

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT & 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., Google Scholar,

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

Index Copernicus Publishers Panel, Poland with IC Value of 5.09 & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 5555 Cities in 190 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

<http://ijrcm.org.in/>

CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	PERCEPTIONS OF EXECUTIVE LEVEL EMPLOYEES TOWARDS HRM PRACTICES IN SELECTED PRIVATE SECTOR BANKS IN PUNJAB <i>SANJEEV, DR. N S BHALLA, DR. T S SIDHU & SHRUTI</i>	1
2.	WOMEN PREFERENCE AS A JEWELLERY BUYER: IMPACT OF CELEBRITY ENDORSEMENT <i>SHAMILY JAGGI & DR. SANJAY KUMAR BAHL</i>	9
3.	LIQUIDITY AND PROFITABILITY ANALYSIS OF SELECTED STEEL COMPANIES <i>DR. M. K. JAIN, DR. VIKAS GARG & SHIVRANJAN</i>	14
4.	A STUDY ON IMPRESSION OF STRESS AND SURVIVING STRATEGIES AMONG THE BANK EMPLOYEES IN TIRUNELVELI DISTRICT <i>DR. N. KAMALA & A. ARUNA DEVI</i>	21
5.	A STUDY OF INTERNET USERS' ATTITUDE AND PERCEPTION TOWARDS ONLINE SHOPPING <i>PARVEEN KUMAR GARG & DR. AMANDEEP SINGH</i>	24
6.	DEFECT ANALYSIS AND PRECLUSION USING QUALITY TOOLS: A CASE STUDY OF ABC COMPANY <i>DR. SHIKHA GUPTA, DR. K. K. GARG & RADHA YADAV</i>	30
7.	ECONOMIC EMPOWERMENT OF BODO WOMEN THROUGH SELF-HELP GROUPS IN ASSAM <i>MAINAO BRAHMA & DR. K. DEVAN</i>	37
8.	CONSUMER MOTIVES AND INFLUENCING FACTORS IN LIFE INSURANCE BUYING DECISIONS: A STUDY IN PUNJAB AND CHANDIGARH REGION <i>NEHA SHRIVASTAVA & DR. RAMINDER PAL SINGH</i>	41
9.	ROLE OF SOCIAL MEDIA IN CRISIS COMMUNICATION IN THE BUSINESS CONTEXT: A STUDY WITH INDIAN EXAMPLES <i>CATHERINE MARY MATHEW</i>	50
10.	FINANCIAL PERFORMANCE OF INSURANCE INDUSTRY IN ETHIOPIA <i>DEMIS H GEBREAL, DR. SUJATHA SELVARAJ & DANIEL TOLOSA</i>	53
11.	NATURE, MAGNITUDE AND DETERMINANTS OF INDEBTEDNESS AMONG WOMEN LABOUR BENEFICIARY HOUSEHOLDS IN PUNJAB: AN EMPIRICAL ANALYSIS OF MGNREGS <i>DR. SARBJEET SINGH, DR. RAVITA & TANLEEN KAUR</i>	59
12.	IMPACT OF GOVERNMENT POLICIES ON ENTREPRENEURSHIP IN MICRO SMALL AND MEDIUM ENTERPRISES IN INDIA <i>BISHWAJEET PRAKASH & DR. JAINENDRA KUMAR VERMA</i>	66
13.	A STUDY OF EMPLOYEE PERCEPTION ON ORGANIZATIONAL CLIMATE AT B.E.L., KOTDWARA <i>DR. SANTOSH KUMAR GUPTA & ANSHIKA BANSAL</i>	70
14.	A STUDY OF CORPORATE SOCIAL RESPONSIBILITY PRACTICES IN MAHARATNA PUBLIC SECTOR ENTERPRISES OF INDIA <i>DR. MOHD TAQI & DR. MOHD AJMAL</i>	76
15.	AN EMPIRICAL ANALYSIS OF ARBITRAGE OPPORTUNITIES IN NSE NIFTY FUTURES <i>DR. SOHELI GHOSE & ROMIT ABHICHANDANI</i>	85
16.	AN EMPIRICAL STUDY OF DEMONETIZATION IMPACT ON RURAL PUBLIC <i>DR. D.CH. APPA RAO & DR. CH. BRAHMAIAH</i>	94
17.	EMOTIONAL INTELLIGENCE AS AN EDUCATIONAL STRATEGY FOR ENHANCEMENT OF EMPLOYABILITY <i>AFIFA IBRAHIM & MUBASHIR MAJID BABA</i>	97
18.	DEMONETIZATION & ITS IMPACT ON INDIAN ECONOMY <i>PRIYANKA SHRIVAS</i>	102
19.	IMPACT OF DEMONETIZATION ON ENTREPRENEURSHIP <i>AMANPREET</i>	104
20.	MEETING ISSUES AND CHALLENGES OF TALENT MANAGEMENT THROUGH SELECT HUMAN RESOURCE PRACTICES IN SELECT IT COMPANIES OF PUNJAB <i>JITESH KUMAR PANDEY</i>	107
	REQUEST FOR FEEDBACK & DISCLAIMER	116

CHIEF PATRON**Prof. (Dr.) K. K. AGGARWAL**

Chairman, Malaviya National Institute of Technology, Jaipur
 (An institute of National Importance & fully funded by Ministry of Human Resource Development, Government of India)
 Chancellor, K. R. Mangalam University, Gurgaon
 Chancellor, Lingaya's University, Faridabad
 Founder Vice-Chancellor (1998-2008), 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, Chinara Syntex Ltd. (Textile Mills), Bhiwani

FORMER CO-ORDINATOR**Dr. S. GARG**

Faculty, Shree Ram Institute of Business & Management, Urjani

ADVISOR**Prof. S. L. MAHANDRU**

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR**Dr. R. K. SHARMA**

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

CO-EDITOR**Dr. BHAVET**

Faculty, Shree Ram Institute of Engineering & Technology, Urjani

EDITORIAL ADVISORY BOARD**Dr. S. P. TIWARI**

Head, Department of Economics & Rural Development, Dr. Ram Manohar Lohia Avadh University, Faizabad

Dr. CHRISTIAN EHIOBUCHIE

Professor of Global Business/Management, Larry L Luing School of Business, Berkeley College, USA

Dr. SIKANDER KUMAR

Chairman, Department of Economics, Himachal Pradesh University, Shimla, Himachal Pradesh

Dr. JOSÉ G. VARGAS-HERNÁNDEZ

Research Professor, University Center for Economic & Managerial Sciences, University of Guadalajara, Guadalajara, Mexico

Dr. M. N. SHARMA

Chairman, M.B.A., Haryana College of Technology & Management, Kaithal

Dr. TEGUH WIDODO

Dean, Faculty of Applied Science, Telkom University, Bandung Technoplex, Jl. Telekomunikasi, Indonesia

Dr. M. S. SENAM RAJU

Professor, School of Management Studies, I.G.N.O.U., New Delhi

Dr. CLIFFORD OBIYO OFURUM

Professor of Accounting & Finance, Faculty of Management Sciences, University of Port Harcourt, Nigeria

Dr. KAUP MOHAMED

Dean & Managing Director, London American City College/ICBEST, United Arab Emirates

SUNIL KUMAR KARWASRA

Principal, Aakash College of Education, ChanderKalan, Tohana, Fatehabad

Dr. MIKE AMUHAYA IRAVO

Principal, Jomo Kenyatta University of Agriculture & Tech., Westlands Campus, Nairobi-Kenya

Dr. SYED TABASSUM SULTANA

Principal, Matrusri Institute of Post Graduate Studies, Hyderabad

Dr. NEPOMUCENO TIU

Chief Librarian & Professor, Lyceum of the Philippines University, Laguna, Philippines

Dr. SANJIV MITTAL

Professor & Dean, University School of Management Studies, GGS Indraprastha University, Delhi

Dr. ANA ŠTAMBUK

Head of Department of Statistics, Faculty of Economics, University of Rijeka, Rijeka, Croatia

Dr. RAJENDER GUPTA

Convener, Board of Studies in Economics, University of Jammu, Jammu

Dr. SHIB SHANKAR ROY

Professor, Department of Marketing, University of Rajshahi, Rajshahi, Bangladesh

Dr. ANIL K. SAINI

Professor, Guru Gobind Singh Indraprastha University, Delhi

Dr. SRINIVAS MADISHETTI

Professor, School of Business, Mzumbe University, Tanzania

Dr. NAWAB ALI KHAN

Professor & Dean, Faculty of Commerce, Aligarh Muslim University, Aligarh, U.P.

MUDENDA COLLINS

Head, Operations & Supply Chain, School of Business, The Copperbelt University, Zambia

Dr. EGWAKHE A. JOHNSON

Professor & Director, Babcock Centre for Executive Development, Babcock University, Nigeria

Dr. A. SURYANARAYANA

Professor, Department of Business Management, Osmania University, Hyderabad

Dr. MURAT DARÇIN

Associate Dean, Gendarmerie and Coast Guard Academy, Ankara, Turkey

Dr. ABHAY BANSAL

Head, Department of Information Technology, Amity School of Engg. & Tech., Amity University, Noida

Dr. YOUNOS VAKIL ALROAIA

Head of International Center, DOS in Management, Semnan Branch, Islamic Azad University, Semnan, Iran

WILLIAM NKOMO

Asst. Head of the Department, Faculty of Computing, Botho University, Francistown, Botswana

Dr. JAYASHREE SHANTARAM PATIL (DAKE)

Faculty in Economics, KPB Hinduja College of Commerce, Mumbai

SHASHI KHURANA

Associate Professor, S. M. S. Khalsa Lubana Girls College, Barara, Ambala

Dr. SEOW TA WEEA

Associate Professor, Universiti Tun Hussein Onn Malaysia, Parit Raja, Malaysia

Dr. OKAN VELİ ŞAFAKLI

Associate Professor, European University of Lefke, Lefke, Cyprus

Dr. MOHENDER KUMAR GUPTA

Associate Professor, Government College, Hodal

Dr. BORIS MILOVIC

Associate Professor, Faculty of Sport, Union Nikola Tesla University, Belgrade, Serbia

Dr. MOHAMMAD TALHA

Associate Professor, Department of Accounting & MIS, College of Industrial Management, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia

Dr. V. SELVAM

Associate Professor, SSL, VIT University, Vellore

Dr. IQBAL THONSE HAWALDAR

Associate Professor, College of Business Administration, Kingdom University, Bahrain

Dr. PARDEEP AHLAWAT

Associate Professor, Institute of Management Studies & Research, Maharshi Dayanand University, Rohtak

Dr. ALEXANDER MOSESOV

Associate Professor, Kazakh-British Technical University (KBTU), Almaty, Kazakhstan

Dr. ASHOK KUMAR CHAUHAN

Reader, Department of Economics, Kurukshetra University, Kurukshetra

YU-BING WANG

Faculty, department of Marketing, Feng Chia University, Taichung, Taiwan

SURJEET SINGH

Faculty, Department of Computer Science, G. M. N. (P.G.) College, Ambala Cantt.

Dr. MELAKE TEWOLDE TECLEGHIOGIS

Faculty, College of Business & Economics, Department of Economics, Asmara, Eritrea

Dr. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

Dr. SAMBHAVNA

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

Dr. THAMPOE MANAGALESWARAN

Faculty, Vavuniya Campus, University of Jaffna, Sri Lanka

Dr. SHIVAKUMAR DEENE

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

SURAJ GAUDEL

BBA Program Coordinator, LA GRANDEE International College, Simlanchaur - 8, Pokhara, Nepal

FORMER TECHNICAL ADVISOR**AMITA****FINANCIAL ADVISORS****DICKEN 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 the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; 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; Rural Economics; Co-operation; Demography; Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour 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; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** **anytime** in **M.S. Word format** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (**[FOR ONLINE SUBMISSION, CLICK HERE](#)**).

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/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled ' _____ ' for likely publication in one of your journals.

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

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR

Designation/Post*

Institution/College/University with full address & Pin Code

Residential address with Pin Code

Mobile Number (s) with country ISD code

Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)

Landline Number (s) with country ISD code

E-mail Address

Alternate E-mail Address

Nationality

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation etc. **The qualification of author is not acceptable for the purpose.**

NOTES:

- a) The whole manuscript has to be in **ONE MS WORD FILE** only, which will start from the covering letter, inside the manuscript. **pdf. version is liable to be rejected without any consideration.**
 - b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail:**
New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)
 - c) There is no need to give any text in the body of the 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 expected to be below **1000 KB**.
 - e) Only the **Abstract 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 within twenty-four hours** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.
 - g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.
2. **MANUSCRIPT TITLE:** The title of the paper should be typed in **bold letters, centered and fully capitalised**.
 3. **AUTHOR NAME (S) & AFFILIATIONS:** Author (s) **name, designation, affiliation (s), address, mobile/landline number (s), and email/alternate email address** should be given underneath the title.
 4. **ACKNOWLEDGMENTS:** Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.
 5. **ABSTRACT:** Abstract should be in **fully italic printing**, ranging between **150 to 300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. **Abbreviations must be mentioned in full**.
 6. **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 stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.
 7. **JEL CODE:** Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aea-web.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.
 8. **MANUSCRIPT:** Manuscript must be in **BRITISH ENGLISH** prepared on a standard A4 size **PORTRAIT SETTING PAPER**. **It should be free from any errors i.e. grammatical, spelling or punctuation. It must be thoroughly edited at your end.**
 9. **HEADINGS:** All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
 10. **SUB-HEADINGS:** All the sub-headings must be bold-faced, aligned left and fully capitalised.
 11. **MAIN TEXT:**

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:**INTRODUCTION****REVIEW OF LITERATURE****NEED/IMPORTANCE OF THE STUDY****STATEMENT OF THE PROBLEM****OBJECTIVES****HYPOTHESIS (ES)****RESEARCH METHODOLOGY****RESULTS & DISCUSSION****FINDINGS****RECOMMENDATIONS/SUGGESTIONS****CONCLUSIONS****LIMITATIONS****SCOPE FOR FURTHER RESEARCH****REFERENCES****APPENDIX/ANNEXURE****The manuscript should preferably be in 2000 to 5000 WORDS, But the limits can vary depending on the nature of the manuscript.**

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR, centered, separately numbered** & self-explained, and the **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.**
13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.
14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.
15. **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 may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper.** 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 italic printing. 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 parenthesis.
 - **Headers, footers, endnotes and footnotes should not be used in the document.** However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

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, 19-23

UNPUBLISHED DISSERTATIONS

- 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 Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

AN EMPIRICAL ANALYSIS OF ARBITRAGE OPPORTUNITIES IN NSE NIFTY FUTURES

DR. SOHELI GHOSE
ASST. PROFESSOR
DEPARTMENT OF COMMERCE
ST. XAVIER'S COLLEGE
KOLKATA

ROMIT ABHICHANDANI
ALUMNUS
DEPARTMENT OF COMMERCE
ST. XAVIER'S COLLEGE
KOLKATA

ABSTRACT

A Derivative contract derives its value from the performance of an underlying entity which can be an asset, index, or interest rate. Derivatives can be used for hedging, increasing exposure to price movements for speculation or getting access to otherwise hard to trade assets or markets. In this study we have analysed the relation between "Arbitrage Profit per Contract" and "Number of Contracts traded on a day". "Days to Maturity of the contract" and "Change in Open Interest on a day". The analysis has been based on 90 days Nifty Futures Contracts expiring on 29th Dec 2016; 25th January, 2017 and 23rd February, 2017. Pearson's product-moment correlation has been applied at 95% level of significance and a two-tailed T-test has been administered. The results suggested a significant negative correlation with the number of contracts traded, a significant positive correlation with the number of days till maturity and no significant correlation with change in open interest.

KEYWORDS

arbitrage, correlation, derivatives, hedging, Nifty futures contract.

INTRODUCTION

Derivatives can be used for insuring against price movements (hedging), increasing exposure to price movements for speculation or getting access to otherwise hard to trade assets or markets. The most common underlying assets include commodities, stocks, bonds, interest rates and currencies. The underlying asset does not have to be acquired. Derivatives therefore allow the breakup of ownership and participation in the market value of an asset.

In June 2000, the Bombay Stock Exchange (BSE) launched the first exchange-traded index derivatives contract in India, i.e., futures on the capital market benchmark index—the BSE Sensex. BSE commenced trading in index options on Sensex in June 2001. Stock options were introduced on 31 stocks in July 2001 and Single Stock Futures were launched in November 2002. The National Stock Exchange (NSE) commenced trading in derivatives with the launch of index futures in June 2000. In the futures and options segment, trading in CNX Nifty index, CNX IT index, Bank Nifty index, Nifty Midcap 50 index and single stock futures are available. In August 2008, currency derivatives were introduced in India with the launch of currency futures in USD/ INR by NSE. It also added currency futures in Euros, pounds and yen. Only the NSE and the BSE have been permitted to trade in equity derivatives contracts. Derivative instruments were issued in India not only in index product but also at individual stock level. The need of the derivative instruments was felt in India post liberalization because derivatives trading provide various benefits such as risk management, price discovery, operational advantage, market efficiency and opportunity to speculate. Introduction of risk management instruments in India has gained momentum in the last few years, thanks to Reserve Bank of India's efforts in allowing forward contracts, cross currency options, etc. which have developed into a very large market.

Futures contract is one of the variants of derivative contracts. Futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future for certain agreed price. The certain agreed price is called futures price. To make trading possible, the exchange specifies certain standardized features of the contract. As the two parties to the contract do not know each other, the exchange provides a mechanism that gives the two parties confidence that the contract will be honoured.

One of the parties to a futures contract assumes a long position and agrees to buy the underlying asset on a certain specified future date for a certain agreed price. The other party assumes a short position and agrees to sell the asset on the same date for the same price. Long futures give the profit to the trader if the value of the underlying asset on the maturity date is more than the futures price. Short futures give the profit to the trader if the value of the underlying asset on the maturity of the futures contract is less than the futures price. The underlying asset may be individual stock, stock market index, foreign currency, commodities, gold, silver, fixed-income securities. The profit to the trader acquiring long position in the futures contract is the value of the underlying asset at expiration minus futures price. The profit to the trader acquiring short position in the futures contract is futures price minus value of the underlying asset at expiration.

LITERATURE REVIEW

Put/call parity was developed by **Stoll (1969)** to establish a relationship between the prices of put and call options. While recognizing that "real world" factors like transactions costs and taxes could affect the results, Stoll tested two sets of data and concluded that the theory was reasonably valid. **Klemkosky and Resnick (1979)** attempted to correct some of the previously noted deficiencies with the put/call parity theory by recognizing changes in the structure of the options markets and incorporating a dividend term in the basic model. Out of 540 long hedges tested, 234 were profitable, and 324 out of 592 short hedges tested were profitable. Transactions costs were then added, but profitable hedges still occurred, the number decreasing as the level of transactions costs increased. The authors nevertheless concluded that their tests were consistent with put/call parity. **Brenner and Galai (1986)** tested put/call parity by using option price data and calculating the implied interest rate. The authors conclude that implied rates track well with market rates, but they also acknowledge that short positions apparently are not treated the same as long positions and that the probability of early exercise is likely to cause significant deviation of the implied interest rates. **Chance (1988)** used index call options to minimize the dividend effect and bid-ask market maker quotes to reflect the prices available to the general investing public. The Treasury bill rate was again assumed to be the relevant interest rate. Few violations of put/call parity were noted, and the majority of them were on options deep-in-the-money options with short maturities. **Frankfurter and Leung (1991)** extended the work of Brenner and Galai by increasing the size of the data set but restricting the data set to calls where the stock price was within 15% of the strike price. They concluded that the implied interest rates are poor proxies for the risk-free rate. They also concluded that time to maturity, the absolute level of Treasury bill rates, the relationship of the exercise price to the underlying stock price, and individual stock characteristics affected the implied interest rates. **Misra, Kannan & Misra (2006)** tested the validity of put/call parity theorem in NSE Nifty futures taking the data from 2005-06. The results indicated that there is a violation of spot-futures parity relationship for many futures in case of NSE Nifty futures. The average arbitrage profit earned was Rs. 2422 per contract whereas maximum arbitrage profit of Rs. 8069 was possible in one of the futures. Another objective of this paper was to find out the factors behind the violation of spot-futures parity theorem. The different factors considered were: time to maturity; whether violation was

more in rising markets or in declining markets; whether violation was more when theoretical futures price exceeds actual futures price or when actual futures price exceeds theoretical futures price; number of contracts traded; and change in open interest. The results of estimated regression models indicate that arbitrage profits were more: for far the month futures contracts than for near the month futures contracts; for undervalued futures market (relative to the spot market) than for overvalued futures market (relative to the spot market); for high liquid futures than for less liquid futures; when new contracts are added than when outstanding contracts are settled. **Ghose and Rathi (2016)** analyzed the Pearson's correlation between the Turnover (T/O) of BSE cash segment and derivatives segment, stock futures, index futures, index call options and index put options, stock call options and stock put options. The results reveal that derivatives do indeed facilitate transfer of risk and that this segment has gradually overtaken the cash segment in terms of T/O and that there is a correlation between the above-mentioned parameters.

IMPORTANCE OF THE STUDY

There exists a deterministic relationship between spot and futures prices, irrespective of the investor demand for the futures. The theoretical spot-futures relationship can be developed to determine a futures price for a given spot price and other relevant information (risk-free rate, dividend yield and time to maturity). If the actual futures price differs from the theoretical price, there exists an arbitrage opportunity and an arbitrageur can set up a risk-less position and earn more than the risk-free rate of return. Speculators use index futures to bet on future movement in the price of the underlying asset. Arbitrageurs use index futures to take advantage of mispricing.

The futures and options (F&O) segment of NSE reported a total turnover of Rs. 91312417.24 Crores during 2016-17 as against Rs. 64825834.30 Crores during 2015-16, as against Rs. 55606453.39 Crores in 2014-15, and Rs. 38211408.05 Crores in 2013-14 registering an average annual growth of 46.32% over the past three financial years. Considering the data from the year 2016-17, Index futures registered a turnover of Rs. 4204326.25 Crores, amounting to 4.6% of the total turnover in the F&O market.

This paper has been analysed from the point of view of arbitrageurs. The objective of this paper is to find out whether the spot-futures parity relationship holds in case of index futures in the Indian stock market. In the present market situation it is imperative to understand the above as many investors are considering Futures as a lucrative avenue. Thus this study aims to bring light to such investors the risks and rewards of investing in futures.

OBJECTIVES OF THE STUDY

1. To investigate the validity of "Put-Call parity theorem" in NSE Nifty Futures and analyse the Arbitrage opportunities arising out of disparity in Nifty futures.
2. To analyze the relation between "Arbitrage Profit per Contract" and "Number of Contracts traded on a day".
3. To analyze the relation between "Arbitrage Profit per Contract" and "Days to Maturity of the contract".
4. To analyze the relation between "Arbitrage Profit per Contract" and "Change in Open Interest on a day".

RESEARCH METHODOLOGY AND DATA COLLECTION

The analysis has been based on 90 days Nifty futures Contracts expiring on 29th Dec 2016; 25th January, 2017 and 23rd February, 2017 which is the sample. The data is secondary and has been collected from www.nseindia.com. The spot-futures parity relationship has been verified using daily data on value of NSE Nifty; time to maturity for different futures contracts available for trading; and number of contracts traded for different futures contracts.

To verify the spot-futures parity relationship, the sample carrying one year time period from 30th September, 2016 to 23rd February, 2017 has been chosen. To analyze the correlation of the arbitrage profits with its possible explanatory parameters, "Karl Pearson's product-moment correlation" has been analyzed at 95% level of significance and using a two-tailed T-test.

Tabular and graphical analysis have been used to demonstrate the cause and effect relationship between: Arbitrage profit per contract and "number of contracts traded", Arbitrage profit per contract and "days to maturity of a contract".

FIGURE 1: FORMULAS

Calculating the Correlation Coefficient:
Formula for Pearson's r

■ Definitional formula for Pearson's r:

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{[\sum (x - \bar{x})^2][\sum (y - \bar{y})^2]}}$$

■ *Use the computational formula to calculate*:

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{[n\sum X^2 - (\sum X)^2][n\sum Y^2 - (\sum Y)^2]}}$$

$$t = \frac{r_{xy}\sqrt{n-2}}{\sqrt{1-r_{xy}^2}}$$

RESULTS AND DISCUSSIONS

ANALYSIS 1: To investigate the validity of put-call parity theorem in NSE nifty futures & to analyze the arbitrage profits arising there off.

It has been assumed that the Risk free rate of interest is SBI's Fixed Deposit account interest rate i.e. 5.5% per annum and each contract consists of 100 units of NSE Nifty Futures.

TABLE 1: ARBITRAGE PROFITS

Arbitrage Profits (Rs. per contract- per day)			
Mean	Maximum	Minimum	Standard Deviation
1334	12754	11	1683

INTERPRETATION 1

In general, the Put-Call parity theorem seems to hold true, the average arbitrage profits per contract-per day are only Rs.1334 which is only 0.16% of the contract value. This small amount of arbitrage profit can be due to the existence of the transaction costs for the trade and occasional mispricing in the markets. The highest arbitrage profit that was possible during the period was Rs. 12754 being about 1.5% of the Contract value, this indicates that there is an occasional mispricing which can be taken advantage of by the arbitrageur. Further, the variation in the arbitrage profits is huge, with an absolute range of Rs. 12743 and a standard deviation of Rs.1683

ANALYSIS 2: To analyze the relation between arbitrage profit per contract and number of contracts traded.

H₀: There is no statistically significant correlation between the arbitrage profits and the number of contracts traded in a day.

H₁: There is a statistically significant correlation between the arbitrage profits and the number of contracts traded in a day.

TABLE 2: CORRELATION ANALYSIS

Particulars	Value
Correlation coefficient:	-0.242
Significant correlation coefficient:	-0.144
T-Value:	-3.386
Significant T Value:	-1.973

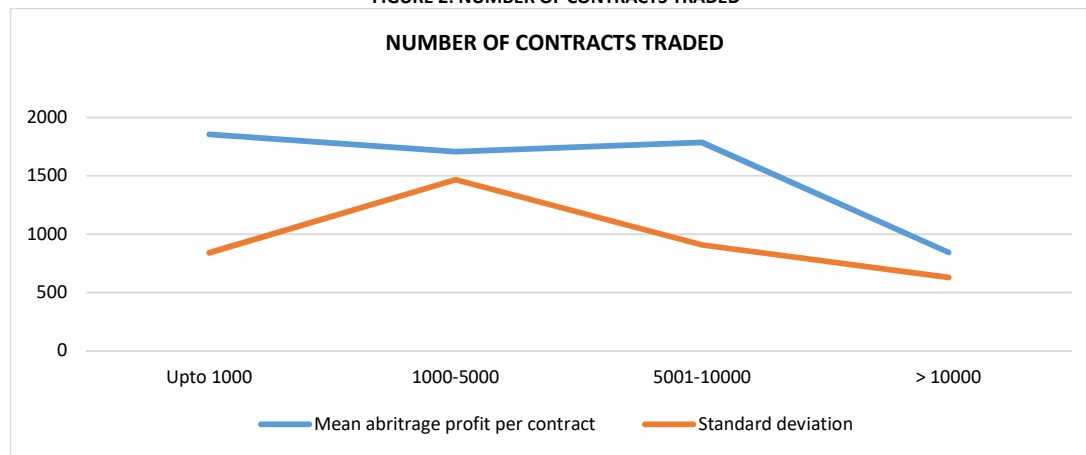
INTERPRETATION 2

As the test statistic exceeds the required t-value, we have sufficient evidence to reject H_0 , thus there is a significant negative correlation between the number of contracts traded and the arbitrage profit per contract. So, we can conclude that the arbitrage profit per contract decreases when more number of contracts is traded in a day. This is because, as the volume of trade increases, the market efficiency also increases, so the opportunities for arbitrage diminish. The table and graph also show expected results, as the number of contracts traded per day increase, the arbitrage profit per contract reduces. Also, there is a decreasing trend in the standard deviation; this can be interpreted as enhanced market efficiency due to increased volume of trade.

TABLE 3: NUMBER OF CONTRACTS BASED ANALYSIS

NUMBER OF CONTRACTS TRADED	Arbitrage Profits Per Contract (Rupees)			
	Mean	Maximum	Minimum	Standard Deviation
Up to 1000	1854	9739	426	839
1000-5000	1706	12754	66	1468
5001-10000	1784	10347	142	908
> 10000	842	3069	11	629
Overall	1334	12754	11	1683

FIGURE 2: NUMBER OF CONTRACTS TRADED



ANALYSIS 3: To analyze the relation between arbitrage profit per contract and days to maturity of a contract.

H_0 : There is no statistically significant correlation between the arbitrage profits and the number of days to maturity of a contract.

H_1 : There is a statistically significant correlation between the arbitrage profits and the number of days to maturity of a contract.

TABLE 4: CORRELATION ANALYSIS

Particulars	Value
Correlation coefficient:	0.304
Significant correlation coefficient:	0.144
T-Value:	4.322
Significant T Value:	1.973

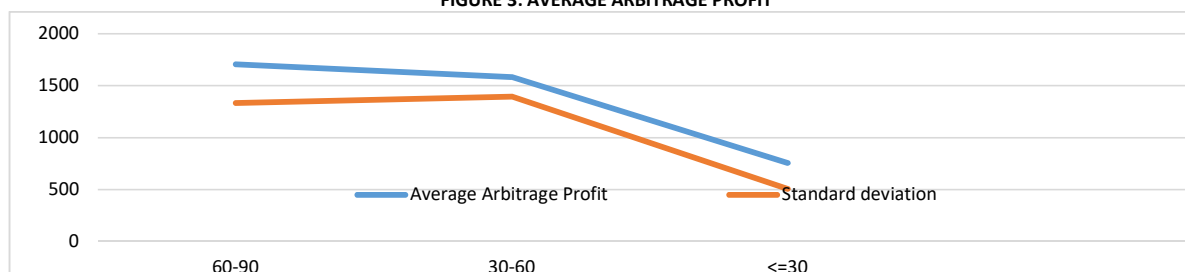
INTERPRETATION 3

As the test statistic exceeds the required t-value, we have sufficient evidence to reject H_0 . Thus, there is a significant positive correlation between the number of days to maturity of a contract and the arbitrage profit per contract. So, we can conclude that the arbitrage profit per contract decreases when fewer days to maturity are remaining. This is because, as the contract gets nearer to its maturity, volume of trade increases, the market efficiency also increases, so the opportunities for arbitrage diminish. There might be other possible reasons for this relationship. The table and graph also show expected results, as the number of days to maturity reduces, the arbitrage profit per contract reduces. Also, there is a decreasing trend in the standard deviation, which can be interpreted as enhanced market efficiency due to increased volume of trade as contract gets closer to its maturity date.

TABLE 5: NUMBER OF DAYS TO MATURITY BASED ANALYSIS

Number of Days to Maturity	Arbitrage Profits Per Contract (Rupees)			
	Mean	Maximum	Minimum	Standard Deviation
60-90	1707	11706	66	1335
30-60	1584	12755	84	1394
<=30	756	2968	11	507

FIGURE 3: AVERAGE ARBITRAGE PROFIT



ANALYSIS 4: To analyze the relation between arbitrage profit per contract and open interest in the market.

H_0 : There is no statistically significant correlation between the arbitrage profits and open interest in the market.

H_1 : There is a statistically significant correlation between the arbitrage profits and open interest in the market.

TABLE 6: CORRELATION ANALYSIS

Particulars	Value
Correlation coefficient:	0.004
Significant correlation coefficient:	0.144
T-Value:	0.063
Significant T Value:	1.973

INTERPRETATION 4

As the test statistic does not exceed the required t-value, we do not have sufficient evidence to reject H_0 . Thus, there is no significant correlation between the open interest in the market and the arbitrage profit per contract.

FINDINGS AND CONCLUSION

The results indicate that, in general, the put-call parity theorem seems to hold true, the average arbitrage profits per contract-per day is only Rs.1334 which is only 0.16% of the contract value. This small amount of arbitrage profit can be accounted for by the transaction costs for the trade and occasional mispricing in the markets. The highest arbitrage profit that was possible during the period was Rs.12754 being about 1.5% of the Contract value, indicating that there is an occasional mispricing which can be taken advantage of by the arbitrageur. Further, the variation in the arbitrage profits is huge, with an absolute range of Rs.12743 and a standard deviation of Rs.1683. The results suggested a significant negative correlation with the number of contracts traded, a significant positive correlation with the number of days till maturity and no significant correlation with change in open interest. Thus arbitrage opportunities have diminished over the years, as volume has increased, and market efficiency has improved.

FURTHER SCOPE OF RESEARCH

To analyze the various sources of arbitrage profits and their effects, a regression can be performed. There are various other factors responsible for the variation in arbitrage profits, than those considered by the study. This indicates that there is a further scope of research in this area, to find out the various other factors that affect the arbitrage profits per contract. Also the sample can be extended beyond the time period and types of futures.

REFERENCES

- Brenner and Galai (1986), 'Implied Interest Rates', *The Journal of Business*, vol. 59 No. 3, pp. 493-507.
- Chance (1988), 'Boundary Condition Tests of Bid and Ask Prices of Index Call Options', *The Journal of Financial Research*, Vol. 11 No. 1, pp. 21-31.
- Frankfurter and Leung (1991), 'Further Analysis of the Put-Call Parity Implied Risk-Free Interest Rate', *Journal of Financial Research*, Vol. 14 No. 3, pp. 217-232.
- Ghose and Rathi (2016), 'Derivatives Segment and Cash Segment in India: A Comparative Performance Analysis', *IUP Journal of Applied Finance*, Vol. 22 No. 2, pp. 34-46.
- http://www.nseindia.com/products/content/derivatives/equities/historical_fo.htm (accessed on 13/03/2017)
- Klemosky and Resnick (1979), 'Put-Call Parity and Market Efficiency', *Journal of Finance*, Vol. 34 No. 5, pp. 1141-1155.
- Misra, Kanan and Misra (2006), 'Arbitrage Opportunities in the Futures Market: A Study of NSE Nifty' Futures 8th Global Conference of Actuaries, Mumbai-March, 2006
- Stoll (1969), 'The Relationship between Put and Limits of Arbitrage', *Journal of Finance*, Vol. 24 No. 5, pp. 801-824.

ANNEXURE

TABLE 1: NUMBER OF CONTRACTS

Date	Expiry	Settle Price	Turnover in Lacs	Open Int	Change in OI	Average Spot Rate	Theoretical Futures Price	Arbitrage Profit	No. of contracts	<1000	1000-5000	5000-10000	10000 +
30-Sep-16	29-Dec-16	8728.35	11035.1	69825	69825	8611.15	8725.586689	276.3311	1688	0	276.331132	0	0
3-Oct-16	29-Dec-16	8874.05	12070.45	146700	76875	8738.1	8850.328231	2372.177	1822	0	2372.17691	0	0
4-Oct-16	29-Dec-16	8896.75	7204.03	178125	31425	8769.15	8880.474277	1627.572	1081	0	1627.57228	0	0
5-Oct-16	29-Dec-16	8872.95	10303.81	216675	38550	8743.95	8853.655552	1929.445	1548	0	1929.44483	0	0
6-Oct-16	29-Dec-16	8828.35	8270.94	227925	11250	8709.55	8817.530442	1081.956	1244	0	1081.95585	0	0
7-Oct-16	29-Dec-16	8819.05	5446.33	235500	7575	8697.6	8804.140738	1490.926	824	1490.92618	0	0	0
10-Oct-16	29-Dec-16	8835.4	2837.89	234825	-675	8708.8	8811.599436	2380.056	428	2380.05635	0	0	0
13-Oct-16	29-Dec-16	8678.8	17538.84	330825	96000	8573.35	8670.73408	806.592	2687	0	806.59196	0	0
14-Oct-16	29-Dec-16	8699.5	7435.66	339075	8250	8583.4	8679.624956	1987.504	1141	0	1987.50442	0	0

17-Oct-16	29-Dec-16	8621.6	8825.45	35872.5	19650	8520.4	8612.127992	947.2008	1361	0	947.200768	0	0
18-Oct-16	29-Dec-16	8774.75	14451.64	37372.5	15000	8677.9	8770.037044	471.2956	2209	0	471.295644	0	0
19-Oct-16	29-Dec-16	8760.8	7342.5	39427.5	20550	8659.1	8749.753866	1104.613	1117	0	1104.61338	0	0
20-Oct-16	29-Dec-16	8802.45	19284.59	54907.5	154800	8699.4	8789.186421	1326.358	2922	0	1326.35792	0	0
21-Oct-16	29-Dec-16	8798.05	8378.2	57750.0	28425	8693.05	8781.482658	1656.734	1273	0	1656.73416	0	0
24-Oct-16	29-Dec-16	8819.9	12326.37	65287.5	75375	8708.95	8793.673801	2622.62	1862	0	2622.61994	0	0
25-Oct-16	29-Dec-16	8799.35	12879.83	70650.0	53625	8691.3	8774.564886	2478.511	1954	0	2478.51143	0	0
26-Oct-16	29-Dec-16	8715.25	27090.67	81060.0	104100	8615.25	8696.510548	1873.945	4138	0	1873.94517	0	0
27-Oct-16	29-Dec-16	8708.7	25762.45	87517.5	64575	8615.25	8695.234977	1346.502	3957	0	1346.50235	0	0
28-Oct-16	29-Dec-16	8719.6	26030.22	89272.5	17550	8638	8716.917438	268.2562	3987	0	268.256237	0	0
30-Oct-16	29-Dec-16	8681.65	4664.07	89475.0	2025	8625.7	8701.951762	2030.176	716	2030.17624	0	0	0
1-Nov-16	29-Dec-16	8704.25	25396.15	98565.0	90900	8625.7	8699.39921	485.079	3884	0	485.079012	0	0
2-Nov-16	29-Dec-16	8594.65	35063.44	10042.50	18600	8625.7	8698.123214	10347.32	5432	0	0	10347.32	0
3-Nov-16	29-Dec-16	8569.3	28294.15	10536.75	49425	8625.7	8696.847406	12754.74	4393	0	12754.7406	0	0
4-Nov-16	29-Dec-16	8509.9	36285.95	10983.75	44700	8433.75	8502.066909	783.3091	5676	0	0	783.3091	0
7-Nov-16	29-Dec-16	8567	25401.64	11243.25	25950	8497.05	8562.110985	488.9015	3947	0	488.901512	0	0
8-Nov-16	29-Dec-16	8615.55	23870.85	11352.00	10875	8543.55	8607.704299	784.5701	3704	0	784.570091	0	0
9-Nov-16	29-Dec-16	8515.95	151720.8	12493.50	114150	8432	8494.070599	2187.94	24189	0	0	0	2187.94
10-Nov-16	29-Dec-16	8604.95	61720.97	12636.00	14250	8525.75	8587.250991	1769.901	9538	0	0	1769.901	0
11-Nov-16	29-Dec-16	8381.15	79506.38	13794.75	115875	8296.3	8354.920192	2622.981	12556	0	0	0	2622.981
15-Nov-16	29-Dec-16	8191.65	111851.3	17083.50	328875	8108.45	8160.953048	3069.695	18108	0	0	0	3069.695
16-Nov-16	29-Dec-16	8167.6	87271.13	17233.50	15000	8111.6	8162.925961	467.4039	14177	0	0	0	467.4039
17-Nov-16	29-Dec-16	8141.1	87535.86	17796.00	56250	8079.95	8129.883061	1121.694	14296	0	0	0	1121.694
18-Nov-16	29-Dec-16	8121.25	109433.3	21486.00	369000	8074.1	8122.805311	155.5311	17933	0	0	0	155.5311
21-Nov-16	29-Dec-16	7977.15	390080	49140.00	276540.0	7929.1	7973.421064	372.8936	64886	0	0	0	372.8936
22-Nov-16	29-Dec-16	8044.95	410078.2	66915.00	177750.0	8002.3	8045.84992	89.99197	68215	0	0	0	89.99197
23-Nov-16	29-Dec-16	8064.7	522755.9	91873.50	249585.0	8033.3	8075.83392	1113.392	86545	0	0	0	1113.392
24-Nov-16	29-Dec-16	8013.1	1108297	15015.450	582810.0	7965.5	8006.500403	659.9597	184219	0	0	0	659.9597
25-Nov-16	29-Dec-16	8126.35	983208.8	14147.625	-867825	8114.3	8154.870013	2852.001	162248	0	0	0	2852.001
28-Nov-16	29-Dec-16	8150.6	733722.5	14752.575	604950	8126.9	8163.939587	1333.959	120167	0	0	0	1333.959
29-Nov-16	29-Dec-16	8172.05	823352.8	15091.950	339375	8142.15	8178.059388	600.9388	134021	0	0	0	600.9388
30-Nov-16	29-Dec-16	8260.35	872663.4	15600.150	508200	8224.5	8259.560918	78.90821	141525	0	0	0	78.90821
1-Dec-16	29-Dec-16	8212	653494.8	16102.125	501975	8192.9	8226.619381	1461.938	105795	0	0	0	1461.938
2-Dec-16	29-Dec-16	8108.9	977992.1	15733.725	-368400	8086.8	8118.891683	999.1683	160118	0	0	0	999.1683
5-Dec-16	29-Dec-16	8164.9	765064.8	15520.875	-212850	8128.75	8157.417606	748.2394	125464	0	0	0	748.2394

6-Dec-16	29-Dec-16	8169.05	613578.2	15499725	-21150	8143.15	8170.669771	161.9771	99946	0	0	0	161.9771
7-Dec-16	29-Dec-16	8123.35	869296.8	15832500	332775	8102.05	8128.238479	488.8479	142128	0	0	0	488.8479
8-Dec-16	29-Dec-16	8255.65	898797.9	16865250	1032750	8246.85	8272.292993	1664.299	145413	0	0	0	1664.299
9-Dec-16	29-Dec-16	8277	565814.4	17151225	285975	8261.75	8286.02342	902.342	91161	0	0	0	902.342
12-Dec-16	29-Dec-16	8183.4	719832.2	16502925	-648300	8170.8	8191.200783	780.0783	116984	0	0	0	780.0783
13-Dec-16	29-Dec-16	8227.45	592755.6	16960425	457500	8221.8	8241.119165	1366.917	96307	0	0	0	1366.917
14-Dec-16	29-Dec-16	8197.65	618416.6	16581150	-379275	8182.45	8200.473711	282.3711	100519	0	0	0	282.3711
15-Dec-16	29-Dec-16	8173.05	1157661	15584400	-996750	8153.6	8170.361589	268.8411	188405	0	0	0	268.8411
16-Dec-16	29-Dec-16	8146.5	657362.1	14874900	-709500	8139.45	8154.986181	848.6181	107524	0	0	0	848.6181
19-Dec-16	29-Dec-16	8124.15	390143.4	14570625	-304275	8104.35	8116.246754	790.3246	63952	0	0	0	790.3246
20-Dec-16	29-Dec-16	8099.9	634488.2	14405925	-164700	8082.4	8093.077296	682.2704	104439	0	0	0	682.2704
21-Dec-16	29-Dec-16	8080.65	471045.5	14274225	-131700	8061.3	8070.765458	988.4542	77520	0	0	0	988.4542
22-Dec-16	29-Dec-16	7996.85	876852.9	12897600	-1376625	7979.1	7987.297221	955.2779	146045	0	0	0	955.2779
23-Dec-16	29-Dec-16	7995	836572.2	13605525	707925	7985.75	7992.78153	221.847	139593	0	0	0	221.847
26-Dec-16	29-Dec-16	7911.3	768036.9	14412375	806850	7908.25	7911.730879	43.0879	129296	0	0	0	43.0879
27-Dec-16	29-Dec-16	8031.35	1065036	13281600	-1130775	8032.85	8035.206976	385.6976	178213	0	0	0	385.6976
28-Dec-16	29-Dec-16	8031.35	1093454	10557750	-2723850	8034.85	8036.028695	467.8695	180872	0	0	0	467.8695
28-Oct-16	25-Jan-17	8760.6	5738.05	34200	34200	8638	8751.509681	909.0319	875	909.03191	0	0	0
30-Oct-16	25-Jan-17	8723.95	1139.14	42075	7875	8625.7	8736.484616	1253.462	174	1253.46158	0	0	0
1-Nov-16	25-Jan-17	8747	6573.77	87675	45600	8625.7	8733.921934	1307.807	1001	0	1307.80662	0	0
2-Nov-16	25-Jan-17	8635.25	5558.34	112200	24525	8625.7	8732.640875	9739.087	857	9739.08746	0	0	0
3-Nov-16	25-Jan-17	8614.3	7393.84	143100	30900	8625.7	8731.360003	11706	1142	0	11706.0003	0	0
4-Nov-16	25-Jan-17	8549.1	13848.74	226425	83325	8433.75	8535.806539	1329.346	2156	0	1329.34608	0	0
7-Nov-16	25-Jan-17	8609.1	9879.02	275475	49050	8497.05	8596.088894	1301.111	1528	0	1301.11063	0	0
8-Nov-16	25-Jan-17	8655.4	7198.51	323850	48375	8543.55	8641.863141	1353.686	1113	0	1353.68594	0	0
9-Nov-16	25-Jan-17	8553.4	30022.2	358650	34800	8432	8527.778496	2562.15	4763	0	2562.15043	0	0
10-Nov-16	25-Jan-17	8645.8	9682.83	376725	18075	8525.75	8621.328665	2447.133	1490	0	2447.13345	0	0
11-Nov-16	25-Jan-17	8423.6	15392.84	433650	56925	8296.3	8388.075884	3552.412	2419	0	3552.4116	0	0
15-Nov-16	25-Jan-17	8231.75	17319.59	472575	38925	8108.45	8193.339	3841.1	2787	0	3841.09998	0	0
16-Nov-16	25-Jan-17	8206.4	14713.44	505725	33150	8111.6	8195.319743	1108.026	2378	0	1108.02571	0	0
17-Nov-16	25-Jan-17	8177.5	10664.69	524475	18750	8079.95	8162.145715	1535.429	1733	0	1535.42852	0	0
18-Nov-16	25-Jan-17	8155.7	30082.03	658200	133725	8074.1	8155.039878	66.01225	4912	0	66.0122458	0	0
21-Nov-16	25-Jan-17	8012.45	25281.24	710400	52200	7929.1	8005.062814	738.7186	4189	0	738.718598	0	0
22-Nov-16	25-Jan-17	8076	17526.68	740475	30075	8002.3	8077.779096	177.9096	2904	0	177.909646	0	0
23-Nov-16	25-Jan-17	8091.65	18861.69	818325	77850	8033.3	8107.882085	1623.209	3111	0	1623.20855	0	0

24-Nov-16	25-Jan-17	8044.95	24806.75	911925	93600	7965.5	8038.273425	667.6575	4107	0	667.65745	0	0
25-Nov-16	25-Jan-17	8154.35	23798.31	1007475	95550	8114.3	8187.231825	3288.183	3912	0	3288.1825	0	0
28-Nov-16	25-Jan-17	8176.9	23353.32	1081800	74325	8126.9	8196.337392	1943.739	3813	0	1943.73916	0	0
29-Nov-16	25-Jan-17	8202.2	34478.91	1044525	-37275	8142.15	8210.513226	831.3226	5592	0	0	831.3226	0
30-Nov-16	25-Jan-17	8294.6	24421.14	1087350	42825	8224.5	8292.338186	226.1814	3948	0	226.181395	0	0
1-Dec-16	25-Jan-17	8247.3	17911.75	1113825	26475	8192.9	8259.265924	1196.592	2888	0	1196.59235	0	0
2-Dec-16	25-Jan-17	8144.55	30632.87	1168650	54825	8086.8	8151.110719	656.0719	4995	0	656.071913	0	0
5-Dec-16	25-Jan-17	8195.05	29417.53	1256625	87975	8128.75	8189.789528	526.0472	4807	0	526.047208	0	0
6-Dec-16	25-Jan-17	8202.25	21559.91	1263450	6825	8143.15	8203.094283	84.4283	3498	0	84.428302	0	0
7-Dec-16	25-Jan-17	8152.2	42961.35	1428975	165525	8102.05	8160.494606	829.4606	6990	0	0	829.4606	0
8-Dec-16	25-Jan-17	8287.5	41892.9	1521450	92475	8246.85	8305.120787	1762.079	6749	0	0	1762.079	0
9-Dec-16	25-Jan-17	8311.15	28696.95	1585350	63900	8261.75	8318.905702	775.5702	4605	0	775.570245	0	0
12-Dec-16	25-Jan-17	8217.7	41881.32	1634025	48675	8170.8	8223.70677	600.677	6778	0	0	600.677	0
13-Dec-16	25-Jan-17	8263.4	30674.45	1684125	50100	8221.8	8273.823249	1042.325	4965	0	1042.32491	0	0
14-Dec-16	25-Jan-17	8231.6	33826.66	1773375	89250	8182.45	8233.016498	141.6498	5476	0	0	141.6498	0
15-Dec-16	25-Jan-17	8207.95	58277.87	1904925	131550	8153.6	8202.784878	516.5122	9444	0	0	516.5122	0
16-Dec-16	25-Jan-17	8181.7	44538.42	2141025	236100	8139.45	8187.348455	564.8455	7255	0	0	564.8455	0
19-Dec-16	25-Jan-17	8159.55	41836.87	2390100	249075	8104.35	8148.455294	1109.471	6828	0	0	1109.471	0
20-Dec-16	25-Jan-17	8133.1	70722.27	2678100	288000	8082.4	8125.19389	790.611	11592	0	0	0	790.611
21-Dec-16	25-Jan-17	8115.2	72946.1	3140925	462825	8061.3	8102.79351	1240.649	11958	0	0	0	1240.649
22-Dec-16	25-Jan-17	8030	233861.8	4876350	1735425	7979.1	8018.994037	1100.596	38804	0	0	0	1100.596
23-Dec-16	25-Jan-17	8027.95	260302.2	7031100	2154750	7985.75	8024.50011	344.989	43251	0	0	0	344.989
26-Dec-16	25-Jan-17	7942.6	331976.1	9674850	2643750	7908.25	7943.127817	52.78174	55666	0	0	0	52.78174
27-Dec-16	25-Jan-17	8060	444160.4	11568600	1893750	8032.85	8067.093917	709.3917	74078	0	0	0	709.3917
28-Dec-16	25-Jan-17	8056.25	602587.5	12744375	1175775	8034.85	8067.918897	1166.89	99365	0	0	0	1166.89
29-Dec-16	25-Jan-17	8117.3	748493.7	16142550	3398175	8103.6	8135.758352	1845.835	123349	0	0	0	1845.835
30-Dec-16	25-Jan-17	8187.4	705568.5	17107050	964500	8185.8	8217.079128	2967.913	114999	0	0	0	2967.913
2-Jan-17	25-Jan-17	8192.1	684469.4	17031150	-75900	8179.5	8207.142616	1504.262	111530	0	0	0	1504.262
3-Jan-17	25-Jan-17	8196.5	698025.3	17229825	198675	8192.25	8218.730035	2223.003	113527	0	0	0	2223.003
4-Jan-17	25-Jan-17	8204.05	557851.5	17529225	299400	8190.5	8215.769143	1171.914	90638	0	0	0	1171.914
5-Jan-17	25-Jan-17	8288.2	892673.5	18773775	1244550	8273.8	8298.108824	990.8824	143845	0	0	0	990.8824
6-Jan-17	25-Jan-17	8267.65	693892.7	18727275	-46500	8243.8	8266.80796	84.204	111583	0	0	0	84.204
9-Jan-17	25-Jan-17	8249.9	387847.7	18707775	-19500	8236.05	8255.402649	550.2649	62644	0	0	0	550.2649
10-Jan-17	25-Jan-17	8293.85	493580.7	18709950	2175	8288.6	8306.857531	1300.753	79420	0	0	0	1300.753
11-Jan-17	25-Jan-17	8387.2	726184.2	19355850	645900	8380.65	8397.878342	1067.834	115758	0	0	0	1067.834
12-Jan-17	25-Jan-17	8418	682495.3	20646300	1290450	8407.2	8423.24725	524.725	108255	0	0	0	524.725
13-Jan-17	25-Jan-17	8417.7	630803.3	19916550	-729750	8400.35	8415.149691	255.0309	99975	0	0	0	255.0309
16-Jan-17	25-Jan-17	8431.7	517084.4	20138625	222075	8412.8	8423.913773	778.6227	81879	0	0	0	778.6227
17-Jan-17	25-Jan-17	8408.5	613260.9	19685100	-453525	8398	8407.860806	63.91937	97186	0	0	0	63.91937

18-Jan-17	25-Jan-17	8429.35	743563	20561025	875925	8417	8425.647092	370.2908	117493	0	0	0	370.2908
19-Jan-17	25-Jan-17	8442.95	503319.5	20198775	-362250	8435.1	8442.527187	42.28133	79581	0	0	0	42.28133
20-Jan-17	25-Jan-17	8362.65	896103.7	17989575	-2209200	8349.35	8355.475953	717.4047	142458	0	0	0	717.4047
23-Jan-17	25-Jan-17	8402.4	977189.9	15481950	-2507625	8391.5	8393.96221	843.779	155352	0	0	0	843.779
24-Jan-17	25-Jan-17	8480.5	1132809	10783050	-4698900	8475.8	8477.043381	345.6619	178727	0	0	0	345.6619
25-Nov-16	23-Feb-17	8193.4	3849.97	27450	27450	8114.3	8222.133869	2873.387	631	2873.38692	0	0	0
28-Nov-16	23-Feb-17	8210.7	5553.87	53700	26250	8126.9	8231.278253	2057.825	903	2057.82527	0	0	0
29-Nov-16	23-Feb-17	8232.05	4189.66	64050	10350	8142.15	8245.514518	1346.452	677	1346.45181	0	0	0
30-Nov-16	23-Feb-17	8326.8	6306.54	98400	34350	8224.5	8327.688297	88.82971	1015	0	88.8297081	0	0
1-Dec-16	23-Feb-17	8278.05	4388.73	117000	18600	8192.9	8294.475048	1642.505	705	1642.5048	0	0	0
2-Dec-16	23-Feb-17	8178.2	8585.88	142275	25275	8086.8	8185.85878	765.878	1394	0	765.877962	0	0
5-Dec-16	23-Feb-17	8233.05	4422.96	153675	11400	8128.75	8224.702476	834.7524	719	834.752442	0	0	0
6-Dec-16	23-Feb-17	8233.8	2852.49	157050	3375	8143.15	8238.063949	426.3949	461	426.394865	0	0	0
7-Dec-16	23-Feb-17	8188.9	4892.57	169125	12075	8102.05	8195.28267	638.267	793	638.267034	0	0	0
8-Dec-16	23-Feb-17	8316.2	6283.97	189075	19950	8246.85	8340.52539	2432.539	1009	0	2432.53898	0	0
9-Dec-16	23-Feb-17	8336.55	3944.99	204450	15375	8261.75	8354.36907	1781.907	631	1781.90704	0	0	0
12-Dec-16	23-Feb-17	8244.8	4803.77	200475	-3975	8170.8	8258.764307	1396.431	774	1396.43068	0	0	0
13-Dec-16	23-Feb-17	8294.65	3490.07	214275	13800	8221.8	8309.094431	1444.443	563	1444.44312	0	0	0
14-Dec-16	23-Feb-17	8262.2	7185.77	247050	32775	8182.45	8268.113721	591.3721	1159	0	591.372111	0	0
15-Dec-16	23-Feb-17	8240.3	10962.85	254025	6975	8153.6	8237.753224	254.6776	1769	0	254.677557	0	0
16-Dec-16	23-Feb-17	8214.9	3697.95	263775	9750	8139.45	8222.250996	735.0996	600	735.099636	0	0	0
19-Dec-16	23-Feb-17	8194.6	5395.62	287250	23475	8104.35	8183.192034	1140.797	877	1140.79659	0	0	0
20-Dec-16	23-Feb-17	8170.3	9080.36	311400	24150	8082.4	8159.831467	1046.853	1481	0	1046.85326	0	0
21-Dec-16	23-Feb-17	8148.4	5024.67	324075	12675	8061.3	8137.335595	1106.441	820	1106.44052	0	0	0
22-Dec-16	23-Feb-17	8062.75	13105.78	352350	28275	7979.1	8053.178886	957.1114	2164	0	957.111357	0	0
23-Dec-16	23-Feb-17	8061.45	10367.36	366825	14475	7985.75	8058.708431	274.1569	1716	0	274.156893	0	0
26-Dec-16	23-Feb-17	7973.9	13062.38	391950	25125	7908.25	7976.98925	308.925	2181	0	308.924991	0	0
27-Dec-16	23-Feb-17	8084.9	17408.39	461925	69975	8032.85	8101.483815	1658.382	2893	0	1658.3815	0	0
28-Dec-16	23-Feb-17	8081.4	23855.14	566025	104100	8034.85	8102.312312	2091.231	3922	0	2091.2312	0	0
29-Dec-16	23-Feb-17	8138.8	24487.14	706050	140025	8103.6	8170.440966	3164.097	4027	0	3164.0966	0	0
30-Dec-16	23-Feb-17	8208.45	31334.24	800775	94725	8185.8	8252.108411	4365.841	5094	0	0	4365.841	0
2-Jan-17	23-Feb-17	8216.45	23463.59	836400	35625	8179.5	8242.129539	2567.954	3811	0	2567.95392	0	0
3-Jan-17	23-Feb-17	8222.6	32822.31	982350	145950	8192.25	8253.766355	3116.636	5321	0	0	3116.636	0
4-Jan-17	23-Feb-17	8229.7	21968.55	1054200	71850	8190.5	8250.792841	2109.284	3558	0	2109.28412	0	0
5-Jan-17	23-Feb-17	8312.95	38813.18	1165275	111075	8273.8	8333.483535	2053.354	6235	0	0	2053.354	0
6-Jan-17	23-Feb-17	8293.75	37748.04	122275	57450	8243.8	8302.049236	829.9236	6052	0	0	829.9236	0
9-Jan-17	23-Feb-17	8277.05	25476.02	130775	85050	8236.05	8290.595305	1354.53	4102	0	1354.53045	0	0
10-Jan-17	23-Feb-17	8318.85	20551.41	1307550	-225	8288.6	8342.269538	2341.954	3297	0	2341.95376	0	0

11-Jan-17	23-Feb-17	8413.55	37962.03	1353000	45450	8380.65	8433.678369	2012.837	6034	0	0	2012.837	0
12-Jan-17	23-Feb-17	8442.95	41435.38	1446000	93000	8407.2	8459.155424	1620.542	6553	0	0	1620.542	0
13-Jan-17	23-Feb-17	8443.05	82545.17	2069700	623700	8400.35	8451.023345	797.3345	13049	0	0	0	797.3345
16-Jan-17	23-Feb-17	8455.15	36117.83	2162625	92925	8412.8	8459.824788	467.4788	5702	0	0	467.4788	0
17-Jan-17	23-Feb-17	8430.9	46529.45	2339325	176700	8398	8443.703388	1280.339	7353	0	0	1280.339	0
18-Jan-17	23-Feb-17	8454.85	59619.64	2444250	104925	8417	8461.565497	671.5497	9390	0	0	671.5497	0
19-Jan-17	23-Feb-17	8466.75	73506	2880600	436350	8435.1	8478.517551	1176.755	11588	0	0	0	1176.755
20-Jan-17	23-Feb-17	8387.2	178396.3	3863325	982725	8349.35	8391.095219	389.5219	28281	0	0	0	389.5219
23-Jan-17	23-Feb-17	8424.75	379564.2	6696975	2833650	8391.5	8429.745542	499.5542	60177	0	0	0	499.5542
24-Jan-17	23-Feb-17	8509.6	751137.5	12670725	5973750	8475.8	8513.180888	358.0888	118150	0	0	0	358.0888
25-Jan-17	23-Feb-17	8614.85	1120284	18169050	5498325	8602.75	8639.423392	2457.339	174164	0	0	0	2457.339
27-Jan-17	23-Feb-17	8671.1	812299.8	19389450	1220400	8641.25	8675.541964	444.1964	124832	0	0	0	444.1964
30-Jan-17	23-Feb-17	8655.35	592176.2	19939950	550500	8632.75	8663.195059	784.5059	91222	0	0	0	784.5059
31-Jan-17	23-Feb-17	8584.3	975710.7	19447125	-492825	8561.3	8590.232908	593.2908	151198	0	0	0	593.2908
1-Feb-17	23-Feb-17	8737.9	1662725	20860725	1413600	8716.4	8744.574259	667.4259	256338	0	0	0	667.4259
2-Feb-17	23-Feb-17	8743.95	899984.2	21658800	798075	8734.25	8761.196708	1724.671	137422	0	0	0	1724.671
3-Feb-17	23-Feb-17	8754.35	595124.7	21486000	-172800	8740.95	8766.631333	1228.133	90734	0	0	0	1228.133
6-Feb-17	23-Feb-17	8816.6	728035.1	21854325	368325	8801.05	8823.024386	642.4386	110169	0	0	0	642.4386
7-Feb-17	23-Feb-17	8785.55	560425.7	21568425	-285900	8768.3	8788.903303	335.3303	85012	0	0	0	335.3303
8-Feb-17	23-Feb-17	8796.35	765412.5	21768225	199800	8769.05	8788.365831	798.4169	116252	0	0	0	798.4169
9-Feb-17	23-Feb-17	8796.85	1024704	21760950	-7275	8778.4	8796.446008	40.39923	155576	0	0	0	40.39923
10-Feb-17	23-Feb-17	8809.35	578911.5	21685425	-75525	8793.55	8810.334695	98.46954	87575	0	0	0	98.46954
13-Feb-17	23-Feb-17	8815.35	782547.4	22318275	632850	8805.05	8817.975344	262.5344	118500	0	0	0	262.5344
14-Feb-17	23-Feb-17	8814.85	591555.6	23350950	1032675	8792.3	8803.915113	1093.489	89528	0	0	0	1093.489
15-Feb-17	23-Feb-17	8743.1	1128252	25091025	1740075	8724.7	8734.944413	815.5587	171595	0	0	0	815.5587
16-Feb-17	23-Feb-17	8787.6	681849.9	24620025	-471000	8778	8787.01796	58.20395	103632	0	0	0	58.20395
17-Feb-17	23-Feb-17	8827	913002.4	24253650	-366375	8821.7	8829.467592	246.7592	137805	0	0	0	246.7592
20-Feb-17	23-Feb-17	8873.85	763958.9	21694650	-2559000	8879.2	8883.10825	925.825	115075	0	0	0	925.825
21-Feb-17	23-Feb-17	8910.35	1163092	16272450	-5422200	8907.85	8910.463716	11.37155	174589	0	0	0	11.37155
22-Feb-17	23-Feb-17	8920.1	1038633	13441125	-2831325	8926.9	8928.209557	810.9557	155133	0	0	0	810.9557

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, IT & 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 to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

DISCLAIMER

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, neither its publishers/Editors/ Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal are exclusively of the author (s) concerned.

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

