

# INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & 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 [Infibnet of University Grants Commission \(U.G.C.\)](#)],

[The American Economic Association's electronic bibliography, EconLit, U.S.A.](#),

[Index Copernicus Publishers Panel, Poland](#) with [IC Value of 5.09](#) & [humber 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.	FINANCIAL LITERACY AND RETIREMENT PLANNING OF INDONESIAN MIGRANT WORKERS IN HONG KONG <i>AHMAD JULIANA &amp; HAI CHIN YU</i>	1
2.	A CASE STUDY ON OPINION TOWARDS LOW COST PRODUCTS AND IMPACT ON THEIR BEHAVIOUR <i>R. SARANYA &amp; R. RAJENDRA KUMAR</i>	5
3.	STOCK VERIFICATION & AUDIT PROCESS OF WHOLESALE & RETAIL BUSINESS ENTERPRISES OF UDAIPUR DISTRICT <i>DR. DEVENDRA SHRIMALI &amp; MOHAMMED ABID</i>	7
4.	ROLE OF HR FOR SUSTAINABLE TOMORROW <i>ANJALI SHARMA, SWAGATIKA MOHARANA &amp; DR. SURUCHI PANDEY</i>	10
5.	CHANGING TRENDS IN ONLINE SHOPPING IN INDIA <i>DR. PUSHP DEEP DAGAR</i>	16
6.	A RESEARCH STUDY ON PREFERRED INVESTMENT PATTERN OF SALARIED EMPLOYEES WITH REFERENCE TO MANCHERIAL TOWN, MANCHERIAL DISTRICT, TELANGANA STATE, INDIA <i>SUDIREDDY NARENDAR REDDY</i>	18
7.	A STUDY ON VARIOUS OPTIONS AVAILABLE FOR INVESTMENT AMONG SALARIED CLASS INVESTORS <i>KINJAL PATEL</i>	23
8.	ISLAMIC BANKING: A INTRODUCTION <i>MOHD SAZID</i>	26
9.	THE INCIDENCE OF POVERTY AND INEQUALITY IN INDIA: AN EMPIRICAL ANALYSIS <i>DR. P. KANAKARANI</i>	28
10.	A STUDY ON IMPACT OF SERVICE QUALITY DIMENSIONS ON CUSTOMER SATISFACTION WITH RESPECT TO TELECOMMUNICATION SERVICE USERS IN AHMEDABAD AND NORTH GUJARAT <i>DR. MITESH JAYSWAL &amp; MIHIR H. PATHAK</i>	37
11.	CONSUMERS PERCEPTION TOWARD ONLINE SHOPPING IN DISTRICT KULLU <i>SAPNA THAKUR &amp; INDU THAKUR</i>	41
12.	PRODUCTION PERFORMANCE OF SELECTED POWER GENERATING COMPANIES OF INDIA: AN EMPIRICAL STUDY <i>NASIR RASHID &amp; DR. B. MANIVANNAN</i>	44
13.	LINKAGE BETWEEN FOREIGN DIRECT INVESTMENT AND EXPORT: ISSUES AND TRENDS <i>DR. UPENDRA SINGH &amp; HARSHUL GARG</i>	48
14.	SECTORAL ANALYSIS OF LONG RUN PERFORMANCE OF INITIAL PUBLIC OFFERINGS OF COMPANIES LISTED AT NSE <i>DR. SEEMA MOHINDRA</i>	52
15.	A STUDY ON THE ROLE OF INFORMATION TECHNOLOGY ON THE CONSUMER BUYING BEHAVIOR (WITH SPECIAL EMPHASIS ON THE CUSTOMERS OF DIBRUGARH TOWN) <i>UJJAL BHUYAN</i>	62
16.	PERFORMANCE & EVALUATION OF NON BANKING COMPANIES <i>VANDANA GELANI</i>	68
17.	mHEALTH POTENTIAL IN CHRONIC DISEASE MANAGEMENT WITH SPECIAL EMPHASIS ON DIABETES CARE <i>SURENDRA NATH SHUKLA</i>	71
18.	CRACKING THE GLASS CEILING: A STUDY AT INDIVIDUAL SOCIETAL AND ORGANIZATIONAL LEVEL <i>SWATI SINGH</i>	77
19.	TRADE STRATEGIES BRITAIN MUST EMBRACE FOR THE WELFARE OF DEVELOPING COUNTRIES <i>RITIKA DONGREY</i>	81
20.	IMPACT OF GOODS AND SERVICE TAX ON INDIAN ECONOMY <i>CHIRANJEEV RANGA &amp; NEERAJ</i>	83
	<b>REQUEST FOR FEEDBACK &amp; DISCLAIMER</b>	<b>86</b>

**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, Chinar Syntex Ltd. (Textile Mills), Bhiwani

**CO-ORDINATOR****Dr. BHAVET**

Faculty, Shree Ram Institute of Engineering & Technology, 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

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

Faculty, Shree Ram Institute of Business & Management, Urjani

**EDITORIAL ADVISORY BOARD****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. 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. CHRISTIAN EHIOBUCHÉ**

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. MIKE AMUHAYA IRAVO**

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

**Dr. SANJIV MITTAL**

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

**Dr. NEPOMUCENO TIU**

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

**Dr. RAJENDER GUPTA**

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

**Dr. KAUP MOHAMED**

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

**Dr. DHANANJOY RAKSHIT**

Dean, Faculty Council of PG Studies in Commerce and Professor &amp; Head, Department of Commerce, Sidho-Kanho-Birsha University, Purulia

**Dr. NAWAB ALI KHAN**

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

**Dr. ANA ŠTAMBUK**

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

**SUNIL KUMAR KARWASRA**

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

**Dr. SHIB SHANKAR ROY**

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

**Dr. S. P. TIWARI**

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

**Dr. SRINIVAS MADISHETTI**

Professor, School of Business, Mzumbe University, Tanzania

**Dr. ABHAY BANSAL**

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

**Dr. ARAMIDE OLUFEMI KUNLE**

Dean, Department of General Studies, The Polytechnic, Ibadan, Nigeria

**Dr. ANIL CHANDHOK**

Professor, University School of Business, Chandigarh University, Gharuan

**RODRECK CHIRAU**

Associate Professor, Botho University, Francistown, Botswana

**Dr. OKAN VELI ŞAFAKLI**

Associate Professor, European University of Lefke, Lefke, Cyprus

**PARVEEN KHURANA**

Associate Professor, Mukand Lal National College, Yamuna Nagar

**Dr. KEVIN LOW LOCK TENG**

Associate Professor, Deputy Dean, Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia

**Dr. BORIS MILOVIC**

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

**SHASHI KHURANA**

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

**Dr. IQBAL THONSE HAWALDAR**

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

**Dr. DEEPANJANA VARSHNEY**

Associate Professor, Department of Business Administration, King Abdulaziz University, Saudi Arabia

**Dr. MOHENDER KUMAR GUPTA**

Associate Professor, Government College, Hodal

**Dr. BIEMBA MALITI**

Associate Professor, School of Business, The Copperbelt University, Main Campus, Zambia

**Dr. ALEXANDER MOSESOV**

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

**Dr. VIVEK CHAWLA**

Associate Professor, Kurukshetra University, Kurukshetra

**Dr. FERIT ÖLÇER**

Professor &amp; Head of Division of Management &amp; Organization, Department of Business Administration, Faculty of Economics &amp; Business Administration Sciences, Mustafa Kemal University, Turkey

**Dr. ASHOK KUMAR CHAUHAN**

Reader, Department of Economics, Kurukshetra University, Kurukshetra

**Dr. RAJESH MODI**

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

**YU-BING WANG**

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

**Dr. SAMBHAVNA**

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

**Dr. KIARASH JAHANPOUR**

Research Adviser, Farabi Institute of Higher Education, Mehrshahr, Karaj, Alborz Province, Iran

**Dr. MELAKE TEWOLDE TECLEGHIORGIS**

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

**Dr. SHIVAKUMAR DEENE**

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

**Dr. THAMPOE MANAGALESWARAN**

Faculty, Vavuniya Campus, University of Jaffna, Sri Lanka

**Dr. VIKAS CHOUDHARY**

Faculty, N.I.T. (University), Kurukshetra

**SURAJ GAUDEL**

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

**Dr. DILIP KUMAR JHA**

Faculty, Department of Economics, Guru Ghasidas Vishwavidyalaya, Bilaspur

**FORMER TECHNICAL ADVISOR****AMITA****FINANCIAL ADVISORS****DICKEN GOYAL**

Advocate &amp; Tax Adviser, Panchkula

**NEENA**

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

**LEGAL ADVISORS****JITENDER S. CHAHAL**

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

**CHANDER BHUSHAN SHARMA**

Advocate &amp; 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](mailto: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](http://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>



## PRODUCTION PERFORMANCE OF SELECTED POWER GENERATING COMPANIES OF INDIA: AN EMPIRICAL STUDY

**NASIR RASHID**  
**RESEARCH SCHOLAR**  
**DEPARTMENT OF COMMERCE**  
**ANNAMALAI UNIVERSITY**  
**ANNAMALAI NAGAR**

**DR. B. MANIVANNAN**  
**ASST. PROFESSOR**  
**DEPARTMENT OF COMMERCE**  
**ANNAMALAI UNIVERSITY**  
**ANNAMALAINAGAR**

### ABSTRACT

*After the major policy shift from a close economy to an open economy and the adoption of policy of liberalisation, privatization and globalization after 1991, India has accomplished a spectacular growth in industrial sector and attain the position of second fastest growing economy of the world subsequent to China. Consequently, demand of energy has increased tremendously. The demand of energy has grown at an average of 3.6 percent per annum over the past 30 years and it is expected to cross 950,000 MW by 2030. This paper firstly presents the overview of Indian power sector followed by analysis of requirement of power, Generation and Capacity of power sector in India.*

### KEYWORDS

economy, liberalisation, globalisation, privatization, demand.

### LIST OF ABBREVIATIONS

CEA	:	Central Electricity Authority
CU	:	Capacity Utilization
GDP	:	Gross Domestic Product
KWH	:	Kilo Watt per Hour
MU	:	Million Units
MW	:	Mega Watt
NHPC	:	National Hydro electric Power Corporation limited
NLC	:	Neyveli Lignite Corporation Limited
NTPC	:	National Thermal Power Corporation Limited
SEB	:	State Electricity Boards
T&D	:	Transmission and Distribution
TPC	:	Tata Power Corporation

### 1.1 INTRODUCTION

In India, the power sector is viewed as a public utility and basic infrastructure. While undergoing a transition, from a controlled environment to a competitive market driven regime, it has to provide affordable, reliable and quality power at reasonable prices to various segments of consumers in the economy. With a demand of over 1.2 billion people and increasing, the development of such a system of power supply is crucial for the development of the economy. Competition is increasingly understood to enhance production, efficiency, and consumer welfare in almost all sectors of economies across the world. Policy makers also seem to embrace competition as a process by which the most productive firms win. The political structure of the sector is well organised, with statutory bodies at the Central and the State levels managing generation, transmission, and distribution, but their autonomous functions are influenced by pressure from state governments. India has emerged as the fastest growing major economy in the world in 2015-16. The improvement in India's economic fundamentals accelerated in 2015 with the combined impact of strong government reforms like 'Make in India', 'Digital India', 'Smart Cities', 'Skill India' and 'Start up India', as well as, RBI's inflation focus, which was supported by global commodity prices.

As the population of an economy grows, so does the demand for electricity to satisfy the needs of the requirement. In India, a vast and growing population and limited natural resources leads to an ever increasing demand for energy. The demand of energy has grown at an average of 3.6 percent per annum over the past 30 years and it is expected to cross 950,000 MW by 2030. India's annual energy generation increased from about 190 billion KWh in 1986 to more than 680 billion KWh in 2006. Economic growth and the resultant demand for technologies and electric appliances further escalate the demand for power. Therefore, India needs to undertake measures to augment the current resource base and energy supply to meet the population's demands for electricity. It is imperative to implement a consistent energy policy and, simultaneously, relentlessly pursue increases in energy efficiency and conservation. With the smart grid context, renewable non variable resources such as pump storage, geothermal, biomass and hydro are used more than before. More generation from renewable variable sources, such as wind and solar energy can be added to improve the efficiency of power value chain in India. Looking from a long term perspective India would need 3870TWh of electricity by 2030 which implies CAGR of 7% from 2005-30. According to McKinsey report (2008), to meet India's growing power demand an investments of US\$600 billion will be necessitated across value chain. This provides several significant and rewarding opportunities across the value chain setting up group captive plants, investment in over-sized captive plants by players in process industries, resource holders could consider integrating forward to realize higher prices for their resources, capacity expansion would lead to power trading on a more regular basis as volumes are increasing tremendously irrespective of prices and it can provide the opportunity of creating a permanent revenue stream. Positive future outlook of power sector also provides an opportunity in terms of expanding current capacity or fully fledged entry into power sector given that they have considerable expertise in power sector. Players will need to develop business models which can leverage on opportunities and allows overcoming the key risks associated with Indian power market in order to create sustainable value. If successful, power sector of India will be able to fulfill its ambitious target of "Electric Power for All".

## 1.2 STATEMENT OF PROBLEM

The power sector is endeavouring to meet the challenge of providing adequate power needed to fuel the growing economy of the country. As the Indian economy continues to surge ahead, its power sector has been expanding concurrently to support the growth rate. The demand for power is growing exponentially and the scope for the growth of this sector is immense. The power centre units have targeted capacity addition of 100,000 megawatt (MW) each in the 12th Five Year Plan (2012-17) and 13th Five Year Plan (2017-22). However, this growth of the power sector has to be within the realms of the principles of sustainable development. While India certainly needs a huge jump in its electricity supply to sustain its rapid economic growth and meet the growing demand, it needs to make every effort to efficiently manage all stages of production. Therefore, focus should be on maximizing efficiency in the entire electricity chain, which has the dual advantage of conserving scarce resources and minimizing the effect on the environment.

The power sector plays a crucial role in industrialization and urbanization of India and faces challenges in absorbing high cost of inputs. It plays a socially responsible role in bridging rural-urban disparities by improving provision of affordable commercial energy access. In order to sustain high economic growth power will continue to play an integral role. Indian power sector has made considerable progress in the last decade and has evolved from a nascent market to a developing market led by policy reforms and increased private sector participation. The Indian power market is substantially dissimilar from power markets elsewhere in the world; its very nature poses unique challenges in the development of the market and the product as well. Challenges do exist in the sector, which India has to overcome, to evolve from a developing market to a matured market.

## 1.3 METHODOLOGY

The study is purely based on secondary data and the data have been collected from published Annual reports of the leading power generation companies of India like, NTPC Ltd, Tata power ltd, NHPC Ltd and Neyveli Lignite Corporation Ltd. The study covers a period of 5 years from 2011-12 to 2015-16 and Secondary data sources were used to gain a comprehensive and in-depth understanding of the power sector in India. The researcher has selected above mentioned above mentioned power generating companies for the study by random sample method among the top ten power generating companies in India. The study will help to examine that, how power sector operates presently and what is required to improve the existing capacity utilization of power sector in Indian. The researcher collects the relevant literatures for analyze the production aspects from various text book, articles, newspaper and related website.

## 1.4 OBJECTIVES OF THE STUDY

The study seeks to achieve following objective:

1. To study the prominent power requirement of power sector in India.
2. To examine the Generation and Capacity of leading power companies in India

## 1.5 PROFILE OF THE SELECTED POWER COMPANIES

The profile of the power company's reveals the basic information pertaining to the establishment and generation of power. The profile contains the introduction, history, establishment, performance and other related information for the users. To form the profile of the study makes the research work easy and understood for the target audience or the viewers. The profile explains the behaviour of the company and promotes the research work to be carried by the researcher.

### 1.5 (A) NATIONAL THERMAL POWER CORPORATION

National thermal power Corporation was established as a public sector power utility by Government of India on November 1975. NTPC core business is engineering, construction and operation of power generating plants, it also provides consultancy in the area of power plant construction and power generating companies in India and Abroad. It played a key role in the development of power sector contributing sixth largest thermal power generator in the world and the second most efficient utility in terms of capacity utilization. NTPC is India's largest energy conglomerate with the total installed capacity of the company is 48028 MW. NTPC is one of the nine initial Navarathna companies and granted it, enhanced autonomy in making financial and other decisions including the freedom to engage in investment capital expenditures.

### 1.5 (B) NATIONAL HYDROELECTRIC POWER CORPORATION

NHPC Limited (formerly National Hydroelectric Power Corporation), a Govt. of India Enterprise, was incorporated in the year 1975 with an authorised share capital of Rs. 2,000 million and with an objective to plan, promote and organise an integrated and efficient development of hydroelectric power in all aspects. Later on NHPC expanded its objects to include development of power in all its aspects through conventional and non-conventional sources in India and abroad. The total installed capacity of the company is 18386 MW. NHPC Ltd is engaged in electricity generator by hydro electric power plants and it also engaged in contracts, project management and consultancy works.

### 1.5 (C) TATA POWER

TPC was established in 1915. It is the pioneer in the generation of electricity in India and is the largest Private Sector Integrated Utility in the country having approximately 9432 MW capacity with presence in Generation, Transmission, and Distribution. TPC has a presence in all areas of the power sector including thermal, hydro, solar, wind, transmission and distribution. Tata Power owns, operates and maintains thermal power plants in several Indian states, including Maharashtra, Karnataka and Jharkhand. It provides reliable and economic power supply to the city of Mumbai, the commercial capital of India.

### 1.5 (D) NEYVELY LIGNITE CORPORATION OF INDIA

The NLC is a Government owned lignite mining and power generating company of India, and the company whole process of lignite mining is mechanized and it operates largest open pit lignite mines in India, with 24 MT of lignite at present. The present installed capacity of the company is 2740 MW. The company also supplies large quantity of sweet water to Chennai from aquifers in lignite mines. NLC was established in 1956 and it operates three thermal power plants in Neyveli Tamil Nadu. The company has inferred a status of "Navaratna" in the year 2011.

## 1.6 POWER POSITION OF INDIA

Planning of using the manufacturing capacity to turn out the highest quality production while maximizing profit is a key to the success of the business, Capacity utilization depends on market demand and on scheduling production for the most efficient use of your facilities. A structured approach to capacity planning lets you use capacity utilization rates to determine when you need to expand capacity to satisfy increasing demand for your products. Unless your planning compensates, peaks in capacity utilization can damage both production quality and profitability. When you see a demand peak approaching through an increase in orders for your product, you have to delay deliveries so that you can smooth the effect on firm's production schedule. Peaks that surpass the normal maximum capacity lead to problems in production that affect production quality and overtime that reduces profits. Managing your demand through price adjustments to reduce demand during peaks and increase demand during troughs balances your schedule and achieves maximum profitability.

TABLE NO. 1: POWER POSITION OF INDIA

Year	Power Requirement (Mu)	Power Available (Mu)	Power Shortage (Mu)	Percentage of Shortage (%)
2010-11	861591	788355	73236	8.5
2011-12	937199	857886	79313	8.5
2012-13	995557	908652	86905	8.7
2013-14	1002257	959829	42428	4.2
2014-15	1068923	1030785	38138	3.6
2015-16*	748676	731445	17231	2.3

Source; Compiled by the researcher from the annual reports of the Ministry of Power 2015-16.

\*upto November

The energy requirement during the year 2010-11 was 861591Mu's (Table No. 1). Energy deficit remained same on a year-on-year basis in 2011-12 at 8.5 per cent whereas the Peak load demand increased by 6.31 per cent and the peak load deficit has been raised upto 10.6 per cent in 2011-12 from 9.8 per cent over the previous year. During 2012-13, the percentage of power shortage has been stepped upto 8.7 per cent, whereas in the next years of the study period the percentage is decreasing and reached to 2.3 per cent in the year of 2015-16. This shows that the Indian power sector is engaged in order to full fill the demand of electricity in future, India's GDP is expected to grow at 6.5 per cent to 7 per cent, in order to sustain the growth in GDP and bring it around 9 per cent, India needs to add power generation capacity commensurate with this pace since growth of power sector is strongly co-related with the growth in GDP and going forward it is expected that supply will create further demand. India in order to sustain its plus 8 per cent growth rate until 2030 requires its power supply to be ramped up by more than four times of the current levels. While it is a challenge to improve power generation as the sector continues to suffer transmission and distribution (T&D) losses as high as 25-30 per cent.

### 1.7 POWER GENERATION IN INDIA

Electricity generation has been made a non-authorized activity and the techno-monetary leeway from the Central Electricity Authority (CEA) has been discarded for any power plant, with the exception of hydro-electric power stations over certain measure of capital investment. The arrangement of direct deal if power by the generators, when and where permitted, would advance more IP support in the power generation as these buyers are more reliable and bankable contrasted with any SEB. In any case, the act accommodates inconvenience of an additional charge by the administrative body to make up for a few misfortunes in cross-appropriation income to the SEB because of direct offer of power by generators to the buyers. While removal of entry barriers too captive generation is likely to erode the cross-subsidy base of the electric utilities and there by exert pressure to reduce the level of cross-subsidies in tariffs, advancement of captive power is likely to result in suboptimal use of resources and systems. Proliferation of grid connective control plants could also lead to system instability, difficulties in grid management and energy accounting and increase in related disputes.

TABLE NO. 2: GENERATION OF POWER IN MU'S

Year	NTPC	% age	NHPC	% age	NLC	% age	TaTa Power	% age
2011-12	22207	18.97	18683	18.37	18789	19.25	15230	8.14
2012-13	23203	19.82	18923	18.60	19902	20.39	34682	18.54
2013-14	23328	19.93	18386	18.08	19988	20.48	42809	22.89
2014-15	24126	20.61	22038	21.67	19729	20.22	47200	25.24
2015-16	24198	20.67	23683	23.28	19182	19.66	47106	25.19
Total	117062	100	101713	100	97590	100	187027	100

Source; Compiled by the researcher from the annual reports of the power companies of India

The demand for the power is increasing continuously all over the periods, so the power generating companies need to increase maximum use of full capacity in order to meet the acquired demand of power sector. The shortage of the power is the most influencing factor of the power sector of India this is due to the heavy loss of transmission and distribution, and theft of power. The above Table No. 2 reveals the power production of the leading power generating companies of India, and the percentage were tested to examine the growth of the companies, it was observed that the production of the NTPC is continuously increasing during the study period while as the production of the NHPC shows the increasing trend but except 2013-14 it was decreased. This decrease was mainly because of the complete shutdown of 280 MW Dhauliganga Power Station, Uttarakhand, due to flooding of power house by flash floods. The shortfall in generation was also attributable to poor hydrology during the year in some of the Power Stations. The growth of the power production of the NLC shows the increasing trend in first two years but remaining years it shows the decreasing trend, the reason for shortfall in the generation and export as compared to the previous year was mainly on account of operation of units of Barsingsar TPS at lower load due to technical problems and that one Unit of TPS-I (100 MW) was under stoppage between 20th May 2014 and 13th August 2014 due to dislodgement of HP heater shell affecting the generation. The Tata power company production is increasing all over the study period, it shows positive approach of profitability toward the company.

### 1.8 CAPACITY UTILIZATION OF POWER COMPANIES

Capacity utilization (CU) has attained significant attention in the literature as it mirrors both the use of scarce resources as well as the state of demand. Studies of capacity utilization in the Indian manufacturing sector have observed the existence of chronic excess capacity. However most of these conclusions are based on installed capacity utilization (or capital utilization), and therefore, the crucial link between underlying economic theory and the measure of CU used is weak. Even in the context of developed countries, it is shown that capital is idle most of the time which cannot be considered as under-utilization of optimal capacity. Persistent under-utilization of optimal capacity appears to be puzzling in view of the fact that firms are expected to optimize through their decisions on capacity creation and utilization.

India occupies 5<sup>th</sup> position in the world as far as installed capacity is concerned with a total installed capacity of 205,340 MW as on 30<sup>th</sup> June 2012. Captive Power Plants generate an additional 31,500 MW. Thermal Power Plants constitutes 66 percent of the installed capacity, Hydroelectric about 19 per cent, and rest being a combination wind small hydro, biomass, waste-to-electricity, and nuclear. India generated 855,000 million units of electricity during fiscal year 2011-12.

TABLE NO. 3: CAPACITY OF POWER COMPANIES IN MW

Year	NTPC	% age	NHPC	% age	NLC	% age	TaTa Power	% age
2011-12	32712	17.79	3775	16.60	2740	18.64	5299	13.17
2012-13	35882	19.51	4050	17.81	2740	18.64	8521	21.18
2013-14	37107	20.18	4857	21.36	2740	18.64	8584	21.34
2014-15	38202	20.77	4987	21.93	3240	22.04	8726	21.69
2015-16	40012	21.76	5067	22.29	3240	22.04	9100	22.62
Total	183915	100	22736	100	14700	100	40230	100

Source: Compiled by the researcher from the Annual Reports of the power companies of India

The capacity utilization indicators widely used in the electricity generation industry, which may be useful to recall the definition of the generation load factor or capacity factor. The factors that influence the progress the power sector of India like, in adequate supply due to slow pace of capacity addition, operational efficiency and old aged power plants structure. The Government of India need take proper attention to improve the policies of the power sector in order to development of the Indian power sector. The above Table No. 3 shows capacity of leading power generating companies of India, it was examined by the researcher that the intake capacity of power generating companies is increasing all over the study period which is good indication for Indian power sector. The researcher suggests that the power companies should go for the maximum in order to improve the health of the Indian power sector.

### 1.9 FINDINGS AND SUGGESTIONS OF THE STUDY

1. The power production of the NTPC shows the increasing like, 18.97 per cent, 19.82 per cent, 19.93 per cent, 20.61 per cent and 20.67 per cent.
2. During the year 2013-14 the growth of power productions is decreasing, due to the shortfall in generation of poor hydrology by sample Power units. So the researcher suggests that the company should improve the production of power with different sources of generating power.
3. The power production of the NLC are increasing like, 2011-12 and 2012-13, while as remaining years it was decreasing. This is due to unprecedented rainfall and mega floods during 2015. It affected the entire operation of NLC Ltd., and also the power generation.

4. The power generation of the Indian power sector is declined due to on account of operation of units of NLC, Barsingsar TPS at lower load due to technical problems and that one Unit of TPS-I (100 MW) was under stoppage between 20<sup>th</sup> May 2014 and 13<sup>th</sup> August 2014 due to dislodgement of HP heater shell affecting the generation.
5. The capacity of all the selected power companies are not enough to meet the actual target for the Indian power sector, Present capacity of power sector is 314106.23 MW, whereas the total installed capacity of sample companies is 261581 MW, so the researcher suggests that sample company should increase the pace of capacity in order to meet the current requirements.
6. The power production position of the NTPC and Tata power are increasing during the study period, so the researcher understood that the management sample units of NTPC and Tata were utilised maximum capacity of the power plants.
7. The growth of the power production of the NLC are very poor, which is not a good indication for the power sector, so the researcher suggests that the company need to adopt modern technology in order to improve the power production.

### 1.10 CONCLUSION

Power sector in India is characterized by shortage power supply. Therefore, there exists huge challenge in front of power companies to produce, regulate and integrate power system in India. Indian Industries are the major consumers of electricity followed by Domestic sectors, Agriculture sector, commercials and railways. Thermal power production in India still exists to be highest contributor in power sector. But, with exhausting resources in the form of coal, the country must look forward the alternative resources in future to come. The researcher concludes that the overall production performance of NTPC is very good and Tata power is also performing better, while as the NHPC is fluctuates in their performance and the NLC performance are not good. The study will be useful to all the stakeholders of power industry and researcher for carrying out further research on financial health of any business concern.

### REFERENCES

1. All India Installed Capacity (In Mw) Of Power Stations as on 31-1-2016
2. Annual Reports of the National Hydroelectric Power Corporation limited from 2011-12 to 2015-16.
3. Annual Reports of the National Thermal Power Corporation Limited from 2011-12 to 2015-16.
4. Annual Reports of the Neyveli Lignite Corporation of India from 2011-12 to 2015-16.
5. Annual Reports of the Tata Power private limited from 2011-12 to 2015-16.
6. Central Electricity Authority Website (<http://cea.nic.in>)
7. Hunt Allcott, Allan Collard-Wexler, and Stephen D. O'Connell (2014); "How Do Electricity Shortages Affect Productivity? Evidence from India",
8. M.J.Farrell(1957); "The measurement of productive efficiency", Journal of the Royal Statistical Society, Vol. 120, No. 3, pp 253-281.
9. Ministry of power- Annual report of 2015-16
10. Ministry of Power, Government of India Website (<http://powermin.nic.in>)
11. Pandey IM (2007), "financial management", vikas publishing house (p) Ltd, New Delhi, India.
12. R. Meena kumari and N. Kamaraj; "Measurement of Relative Efficiency of State Owned Electric Utilities in INDIA Using Data Envelopment Analysis", Modern Applied Science September, 2008 Vol. 2, No. 5
13. Sahba Fatima Kaustuva Barik (2012); "Technical Efficiency of Thermal Power Generation in India: Post-Restructuring Experience", International Journal of Energy Economics and Policy; Vol. 2, No. 4, pp.210-224
14. Tripta Thakur (2005); "Benchmarking study for the Indian Electric utilities using Data Envelopment Analysis", IEEE Transaction on Power System, pp 545 – 549.

## REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, Economics & 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](mailto: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](mailto: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*

