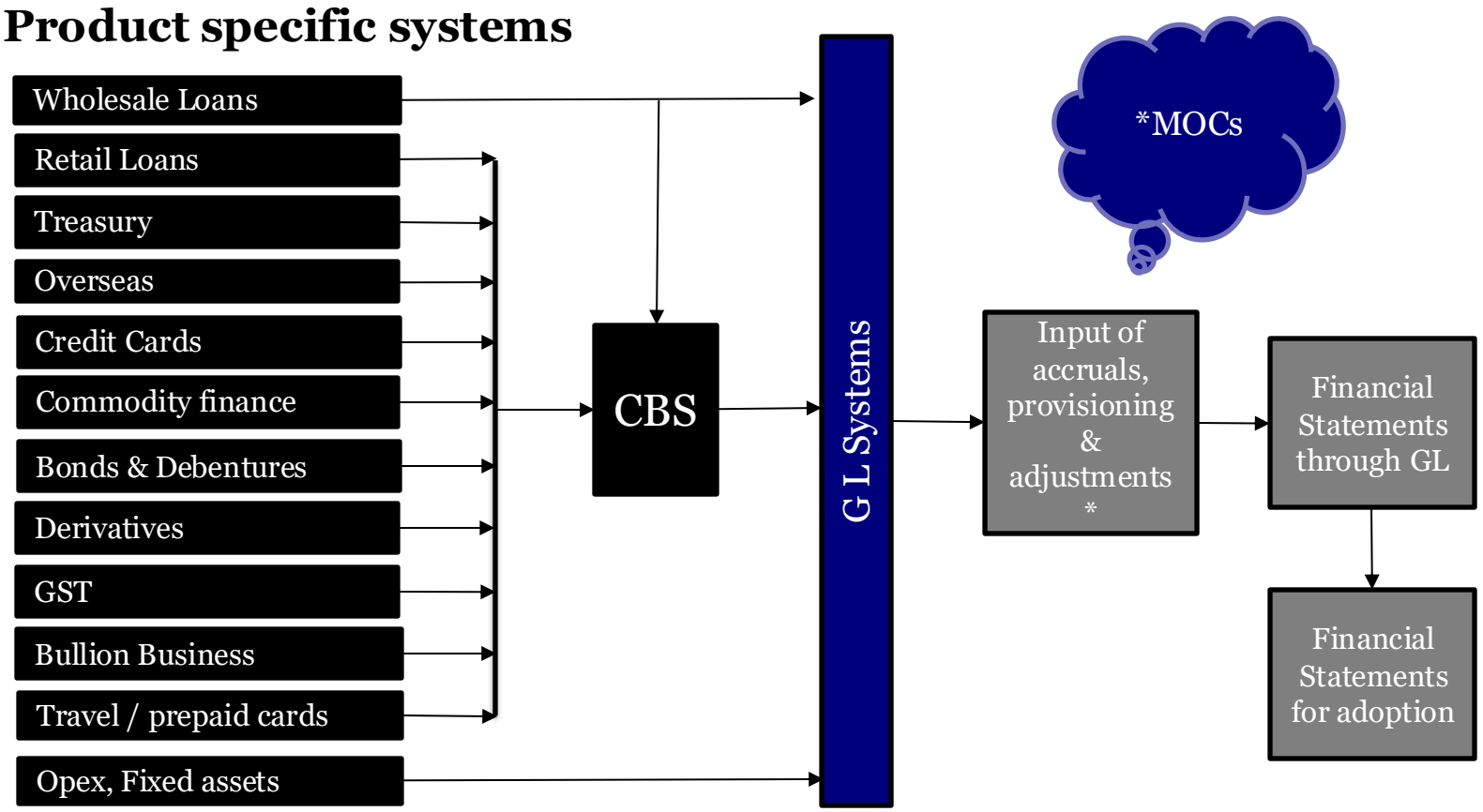
CBS (Core Banking System)

An Overview – CBS

- Server at a central location – also known as Data Centres
- Connectivity to all banking locations
  - Branches
  - ATMs
  - Internet Banking
  - Mobile Banking
- Transactions recorded onto the central server
- Reports generations controlled centrally
- Lot of other peripheral systems integrated with CBS

The Flow – operations to accounts…



Controls in CBS

- Understand how the CBS is implemented
  - Transaction testing on a sample basis - asset & liability side
- Understand what controls are in place to ensure that the CIA principle works unfettered in the bank
  - Confidentiality
  - Integrity
  - Availability
- Verification of Data Integrity and data related control systems:
  - Special thrust on data inputs used in MIS at corporate level & supervisory purposes

Key reference material ...

- SA 315: Identifying and assessing Risks of Material Misstatement through understanding the Entity and its environment
  - Controls over IT Systems are effective if they maintain the integrity of information and security of data
- Guidance Note on Audit of Banks
  - General guidance on controls in a computerised environment
  - CBS specific guidance
- Guidance Note on Audit of Internal Financial Controls over Financial Reporting
  - The guidance note has good reference to IT controls in an automated processing environment

Key Audit processes…

I. Take interviews
   - Systems in charge / System Executive (SE)
   - Branch Manager

II. Obtain an overview of the systems
   - Software
   - Hardware
   - Network configurations

III. Discuss with SE of his perception of CIA principle in the branch

Key Audit processes… (Cont'd)

IV. Oral and written representations / confirmations

- System is implemented as designed
- No modifications are made to the system at / from the level of the branch
- All problems faced during implementation / upgradation / migration & thereafter are resolved
- Problems faced have not affected the confidentiality, integrity & availability of data
- Incident register / IT calls raised as maintained by the branch

V. Specifically inquire of the methodologies

- EOD / SOD process
- Sign off on MIS & exception reports
- Unresolved / long pending issues in the CBS

Key Audit processes… (Cont'd)

VI. Access Control Matrix

- Peruse and inquire whether it matches with the number of users at the branch
- Satisfy yourself that users in the Branch are aware of the importance of access controls
- Inquire whether logs of unauthorised access are available at branch / data centre – review management action
- Verify that the maker and checker are not the same user

Key Audit processes… (Cont'd)

VII. Reports from CBS

- For business / monitoring / audit & inspection / regulatory reporting
- For exceptional transactions – Early Warning Signals ('EWS')
- Sign offs / actions by branch mgmt on such reports

VIII. Access to CBS

- Generally - read-alone access is given, If not provided, do request for the same
- Even with a read-alone access help of a valid and experienced user may be necessary for due audit completion

Controls in CBS

I. Various types of Controls are embedded at various levels in CBS; two main categories of controls

- Application Controls
- IT Administrative Controls & Security

Controls in CBS – Application Controls

- Access Controls in Software Areas as per delegated powers to Employees / Users
- Data Input (Validation) Controls
- Product Level Controls
  - Prefixed Financial Parameters (Like Interest Rate, Penal Interest Rates)
  - Fixed Tenure (Pre-defined terms Fixed Deposits / Service Types (Principal and Interest Repayment Type and Periodicity)
  - Tax and Regulatory compliances
- Authorization of a transaction as per delegated authority

Controls in CBS – IT Admin controls & Security

- Controls are associated with processing activity
- Confirmation / Prior Authorisation for any outside Software Installations
- Logical Access Controls
  - Access to System / Menu as per the Category and Type of Branch / SOL
  - Single Sign-on for all the applications
  - Maker & Checker Control
- Security policies for all IT Assets (incl. Hardware, Softwares, Databases etc.)

Use of Technology

Use of Technology

- **CAAT – Computer assisted Audit Techniques**
  - Not every auditor has such a tool
  - Not every bank permits usage of such a tool on its systems
  - Spreadsheets – Use of macros etc

Use of Technology

- **Quering the Database**
  - Query languages can be used to carve out data as per criteria from Database Servers
  - However, it requires expertise and in-depth knowledge of System and Software
  - Requires permission to access the Database to apply the procedures – typically, assistance of MIS department required
  - Analyse data collected as per specific query (i.e. purpose for which the details / data have been extracted)
  - Data collected along with Auditors' remarks should be stored as Audit Working Paper
  - Based on the parameters and Field requirements, Data Center can generate the reports to be shared with Auditors for their further processing

Use of Technology

- **How does Query language work**
  - Users can access data from database created using the Relational Database Management System (RDBMS)
  - RDBMS is a type of Database Management System that stores data in a row-based table structure which connects related data elements
    - The Customer Master table contains data about the customer:
      - Customer ID
      - Customer Name
      - PAN / Aadhar details
    - The transaction master table will contain all the transactional information of the customer
    - The Account master table will contain details like accounts number etc

Use of Technology

- **How does Query language work**
  - E.g. To generate a report for Cash transactions > Rs. 1 Crore
    - PAN of the Customer -> Customer master table
    - Transaction data -> Transaction table
    - CUST ID -> Customer master table
    - Here, the primary key is to identify a specific customer which is basis his PAN. Further, you can connect the PAN with his CUST ID and further link the same to the transaction table
  - Syntax for the query language:
    - **Select** *Column 1, Column 2 …* **From** *Table_Name* **Where** *condition*
    - ***Select*** -> Extraction of data from a database (Fields required in report are required to be specified here)
    - **Where** -> to condition / exception logic / trigger. With reference to above syntax it refers to extraction of only those records that fulfils specified condition

Use of Technology

- **Query language – Pre-requisites**
  - Understanding of CBS Front end operation
  - Basic understanding of Data tables
  - Understanding of inter-table relationships
  - Need to extracting multiple data tables (for analysis outside system - excel) for processing can be eliminated
  - Various scenarios / conditions based on which the report is to be generated
    - Depends on risk rating of the branch – High, medium, low
    - Product mix of the branch – exposure to CRE, agriculture etc
    - Observations from previous reports – RBI, concurrent, statutory, any other audits
  - Exclusions and need of fields in report

Use of Technology

- **Query language - Benefits**
  - Data Sampling – Exceptions / Risk based identification
  - Curated data can be extracted from Bank's Database
  - Reduces burden processing of data separately
  - Audit Case / scenarios can be stored for future use (subject to no change in data table format)
  - Extracting multiple data tables (for analysis outside system - excel) for processing can be eliminated
  - LFAR Reporting

Query Language – Various scenarios

- ***Credit / Monitoring / Legal Compliance***
  - Vehicle Loans above Rs. 15 Lakhs where collateral security is not available
  - List of accounts wherein the facility is not renewed / reviewed
  - Advance against Deposits (AAD - Loan product) greater than fixed deposit balance
  - Cash Credit Accounts where primary security is "Nil"
  - Advance against Deposits with no linkage to FDs / no lien marked in the system
  - Devolved LCs not debited to Operative Account of the borrower (*Ref: Debit in Account other than customer's CUST ID*)
  - Accounts overdue more than 90 days but not marked NPA by the system (exclusions: AAD, agri loans etc)
  - Accounts where scanned signature not available at CUST ID level

Query Language – Various scenarios

- ***Credit / Monitoring / Legal Compliance***
  - FD of different CUST ID Linked to Operative Account under different CUST ID
  - Manual debit to interest paid accounts
  - Ad Hoc limits sanctioned but not regularized / security delineated on expiry
  - List of Packing Credit accounts overdue for more than 360 days and not charging ECNOS (*Export Credit Not Otherwise Specified*) rate
  - Repayment of Packing Credits out of domestic funds
  - Cash Credit accounts with no credits / low credits (Debits > credits)
  - Cash Credit accounts (stock / debts) having static DP / SL
  - Interchangeability between fund based and non-fund based limits vis–a– vis devolvement of LC / Invocation of BG

Indicative Fields

- ***Fields required***
  - Account No.
  - Account Name
  - Type of Account (CC / OD / Loan etc.)
  - Scheme Code / Scheme Type
  - Sub GL
  - Sanction Limit & Drawing Power
  - Balance Outstanding as on the day (Dr.)
  - Balance Outstanding as on the day (Cr.)
  - Asset Classification – NPA / PA
  - SMA Classification (if not considered in Asset Classification)
  - Overdue amount as on the day
  - Renew / Review date
  - Stock & Book Debts statements outstanding for (In Days)
  - Whether Account classified as Fraud (Y / N)
  - Primary Security (Value)
  - Collateral Security (Value)
  - Type of Security (Land, Building, Stock, Book debts etc.)

Query Language – Key Points

- **Auditors need to apply the following steps:**
  - Use of basic tools (viz. Spreadsheets on data readily available)
  - Use of Structured Query Language for generation of Special Purpose Reports
  - Use of CAAT Tools for detailed review of data outside the system – wherever possible
  - Some basic knowledge about Database and Programming Concepts is advisable

Other Audit Points - CBS

Interest Income

- Interest rate parameters are controlled centrally
- Obtain list of transactions where interest rate has been entered by branch management – Query language / MIS data
- Ensure that such entries and authorization is as per Access Control Rules
- Review process of interest rate modifications in similar manner
- Test check a few interest calculations – Arithmetical accuracy

Income Charges

- As in case of interest rate, parameters for other charges are controlled centrally
- Verify that the software relates the transaction with the income to be applied
  - Bank Guarantee / LC and its Commission / Charges
  - ATM / Credit Card charges – Exception reporting
  - Charges for miscellaneous transactions
- Review transactions where branch has an authority to deviate from the set parameters
- Test check a few transactions / periodicity of charges applied

NPAs

- Inquire whether system identifies NPAs and reverses income on a daily basis – Mostly all banks NPAs marked on daily basis
- One borrower, one classification; Co-borrower (QL: one PAN having > 1 CUST ID)
- Check parameterization of system to identify NPAs / Upgradations:
  - Defaults in excess of 90 days principal repayment or continuously overdrawn
  - Interest not fully serviced – upgradation only on servicing of all dues
  - Sanction limit expired and account not renewed
  - Packing credits defaults – running account
- NPAs – certain exclusions:
  - Account with credit balance or net outstanding amounts
  - Staff schemes
  - Accounts under Central Government Guarantee

Deposits and interest thereon

- Ensure proper parameterization of deposit schemes and interest thereon
- Test a sample transactions for interest computation – arithmetical accuracy
- Review process of pre-mandated transactions and whether they have happened as per the mandate
  - Auto sweep account
  - Cumulative deposits
  - Recurring deposits

Office Accounts

- Review of various office accounts - Understand nature of all office accounts (including ledgers at TB level)
  - Suspense accounts (Recovery suspense, credit suspense etc)
  - Sundry Deposits
  - Inter branch (Inter Sol)
  - ATM Suspense
  - Pointing Type / Non-Pointing Type Accounts
  - Query language can also be used (QL: Debit to office accounts and credit to customer accounts)
- Audit list of outstanding items
- Inquire whether frauds have occurred using these office accounts

Office Accounts

- Potential Misuse – Past trends
  - Recovery effected from Office Accounts (E.g. Round tripping)
  - TOD through Office Accounts
  - Parking of Cash Difference in Office Accounts
  - Clearing / Remittance differences through Office Accounts
  - Rotation of entries in Office Accounts
  - Correctness in mapping of reversal transaction to originating transaction
  - Value Dated Transactions vs transaction date
  - Advance paid for Fixed Assets not capitalized
  - Income realized not credited to Revenue Account

Review - Financial Statements

- Process of generating financial statements
  - Any manual intervention areas to be focused upon and thoroughly verified
  - MOCs for year under audit – verify FS post passing of entries in the books of account
  - Transfer of opening balances - proper accounting of MOCs of previous year
  - Reconciling EOD reports with Trial Balance

Questions ?

Thanks!!!

sanat@mpchitale.com