

INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

I
J
R
C
M



A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A.

as well as in Open J-Gate, India [link of the same is duly available at Infibnet of University Grants Commission (U.G.C.)]

Registered & Listed at: Index Copernicus Publishers Panel, Poland & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 1667 Cities in 145 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

www.ijrcm.org.in

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	EXPERT EVIDENCE: RULE OF ADMISSIBILITY IN INDIA WITH SPECIAL REFERENCE TO BALLISTICS <i>BHAGWAN R. GAWALI & DR. DIPA DUBE</i>	1
2.	USING ARTIFICIAL NEURAL NETWORKS TO EXAMINE SEMIOTIC THEORIES OF ACCOUNTING ACCRUALS IN TEHRAN STOCK EXCHANGE <i>AFSANEH MIRZAEI, ALI REZA MEHRAZIN & ABULGHASEM MASYHAABADI</i>	4
3.	JOB SATISFACTION AMONG EMPLOYEES IN INDUSTRIES IN TAMIL NADU, INDIA <i>DR. ANTHEA WASHINGTON</i>	11
4.	THE ICT ENABLED BUSINESS TRANSFORMATION IN THE BANKING INDUSTRY OF SRI LANKA (A CROSS CASES ANALYSIS) <i>POONGOTHAI SELVARAJAN</i>	17
5.	THE NEED FOR ENERGY DEMAND SIDE MANAGEMENT IN COMMERCIAL AND RESIDENTIAL SECTORS IN NIGERIA <i>AHMED ADAMU</i>	21
6.	EMOTIONAL INTELLIGENCE, CUSTOMER ORIENTATION, ADAPTIVE SELLING AND MANIFEST INFLUENCE: A COMPLETE TOOL KIT IN MARKETING EXCHANGES FOR SALESPERSONS <i>ARSLAN RAFI, ZEESHAN ASHRAF, DILJAN KHAN, YASIR SALEEM & TAJAMAL ALI</i>	27
7.	PARADIGMS OF MODERN DAY MARKETING - A LOOK AT CURRENT SCENARIO <i>SUPREET AHLUWALIA & VIVEK JOSHI</i>	33
8.	MIS VS. DSS IN DECISION MAKING <i>DR. K.V.S.N. JAWAHAR BABU & B. MUNIRAJA SEKHAR</i>	39
9.	PRE-PROCESSING AND ENHANCEMENT OF BRAIN MAGNETIC RESONANCE IMAGE (MRI) <i>K.SELVANAYAKI & DR. P. KALUGASALAM</i>	47
10.	IMPACT OF SERVICE QUALITY DIMENSIONS ON CUSTOMER SATISFACTION OF SBI ATM <i>NAMA MADHAVI & DR. MAMILLA RAJASEKHAR</i>	55
11.	DEVELOPMENT OF LOW COST SOUND LEVEL ANALYZER USING SCILAB FOR SIMPLE NOISE MEASUREMENT APPLICATIONS <i>OJAS M. SUROO & MAHESH N. JIVANI</i>	62
12.	INFLUENCE OF DEMOGRAPHY ON STORE CHOICE ATTRIBUTES OF MADURAI SHOPPERS IN RETAIL OUTLETS <i>DR. S. SAKTHIVEL RANI & C.R.MATHURAVALLI</i>	67
13.	TRADE FINANCE AND METHODS & CHARACTERISTICS OF INTERNATIONAL PAYMENTS FOR INDIAN EXPORTERS <i>RAJENDRA KUMAR JHA</i>	72
14.	CUSTOMER SERVICE THROUGH THE BANKING OMBUDSMAN SCHEME - AN EVALUATION <i>DR. SUJATHA SUSANNA KUMARI. D</i>	78
15.	MEASURING THE FINANCIAL HEALTH OF SELECTED LARGE SCALE IRON AND STEEL COMPANIES IN INDIA USING Z-SCORE MODEL <i>DR. P. THILAGAVATHI & DR. V. RENUGADEVI</i>	82
16.	DESIGN AND DEVELOPMENT OF 4-TIER ARCHITECTURE OF VIRTUAL NETWORK MODEL FOR FINANCIAL AND BANKING INSTITUTIONS <i>SARANG JAVKHEDKAR</i>	87
17.	IMPACT OF FACE BOOK ADVERTISEMENT AND AWARENESS LEVEL AMONG THE CLIENTS WITH SPECIAL REFERENCE TO ERODE CITY <i>S.KOWSALYADEVI</i>	91
18.	HUMAN RESOURCES IN SIX SIGMA - A SPECIAL LOOK <i>DR. B.SUMATHISRI</i>	97
19.	MOBILITY AND RETENTION OF FEMALE FACULTIES IN PRIVATE COLLEGE <i>POOJA</i>	100
20.	EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF PHARMACEUTICALS FIRMS IN INDIA <i>NILESH M PATEL & MITUL M. DELIYA</i>	107
21.	AWARENESS OF TAX PLANNING - A STUDY WITH SPECIAL REFERENCE TO GOVERNMENT EMPLOYEES <i>DR. K. UMA & G. LINGAPERUMAL</i>	113
22.	A STUDY ON ADOPTION OF INTERNET BANKING AMONG STUDENTS IN INDORE <i>HARDEEP SINGH CHAWLA & DR. MANMINDER SINGH SALUJA</i>	117
23.	IMPACT OF MERGERS ON STOCK RETURNS: A STUDY WITH REFERENCE TO MERGERS IN INDIA <i>KUSHALAPPA. S & SHARMILA KUNDER</i>	124
24.	SECURING E-COMMERCE WEBSITES THROUGH SSL/TLS <i>PRADEEP KUMAR PANWAR</i>	130
25.	EFFICIENT ARCHITECTURE FOR STREAMING OF VIDEO OVER THE INTERNET <i>HEMANT RANA</i>	134
26.	A STUDY ON INDIAN FOREIGN EXCHANGE MARKET EFFICIENCY – APPLICATION OF RANDOM WALK HYPOTHESIS <i>ANSON K.J</i>	138
27.	AN EMPIRICAL ANALYSIS OF FACTORS AND VARIABLES INFLUENCING INTERNET BANKING AMONG BANGALORE CUSTOMERS <i>VIDYA CHANDRASEKAR</i>	143
28.	EMPLOYEE ATTRITION IN SOFTWARE INDUSTRY <i>I.NAGA SUMALATHA</i>	149
29.	IMPORTANCE OF XBRL: AN OVERVIEW <i>B.RAMESH</i>	154
30.	AN ANALYSIS OF ANEKA (CLOUD COMPUTING TOOL) <i>AANHA GOYAL & ANSHIKA BANSAL</i>	159
	REQUEST FOR FEEDBACK	163

CHIEF PATRON

PROF. K. K. AGGARWAL

Chancellor, Lingaya's University, Delhi
Founder Vice-Chancellor, Guru Gobind Singh Indraprastha University, Delhi
Ex. Pro Vice-Chancellor, Guru Jambheshwar University, Hisar

FOUNDER PATRON

LATE SH. RAM BHAJAN AGGARWAL

Former State Minister for Home & Tourism, Government of Haryana
Former Vice-President, Dadri Education Society, Charkhi Dadri
Former President, Chinar Syntex Ltd. (Textile Mills), Bhiwani

CO-ORDINATOR

DR. MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

ADVISORS

DR. PRIYA RANJAN TRIVEDI

Chancellor, The Global Open University, Nagaland

PROF. M. S. SENAM RAJU

Director A. C. D., School of Management Studies, I.G.N.O.U., New Delhi

PROF. S. L. MAHANDRU

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR

PROF. R. K. SHARMA

Professor, Bharti Vidyapeeth University Institute of Management & Research, New Delhi

CO-EDITOR

DR. MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

EDITORIAL ADVISORY BOARD

DR. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

PROF. PARVEEN KUMAR

Director, M.C.A., Meerut Institute of Engineering & Technology, Meerut, U. P.

PROF. H. R. SHARMA

Director, Chhatrapati Shivaji Institute of Technology, Durg, C.G.

PROF. MANOHAR LAL

Director & Chairman, School of Information & Computer Sciences, I.G.N.O.U., New Delhi

PROF. ANIL K. SAINI

Chairperson (CRC), Guru Gobind Singh I. P. University, Delhi

PROF. R. K. CHOUDHARY

Director, Asia Pacific Institute of Information Technology, Panipat

DR. ASHWANI KUSH

Head, Computer Science, University College, Kurukshetra University, Kurukshetra

DR. BHARAT BHUSHAN

Head, Department of Computer Science & Applications, Guru Nanak Khalsa College, Yamunanagar

DR. VIJAYPAL SINGH DHAKA

Dean (Academics), Rajasthan Institute of Engineering & Technology, Jaipur

DR. SAMBHAVNA

Faculty, I.I.T.M., Delhi

DR. MOHINDER CHAND

Associate Professor, Kurukshetra University, Kurukshetra

DR. MOHENDER KUMAR GUPTA

Associate Professor, P.J.L.N. Government College, Faridabad

DR. SAMBHAV GARG

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

DR. SHIVAKUMAR DEENE

Asst. Professor, Dept. of Commerce, School of Business Studies, Central University of Karnataka, Gulbarga

DR. BHAVET

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

ASSOCIATE EDITORS

PROF. ABHAY BANSAL

Head, Department of Information Technology, Amity School of Engineering & Technology, Amity University, Noida

PROF. NAWAB ALI KHAN

Department of Commerce, Aligarh Muslim University, Aligarh, U.P.

ASHISH CHOPRA

Sr. Lecturer, Doon Valley Institute of Engineering & Technology, Karnal

TECHNICAL ADVISORS

AMITA

Faculty, Government M. S., Mohali

DR. MOHITA

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadholi, Yamunanagar

FINANCIAL ADVISORS

DICKIN GOYAL

Advocate & Tax Adviser, Panchkula

NEENA

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

LEGAL ADVISORS

JITENDER S. CHAHAL

Advocate, Punjab & Haryana High Court, Chandigarh U.T.

CHANDER BHUSHAN SHARMA

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

SUPERINTENDENT

SURENDER KUMAR POONIA

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Management Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email address: infoijrcm@gmail.com.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR
IJRCM

Subject: SUBMISSION OF MANUSCRIPT IN THE AREA OF

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript entitled ' _____ ' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

NAME OF CORRESPONDING AUTHOR:

Designation:

Affiliation with full address, contact numbers & Pin Code:

Residential address with Pin Code:

Mobile Number (s):

Landline Number (s):

E-mail Address:

Alternate E-mail Address:

NOTES:

- a) The whole manuscript is required to be in **ONE MS WORD FILE** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
- b) The sender is required to mention the following in the **SUBJECT COLUMN** of the mail:
New Manuscript for Review in the area of (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)
- c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
- d) The total size of the file containing the manuscript is required to be below **500 KB**.
- e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
- f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name, designation, affiliation (s), address, mobile/landline numbers**, and **email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.
6. **MANUSCRIPT:** Manuscript must be in **BRITISH ENGLISH** prepared on a standard A4 size **PORTRAIT SETTING PAPER**. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.
7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.
9. **MAIN TEXT:** The main text should follow the following sequence:

INTRODUCTION**REVIEW OF LITERATURE****NEED/IMPORTANCE OF THE STUDY****STATEMENT OF THE PROBLEM****OBJECTIVES****HYPOTHESES****RESEARCH METHODOLOGY****RESULTS & DISCUSSION****FINDINGS****RECOMMENDATIONS/SUGGESTIONS****CONCLUSIONS****SCOPE FOR FURTHER RESEARCH****ACKNOWLEDGMENTS****REFERENCES****APPENDIX/ANNEXURE**

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed **5000 WORDS**.

10. **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered & self explained, and **titles must be above the table/figure. Sources of data should be mentioned below the table/figure.** It should be ensured that the tables/figures are referred to from the main text.
11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.
12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:
 - All works cited in the text (including sources for tables and figures) should be listed alphabetically.
 - Use **(ed.)** for one editor, and **(ed.s)** for multiple editors.
 - When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
 - Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
 - The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
 - For titles in a language other than English, provide an English translation in parentheses.
 - The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:**BOOKS**

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

DESIGN AND DEVELOPMENT OF 4-TIER ARCHITECTURE OF VIRTUAL NETWORK MODEL FOR FINANCIAL AND BANKING INSTITUTIONS

SARANG JAVKHEDKAR
ASST. PROFESSOR
DR. AMBEDKAR INSTITUTE OF MANAGGEMENT STUDIES & RESEARCH
DEEKSHABHOOMI

ABSTRACT

Core Banking Solutions is new jargon frequently used in banking circles of India. Not only the business customers but also the individual (household) customers are dealt with various financial institution and banking systems like farmers, workers, businessmen, industrialist, housewives, politicians and non financial sectors.. Normal core banking functions will include deposit, loans, insurances, mortgages and payments etc. Since the customers open their account in more than one Financial Institution and invest their money in Insurance, Provident Fund, Mutual Funds, Post Office etc, The regulatory bodies like Banking, Insurance, Income Tax Department cannot keep track of individual or groups transaction. This affects the irregularities in maintaining the income of individuals or groups. Thus to overcome the above drawback, here 4-tier architecture model will maintain the transparency in each and every transaction of customer by introducing "Customer Unique Identification Number" (CUID). 4 tier architecture models have 4 layers, with the use of biometric tool and the Data Warehouse (where the data of customers are stored) in physical layer. The Online Transaction and Analytical Processing are easier and flexible through this model. The advantageous part of this model is the CUID, which can easily composite with current financial system. This new platform will change the working of banking and financial system. This model can bring technological revolution in banking and financial system over current system.

KEYWORDS

4-Tier Architecture, Core, Banking, Customer Unique Identification.

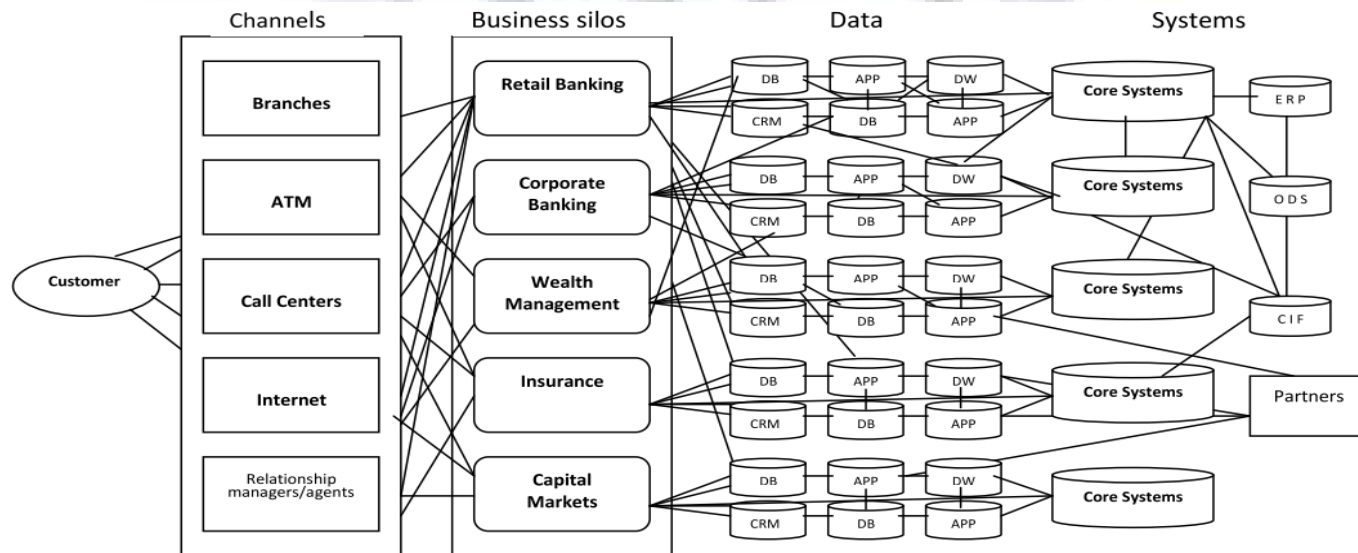
1. INTRODUCTION

Technological development is an added advantage for banking sector and the core banking applications is an example of technological development. The real time transaction processing is the need of real-time exchange in banking and financial institution. The real time application, means that the result will be reflected immediately on the bank's servers whatever the transactions made by the customer in any of the bank's branch throughout the world. The application is based on Centralized Data Storage. This means, all the branches are interconnected with each other with the Centralise HUB (Server) as Data Storage. The core banking has the inbuilt facility to fulfil the needs of customers, as an automated banking solution. Still the current core banking solution has some loopholes and limitations of identification of the transactions of different bank's branches for the same customer. The New Model i.e. 4-tier architecture model is design for Financial and Banking institution for the process of account opening. In 4 tier architecture the advanced tools like biometric and data storage to generate "Customers unique identification"-(CUID) for each and every customer and group. Each and every transaction of a customer or group with any bank across any path or passage like E-Banking, Investments, Deposits, M-Banking, e-Governance, internet banking etc, using CUID will be tracked. All these facilities provided to customer by maintaining individual as well as global Data Storage. Maintaining the data storage not only to keep the information of individuals and groups more secured but also helps to improve the operational (transactional) efficiency, this can answer any improved, complex, statistical or analytical queries. Both the summarized and detailed information is situated at the centre of a DSS of an organisation and contains integrated historical data. For the betterment of the current core financial and banking system we have used the customer unique identification code in 4-tier architectural model and the core system has radically changed the way in which financial system works (functions). The advantageous part of the core bank system is its features and functionalities with use of advance technologies which can be very easily integrated with present system. The management of personal finance and transaction with any bank or financial institution the CUID card of proposed system will be used. The government authorities like Income Tax Department, Financial Industry Regulatory Authority, Financial Services Authority, Reserve Bank of India, Forward Markets Commission (India)(FMC), Insurance Regulatory and Development Authority(IRDA), etc, can managed centrally to control overall financial system through maintain data storage of either individual or a group. The ECS between banks, online transaction processing in stock market, Fund transfer from wireless devices etc, can be done using CUID, which were unheard in present era of core banking system. The data warehouse manages all the communication between financial organisations with customers to share information within organisation from top to bottom.

2. CURRENT CORE BANKING SYSTEM

Advancement in Information Technology (IT) helps in change in structure of the current banking system in particular and financial sector in general.

FIGURE 1 - : CURRENT CORE BANKING SYSTEM



Core Banking System or CBS is one of the recent developments in the field of banking, and has proved to be very useful as Financial System. Core banking is another way of saying the core function of a bank. Utilisation of Advance Technologies and Internet for the transactions in banking system tends to new ways of doing business. It puts a new energy in increasing transactional efficiency in banking system by saving a lot of time and cost. The Core banking system is multiprocessing, multiprogramming as a service provider when measured as transactional efficiency. Technically we can say that, the Core banking solutions is an integration of information and communication technology. Here, computer software is developed module wise to perform core operations of banking like the bank's own books, or general ledger (recording of daily routine transactions), represents the bank as a business concern and should show the normal business activities, as well as the balances its holds on behalf of customers, interest and charges that have accrued and other assets, liabilities, income and expenses items. All the communication between each every bank is done through this software by means of latest technologies like internet, satellite, telephones etc and stored huge volume of data storage in data warehouse. The core advantage of this system is that, a customer can operate his/her account from any branch of the bank and if the banks owns internet banking or ATM facilities, then the customer can operate on his account from virtually anywhere. The core banking solution helps the customers to operate accounts from any bank of any branch.

A core banking system will maintain linkages between accounts and customers. A banking system that holds a single instance of a customer's record and then relates all of that customer's accounts to that record is said to be 'customer centric'. A core system that holds a list of accounts without linking them back to a single instance of a customer is said to be 'account centric'. In this day of integrated banking services and cross-selling there is little scope for account centric systems, although these may exist in other, more specialised areas of the bank.

The Core banking system is a platform independent. Developing the robust application the huge investment in technological infrastructure is required and this investment has contributed to expansion as well as growth of banking business. The return on such huge investment is yet to be realized. As the versatility in technology, core banking need to move forward in technological changes and offers the services which help in value addition in core banking services. Maintaining the consistency in services provided to the customers the development of alternative units (branches/channels) for the expansion and growth while serving to the customers. The technology provides helping hand to maintain data storage for the use of inter-switch transactions, its, an essential for the banking business to continue as service business where customers prefer to feel the personal touch.

As the change in the technology it is essential for every organisation to adapt the core banking technology as earliest. By successful implementation of a secure way of Electronic Fund Transfer Mechanism the core banking solutions entered and makes revolution in Secured Banking System. The pressure on banks is to increased regulatory requirement to sustain growth; therefore it is essential to have an error free and fully secured core banking system for continued regulatory requirements.

3. FLAWS IN PRESENT ACCOUNT OPENING SYSTEM

In present system it is necessary for the customer to make the personnel contact with the financial institution for the request to open account, the first step ends with the direct contact for the process of request of account opening form. The account opening process starts after completing the request from customer. The process ends with the issuing allotment of new account number to the customer within few days by recording the first transaction of opening account with some initial amount in financial system. Finally the documents like chequebook, debit card, etc received by the customer from the bank.

3.1. In above process there are various flaws in present account opening system, these are –

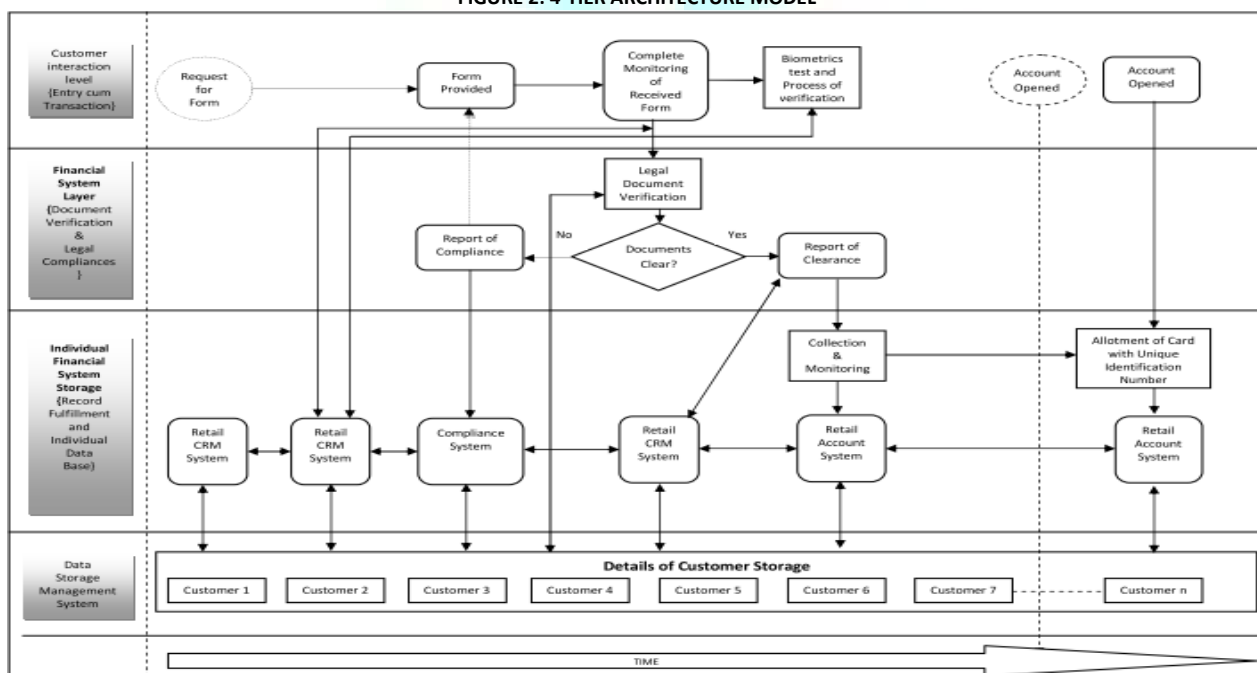
While opening a new account the following flaws are measured –

1. There is no check whether the customers have an account in same branch/bank.
2. The system is account based not a transaction based.
3. Bank is not aware of any details of the other accounts of the customers in different branch, bank, and financial institution.
4. No Unique Identification is provided by bank to customer for the individual unique identification other than allotted account number.
5. Consolidated record of customers having more than one account with various financial institutions is not generated.
6. The customers are not uniquely identified if having more than one account in one place or in different institution.

4. 4-TIER ARCHITECTURAL MODEL

To make the current financial core system more secured and powerful this 4-tier architecture helps to solve make the present account opening process simpler. Each of these 4 steps of this architectural model has several processes to complete the above task. It is very helpful to control the flaws in the present system which are mention above as well as it control and monitor the each and every transaction, personal details of customers with their income. Using this model it is possible to maintain the past records (previous transaction done by the customers) though centralized data storages. The efficient and effective decision making using Online Transaction Processing and Online Analytical Processing is the prime advantage of Data Storage. The model provides a complete and fully secured solution over the present system to overcome all the drawbacks.

FIGURE 2: 4-TIER ARCHITECTURE MODEL



4.1 Model Description –

The model has four layers; these are customer interaction layer, financial System Layer (where document verification and legal compliances are checked), financial system storage (here record fulfilment and Individual data maintenance is done) and Data Warehouse (data storage management system), elaborate in detail with each and every process of individual steps.

Layer-1- Customer Interaction Level- It is entry point in the 4-tier architectural model, where the direct interaction of the customer's () with the particular financial institution for the new account opening (transaction).

- "The requests from the customer at registration counter for the account opening form in any financial institution or bank."
- The Customers provide his/her details in the form which will be provided by institute for new account opening after hearing the request.
- Provided details are verified and the form will be accepted after verification of details.
- For maintain the unique identification, the customer is requested for "Biometric Test" and "Process of Verification" by the institute for each & everyone who wants to open a new account.
- The details provided by the customer are saved in the individual data base maintained by the institute. After receiving the request of new account opening the report of compliance and clearance report is verified.

Layer-2- Financial System Layer (Legal Compliances and Document Verification)- The second layer of 4-tier architecture model start its working process after receiving the request of new account opening form.

- On the request of customer, if the account open for the first time in his life then the legal compliances of the documents received from him will be scrutinized and if ok, then the Unique Identification is allotted as "Customer Unique Identification"-(CUID).
- If customer already registered with any of the financial institution (i.e. already a CUID holder) then the record will be verified by the system itself using CUID.
- In case of wrong information provided by the customer the system itself search the past record using biometric details already stored in the data storage as unique identification.
- Then the report generated by the system will be used for further processing in the next layer.
- In case of non satisfactory report the compliance report is generated by the system and sends it to customer online otherwise further process is done.
- All the reports generated by the system for each individual is stored in respective data storage.

Layer-3-Financial System Storage (Fulfilment and Data Base)- The layer is meant for the individual data storage maintain in every financial institution and banking system.

- The form received with complete legal information stored in individual data storage, where the customer unique identification is generated to the new account holder only.
- All the future transactions were going through the legal procedure defined in layer-2 and layer-3.
- The data and information generated in this layer finally stored in the Database Management System in layer-4.
- In data storage the record of each and every transactions of individual customer is maintain.
- The monitoring of track record of every customer stored in independent unit, (i.e. independent financial institute) where customer makes the transaction.

Layer-4- Data Warehouse (Data Storage Management System)-it is an exit point of a system. All the reports and information generated in the individual institution will be stored in the Data Warehouse.

- The centralised data storage facility is provided by the higher Government Authority and maintain by (RBI) Reserve Bank of India for monitoring the lapses and defaulters.
- All types of data, information queries which are statistical and analytical of every financial institution are stored here.
- The details of all customers as well as financial institution are stored in the data warehouse globally.
- Each and every type of report generation is possible by maintaining the data warehouse.

4.2 steps for opening new account for customer according to 4-tier architecture

- Initial request from the customer for new Account Opening Form at registration counter for account opening in any financial institution.
- The form will fill up by the customer and submitted at the registration counter.
- After receiving the form the officials asks for his biometric details. The details of biometric will be attached to the form for the further processing.
- In case of any compliance marked in the customers' documents, then the system generates the compliance report which will be given to the customer from the counter itself.

4.3 steps for opening new account for Financial Institute/System according to 4-tier architecture model

- The registration counter of institute / system will received request to open a new account. The request is fulfilled by the system and the details will be stored in data storage. Filled form will be received by the system from customer.
- To complete this process the biometric details are asks to the customer and the detail report will be stored in retail CRM system. The biometric details are sending for the verification and legal process. The documents and details are verified and checked by the authorities.
- If the documents are clear without any compliance will be sent for the further process otherwise, the detailed compliance report will be given to the customer from the counter itself.
- Here after all verification and clearance report the customer will received the CUID, Number, cards, books, and other required documents. Fulfilment step generate CUID of customer (if not found registered previously with any other institution or system) and stored data in retail account system. Registration counter will get the confirmation of new account open with institution / system and customer will also get the documents like cheques, cards etc with Customer Unique Identification (CUID).

Advantages of CUID using 4-tier architecture model

- The new model and new CUID can easily blend with the present system, so that it is very easy to integrate the system with present system.
- The concept of CUID allotted to the customer will be used to monitor all future transaction i.e. individual, group, society etc.
- In this module, clear transference is maintained while its processing of transaction and opening an account by the customer.
- It is an advantageous for the Government to monitor on financial crises and to make quick decisions at any point of time.
- Further, it is not necessary for the income tax department to maintain and control the individual details and transactions of customer accounts for the purpose of tax dues.
- The CUID card is better option than the PAN card, or Aadhar Card as the CUID card maintains biometric details required for unique identification as well as the income details of individuals or groups.
- Under this model, all the financial sectors, including Government, Private, and Public will work under one roof at same level
- Detection of defaulters is an easy task for the financial system to take suitable action using this model.
- Efficient decision making process by maintaining Data Base Management System is advantageous for the Online Transaction Processing and Online Analytical Processing.

There are number of advantages after implementing the 4-tier architecture model. The above advantages focus light on only architecture for account opening process.

My in-depth study focus on many other aspects like security, transactions, implementation and software development which will highlight many benefits about the complete system.

CONCLUSION

The paper is focused on design and development of virtual network banking model i.e. 4-tier architectural model and benefits of customer unique identification (CUID) code. The four layers of architecture model show transparency which can be maintained while generating account number and CUID code. We have made an effort to focus to remove the drawbacks by launching the concept of Customer unique identification code (CUID code). This model will help in decision making process by using OLAP and OLTP tools, the main advantage of this model is that the 4-tier architecture model with CUID can easily blend with current banking and finance system. The 4-tier architectural model has become a robust to perform a role to enhance the present account opening process in financial core system by using CUID.

REFERENCES

1. AIBUMA Publishing - African Journal of Business & Management (AJBUMA) <http://www.aibuma.org/journal/index.htm> Vol. 1 (2010), 16 pages
2. Finacus Solution Pvt. Ltd. Finacus powered by innovation. "FINcore core banking system". Online Available: <http://www.finacus.co.in/fincore.html>
3. IBM Global Business Services. "IBM Institute for business value". Online available: http://www-05.ibm.com/de/financialservices/pdf/ibv_soa_banking.pdf
4. M/S S. Sathnanakrishnan, 2005. Information System for Banks, 2005, M/S/, Taxman publication, Pvt. Ltd.
5. Scott Simmons "Modernizing banking core systems" online available: http://www-05.ibm.com/developerworks/websphere/techjournal/0809_col_simmons/0809_col_simmons.html

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Computer Application and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mail infoijrcm@gmail.com for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail infoijrcm@gmail.com.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals

