

INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

I
J
R
C
M



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

Indexed & Listed at:

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

Open J-Gate, India [link of the same is duly available at Inlibnet 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 1771 Cities in 148 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.	ONLINE COMMUNITY IDENTIFICATION AND CITIZENSHIP BEHAVIORS: INVESTIGATING THE EFFECT OF PERCEIVED VALUE <i>KUANG-WEN WU, MAY-CHING DING & YUAN-SHUH LII</i>	1
2.	THE IMPACT OF GLOBAL FINANCIAL CRISIS ON AUDITING PRACTICES IN THE COMMERCIAL BANKS OF JORDANIAN <i>DR. BADI SALEM ALRAWASHDEH</i>	7
3.	FINANCIAL DIAGNOSIS: A CASE STUDY OF LANKA ALUMINIUM INDUSTRIES PLC IN SRI LANKA <i>ARULVEL, K.K, BALAPUTHIRAN, S & DR. B. NIMALATHASAN</i>	10
4.	DETERMINANTS OF BASIC SCHOOL TEACHERS' LEVEL OF COMPUTER LITERACY IN GHANA <i>PAUL DELA AHIAATROGAH & ELISHA D'ARCHIMEDES ARMAH</i>	14
5.	DATA MINING IMPACTS ON HIGHER EDUCATION <i>ROY MATHEW</i>	19
6.	CHALLENGES OF INTERNAL AUDIT FUNCTION IN PUBLIC SECTOR GOVERNANCE: EMPIRICAL EVIDENCE FROM ETHIOPIA <i>AGUMAS ALAMIREW MEBRATU</i>	23
7.	AN EXAMINATION OF LEADERSHIP STYLES OF SENIOR AND MIDDLE LEVEL MANAGERS IN SELECTED ORGANISATIONS IN MUSCAT, SULTANATE OF OMAN <i>NEELUFER ASLAM & KUSUM LATA MISHRA</i>	33
8.	KNOWLEDGE AUDIT AS A SUCCESS FACTOR FOR KM IMPLEMENTATION <i>DR. C. S. RAMANI GOPAL & DR. G. PALANIAPPAN</i>	37
9.	MEASURING THE LEVEL OF CUSTOMER SATISFACTION AND CUSTOMER LOYALTY IN BANKING AND INSURANCE SECTOR IN INDIA: A COMPARATIVE STUDY <i>CHARU UPADHYAYA & DR. V. K. JAIN</i>	43
10.	A STUDY ON RETAIL SERVICE QUALITY SCALE (RSQS MODEL) APPLICATION WITH REFERENCE TO RELIANCE FRESH IN CITY OF BHAVNAGAR <i>DR. K. S. VATALIYA, KIRAN SOLANKI & MALHAR TRIVEDI</i>	49
11.	ONLINE BUYING BEHAVIOUR OF CUSTOMERS: A CASE STUDY OF NORTHERN INDIA <i>VINOD KUMAR, DR. VERSHA MEHTA & DR. ALKA SHARMA</i>	54
12.	DEALERS AND CONSUMER DURABLES (A STUDY BASED ON DEALERS PERCEPTIONS AS REGARDS SAMSUNG COLOUR TELEVISION) <i>DR. R. SAVITHRI</i>	61
13.	A STUDY ON THE INDIAN SMALL CAR MARKET AND FACTORS INFLUENCING CUSTOMERS' DECISIONS TOWARDS PURCHASE OF SMALL CARS' <i>THAMARAI SELVI N & NITHILA VINCENT</i>	65
14.	LEAN MANUFACTURING SYSTEM: AN EFFECTIVE TOOL FOR ORGANIZATIONAL MANAGEMENT <i>S. K. RAJENDRA, R. SUPRABHA & V. M. AKSHATHA</i>	70
15.	CUSTOMER SERVICE MANAGEMENT IN SELECT PUBLIC SECTOR BANKS IN RURAL VILLAGES IN SALEM DISTRICT, TAMIL NADU <i>DR. A. JAYAKUMAR & G. ANBALAGAN</i>	75
16.	REVISITED 'THE IRREGULARITY OF INDIAN STOCK MARKET: AN OCTOBER EFFECT ANALYSIS' <i>RAJESH KHURANA & DR. D. P. WARNE</i>	78
17.	ICT ENABLED DELIVERY SYSTEM AND CHALLENGES IN PUBLIC HEALTH SERVICES MANAGEMENT <i>GANESHKUMAR HIREGODDAR & DR. H. RAJASHEKAR</i>	81
18.	SOCIAL MEDIA MARKETING AND BOLLYWOOD: RECENT TRENDS AND OPPORTUNITIES <i>DEEPMALA JAIN & SONIA GOSWAMI</i>	86
19.	EFFECT OF FACEBOOK ON PURCHASING BEHAVIOR OF YOUTH <i>PREYAL DESAI, PRATIMA SHUKLA & NIKUNJ THAKKAR</i>	93
20.	RESEARCH & DEVELOPMENT IN MANAGEMENT <i>DR. PULI. SUBRMANYAM & S. ISMAIL BASHA</i>	98
21.	TREND IN EXPORT OF LEATHER PRODUCTION IN INDIA <i>DR. P. CHENNAKRISHNAN</i>	105
22.	CONCURRENCY CONTROL MECHANISM IN DBMS <i>GEETIKA</i>	109
23.	A STUDY ON OPERATIONAL CONSTRAINS INVOLVED IN STEVEDORING TECHNIQUES AT SEAPOL LOGISTICS PVT. LTD., TUTICORIN <i>DR. A. MERLIN THANGA JOY</i>	111
24.	IMPACT OF MERGER AND ACQUISITION ON THE FINANCIAL PERFORMANCE OF SELECT PUBLIC SECTOR BANKS IN INDIA <i>DR. V. MOHANRAJ</i>	119
25.	NEUROMARKETING: INNOVATIVE FOCUS ON THE FEMALE BUYING BRAIN <i>DEEPA KEDAR RELE</i>	122
26.	CONSUMER SATISFACTION IN INDIAN CELLULAR INDUSTRY USING SERVICE QUALITY MODEL- AN EMPIRICAL ASSESSMENT <i>DR. MANMATH NATH SAMANTARAY</i>	126
27.	SECURITY STANDARDS IN SERVICED APARTMENTS – WITH SPECIAL REFERENCE TO BANGALORE AND CHENNAI (SOUTH INDIA) - AN ANALYSIS <i>DR. LEENA N. FUKEY</i>	130
28.	TO DISCUSS THE EFFECT OF SUPPLIERS' INVOLVEMENT, OPERATIONAL CAPABILITIES & SOURCING PRACTICES ON SUPPLY CHAIN FLEXIBILITY <i>PARDEEP SINGH BAJWA, KANWARPREET SINGH & DOORDARSHI SINGH</i>	136
29.	INFORMATION AND COMMUNICATION TECHNOLOGY (ICT): NEW DEAL FOR INTERNATIONAL DEVELOPMENT SMEs SERVICES <i>VAHID RANGRIZ</i>	141
30.	HUMAN RESOURCE MANAGEMENT: BROADENING THE CONCEPT OF HUMAN RESOURCES <i>VISHU AGRAWAL & DISHA AGRAWAL</i>	148
	REQUEST FOR FEEDBACK	153

CHIEF PATRON

PROF. K. K. AGGARWAL

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

FOUNDER PATRON

LATE SH. RAM BHAJAN AGGARWAL

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

CO-ORDINATOR

DR. MOHITA

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

ADVISORS

DR. PRIYA RANJAN TRIVEDI

Chancellor, The Global Open University, Nagaland

PROF. M. S. SENAM RAJU

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

PROF. S. L. MAHANDRU

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR

PROF. R. K. SHARMA

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

CO-EDITOR

DR. MOHITA

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

EDITORIAL ADVISORY BOARD

DR. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

PROF. PARVEEN KUMAR

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

PROF. H. R. SHARMA

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

PROF. MANOHAR LAL

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

PROF. ANIL K. SAINI

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

PROF. R. K. CHOUDHARY

Director, Asia Pacific Institute of Information Technology, Panipat

DR. ASHWANI KUSH

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

DR. BHARAT BHUSHAN

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

DR. VIJAYPAL SINGH DHAKA

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

DR. SAMBHAVNA

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

DR. MOHINDER CHAND

Associate Professor, Kurukshetra University, Kurukshetra

DR. MOHENDER KUMAR GUPTA

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

DR. SAMBHAV GARG

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

DR. SHIVAKUMAR DEENE

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

DR. BHAVET

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

ASSOCIATE EDITORS

PROF. ABHAY BANSAL

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

PROF. NAWAB ALI KHAN

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

ASHISH CHOPRA

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

TECHNICAL ADVISORS

AMITA

Faculty, Government M. S., Mohali

DR. MOHITA

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

FINANCIAL ADVISORS

DICKIN GOYAL

Advocate & Tax Adviser, Panchkula

NEENA

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

LEGAL ADVISORS

JITENDER S. CHAHAL

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

CHANDER BHUSHAN SHARMA

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

SUPERINTENDENT

SURENDER KUMAR POONIA

CALL FOR MANUSCRIPTS

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

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

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR
IJRCM

Subject: SUBMISSION OF MANUSCRIPT IN THE AREA OF

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

DEAR SIR/MADAM

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

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

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

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

NAME OF CORRESPONDING AUTHOR:

Designation:

Affiliation with full address, contact numbers & Pin Code:

Residential address with Pin Code:

Mobile Number (s):

Landline Number (s):

E-mail Address:

Alternate E-mail Address:

NOTES:

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

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

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

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

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

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

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

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

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

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

CONTRIBUTIONS TO BOOKS

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

JOURNAL AND OTHER ARTICLES

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

CONFERENCE PAPERS

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

UNPUBLISHED DISSERTATIONS AND THESES

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

ONLINE RESOURCES

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

WEBSITES

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

NEUROMARKETING: INNOVATIVE FOCUS ON THE FEMALE BUYING BRAIN

DEEPA KEDAR RELE

ASST. PROFESSOR

PARLE TILAK VIDYALAYA ASSOCIATION'S INSTITUTE OF MANAGEMENT

MUMBAI

ABSTRACT

Marketing has been evolving in all its forms. In its present scope, it has metamorphosed from barter system, to production concept, to product concept & so on. New discoveries in neuroscience are revolutionizing twenty-first century life and marketing is no exception. Neuromarketing can be considered as another milestone, which is still evolving. Neuromarketing is a dynamic package of medical knowledge, technology & marketing. It can be a powerful tool in market research; where advertising is becoming more scientifically advanced. The human brain hasn't changed much in last 1, 00,000 years. But the role of women has changed dramatically. From the right to vote and own property to the right to govern your own reproduction, women have stepped into a new role. In today's situation there are more women than men at work place. In many cases women are the sole bread winners and the decision makers for the products they buy. Thus women worldwide have greater spending power. Covering everything from product development to packaging to point-of-sale marketing neuromarketing is the guide to access today's newest business frontier: human brain. The paper attempts to throw light on the growing perspective of Neuromarketing in & around. The paper will bring forward the messaging elements the female brain loves. It will try to highlight the difference between a female brain and mummy brain. It is interesting to know that all mummies have female brain but not all females have mummy brains. This is reflected in their spending power as well as pattern. It will also focus why and how maternity enhances certain brain functions. Through various applications of neuromarketing study the paper will attempt to show what specific consumer behavior and preferences mummy brains share.

KEYWORDS

Advertising, Brain Mapping, Market Research, Mummy Brain, Neuromarketing.

INTRODUCTION

Objective of all marketing communication is to induce or enhance purchase. Advertising is one of the major components of promotional mix and that of marketing communications. Every year more than 5 lakh million dollars are invested in advertising campaigns worldwide. The total media spent worldwide is increasing by 6.5% (average) every year.

TABLE: 1

Major Media (newspapers, magazines, television, radio, cinema, outdoor, internet)					
	2006	2007	2008	2009	2010
North America	183,520	188,415	194,990	200,271	207,570
Western Europe	113,513	119,976	124,420	129,770	135,781
Asia Pacific	94,719	102,807	111,534	119,001	127,916
Central & Eastern Europe	25,799	31,563	37,041	42,628	48,424
Latin America	22,638	26,329	30,924	35,130	38,920
Africa/M.East	13,406	16,490	18,606	21,871	25,938
World	453,595	485,580	517,515	548,671	584,550

Source: ZenithOptimedia

(US \$ million, current prices; Currency conversion at 2007 average rates)

The following table highlights the Indian scenario

TABLE: 2

Spends in Crores				
Year	TV	Press	Radio	Total
2008	9309	14359	924	24593
2009	11077	15119	1108	27304
2010	13369	16138	1431	30938
Until Jul 2011	9592	9406	854	19852
This does not include Cinema, Digital and OOH				

Marketing researchers have started questioning the premise that a target consumer would reflect 'what he/she really thinks' in response to a question in a questionnaire. If the consumer does not reflect his/her actual feelings to a marketing researcher, how can we assume that the results arrived at after such a research would be reliable.

We depend on the principle of marketing research to find out consumer preferences, attitudes, likes and dislikes. We analyze consumer responses and reach certain conclusions. On this basis, marketing and promotional mix is decided. However research has revealed that consumers do not necessarily provide the real answer to researcher. At times they do not even know as to what is that they really think about a given question.

Researchers all over the world are trying to find answers to questions on the unfathomable behavior of the target consumers in the fields other than those of consumer behavior, marketing and advertising.

Remember the pre-poll survey where the results declared that some political party would come to power at centre and actually the opposite happened. The survey was conducted by one of the best research organizations. Sometimes the consumers themselves do not know their real feelings about a given situation. They would act in a particular manner at the spur of the moment. It may also happen that, they know their actual feelings but do not intend the marketing researcher to know the same. This brings us to neuro-marketing. The field has unprecedented potential of showing the path to those managing brands, marketing communication.

NEUROMARKETING-WHERE BRAIN SCIENCE AND MARKETING MEET

In very simple terms, Neuromarketing is medical knowledge, technology and marketing. Neuromarketing is a new field of marketing that studies the consumer's response to marketing stimuli. Neuromarketing is the application of neuroscience to marketing. Neuromarketing includes the direct use of brain imaging, scanning, or other brain activity measurement technology to measure a subject's response to specific products, packaging, advertising, or other marketing elements. In some cases, the brain responses measured by these techniques may not be consciously perceived by the subject; hence, this data may be more revealing than self-reporting on surveys, in focus groups, etc.

This concept was developed by psychologists at Harvard University in 1990. The word Neuromarketing was coined by Ale Smidts in 2002. It is an emerging branch of neuro science in which researchers use medical technology to determine consumer reactions to particular brands, slogans and advertisements. The first ever

Neuromarketing conference was held in 2004 at Baylor College of Medicine in Houston. The base of Neuromarketing is "meme". Meme is a unit of information stored in the brain. These units are effective influencing human who is making choices and decisions within 2.6 seconds. If mem is chosen properly we remember the good, joke or song and would share it. Memes stay in our memory and are affected by marketers. Examples of memes-aroma of fresh bread, biscuits, sweets, characters in fairy tales, stories of grandmother.

Thus, Neuromarketing is a promising and emerging field with tremendous potential for application in the functional areas of marketing, brand management and advertising. It has emerged after bringing together applicable concepts from the field of neural-science, psychology, human neuro-physiology and even neuro-chemistry.

INTRODUCTION OF THE BUYING BRAIN

"Understanding the human mind in biological terms has emerged as the central challenge of science in the twenty-first century."

-By Dr. Eric Kandel, Neuroscientist and winner of the Nobel Prize for Physiology or Medicine

Millions of people in our global economy have jobs that depend on communicating with and persuading the human brain. So it is vital for us to understand how the human brain really works, what is attractive to it, how it decides what it likes or dislikes or how they decide to buy or not buy the infinite variety of products and services.

"We have learned more about the brain in the last five years than in all human history combined".

-By Charlie Rose

The basic lesson is that human brains process much of their sensory input subconsciously. Most of the works our brains are doing day and night are below our personal consciousness. Our senses are taking in about 11 million bits of information every second. Most of that comes through our eyes but all other senses are contributing-hearing, touch, smell, taste. Research has shown that our conscious brain can process at best 40 bits of information per second. All the other is processed subconsciously. That is why our brain appears to be a mystery.

This has really widened the scope of Neuromarketing. The concepts of Neuromarketing provide a real competitive advantage in a crowded and cluttered market. The languages of consumers change from country to country and culture to culture, however the language of human brain is the same i.e. universal. Thus, Neuromarketing has greatly affected products, brands, packaging, and advertising as well.

STRUCTURE OF HUMAN BRAIN

Human brain is made up of billions of cells. These cells are called neurons. The neurons can communicate with one another through small junctions. These junctions are called synapses. When a neuron is active, it sends an electrical impulse to its own terminal or end. The impulse generates a sequence of physico-chemical events leading to the release of a chemical molecule. This chemical molecule is called a neurotransmitter and serves as a messenger. This neurotransmitter forms a bridge between the two neurons and the impulse gets transferred. Once a neuron is activated it is described as 'a neuron has fired'. A single neuron connects with 600 to 1500 other neurons. Neurons form circuits, circuits form networks, networks form systems, systems form super systems and the super systems are equivalent to galaxies.

"Neurons are the basic working units of the brain and the central nervous system, designed to transmit information to other nerve, muscle or gland cells."

By Dr. A. K. Pradeep Founder and CEO, Neurofocus Inc.

Our brain is a part of central nervous system which has following parts

The table below shows the importance of different parts of brain to marketing and advertising managers

TABLE: 3

Area of Brain	Function	Importance
Spinal cord	Sending message from nerves to different parts of the body	0
Medulla oblongata	Respiration, controls blood pressure, senses of taste and hearing	1
Pons	Controls movement, respiration and sleep	0.5
Cerebellum	Maintains postures, controls head and eye movements, muscle movements, language as well as cognitive functions	1.5
Midbrain	Co-ordination of visual and auditory reflexes	0.5
Thalamus	Taste,smell,touch	2
Hypothalamus	Eating,drinking,growth,motivation	3
VMFL(Ventro-medical Frontal Lobe)	Decision-making	4
Hippocampus	Memory	4

Source: Neuromarketing a Peep into Customer`s minds by J.K. Sharma, Deepali Singh, K.K.Deepak, D.P.Agarwal

Value range 0 to 5

THE SHE FACTOR

Till date only 17% of medical research was conducted on women. The main hindrance was the body cycle each month which is never static. As a result, no concrete baseline can be established. But this was the scenario before the Right for Inclusion of Women in Clinical Research was passed in 1995.Now the female brain is the prime focus for study.

The marketers can now target those five magic days to market their products or services that make women more attractive. New research shows that woman`s purchase behavior is unconsciously influenced by their hormones. Therefore, women at peak fertility unconsciously choose products that enhance appearance in order to outdo the attractive rival women. This research has practical implications for marketers as for about 5 to 6 days every month normally ovulating women may likely purchase clothing, shoes, accessories, health supplements, diet programmes etc.This has opened a new avenue in Neuromarketing- doing a blood draw along with brain scans & biometrics to evaluate the hormonal levels of female subjects.

WHY SHE

Women in India have several layers to them. Marketers cannot afford to look at them as 'One Mass' due to their various life cycle stages, distinct life styles as well as consumption psyche. They play a significant role not only in consumption but in household buying decision-making as in India three-fourth of all families are nuclear.

Juxt Indian Women Study 2010 reveals following facts:

- There are only 40 million working women in India (i.e. 9% of all women).148 million are students while 260 million are housewives
- 72% of working women are working mothers
- Housewife mothers is the largest occupational-marital segment among women (50%)
- Only 1 woman in 10 works in corporate world. Southern region contributes the highest proportion of working women

TABLE: 4

Segment	Description	% of Indian women population	No. in millions
Women students	Unmarried & studying	33	148.5
Working maidens	Unmarried & working	2	7.2
Housewives	Married & not working	8	34.2
Housewife mothers	Married with children & not working	50	225.4
Working wives	Married & working	1	4.3
Working mothers	Married with children & working	6	28.6
Total		100	448.2

Source: Juxt Indian Women 2010 Study

A PEEP INTO THE SHE BRAIN

The female brain is fundamentally different from the male brain. She has four times more neurons connecting the right & the left brain. She processes information through both rational & emotional filters unlike men who use either one side or other to process the information. Therefore while constructing messages to her marketers need to include some emotional component. This balances of two hemispheres makes the female brain multitasker of all the time. It is easy and natural for the female brain to move from home to work, from shopping to signing of contract and even combine all the activities. Men tend to focus on one activity with one hemisphere at a time. The female brain is capable of more uneasiness and to do more planning than the male brain. She will always be interested in finding the best deal for her time, money and effort. It may happen that the best deal is not sufficient as she is willing to pay more if your product or service satisfies her requirements as well as of her family. Thus the goal of a male brain is autonomy while that of female brain is community.

Following are some interesting facts about the female brain helpful for marketers by *Louann Brizendine author of The Female Brain*:

- The female brain is smaller than the male brain by about 9% i.e. the brain matter is more tightly packed in the female brain
- Women have about 11 % more neurons in the language centers of the brain
- A woman has slightly smaller amygdala (controls sex & aggression). Therefore, sex is both emotional as well as physical for women
- Women have slightly larger prefrontal cortexes than men which allows them to control emotions during peak times of anxiety

TIPS FOR MARKETERS

- The advertisements targeted towards female consumers must pay attention to facial expressions as well as tone of voice not just the text matter
- Social connections are vital for female consumers as a result shared stories are more appealing
- Avoid challenging the female consumers with messages like; "Don't wait" or "Call now"
- Since both her hemispheres are connected, make sure that the message in the advertisement is based on some positive emotion than statistics or numbers

THE HANDS THAT ROCK THE CRADLE RULE THE WORLD

Birth of a child is a powerful catalyst for the brain changes. Brain changes begin from pregnancy. Mothers are famous for their superior instincts and intuition skills. The enhanced prefrontal cortex gives her the ability to control emotions. Human mothers also build networks to support as well as bond with their babies. Mothers excel at what someone else is thinking. Just like human GPS (Global Positioning System) mommy brain has increased vigilance on all aspects i.e. safety and stability of her young one. Birth of a baby is rebirth of her too. Therefore, it is rightly said that all mommies have female brain but not all females have mommy brain.

TIPS FOR MARKETERS

- Show activities that the mother would like to engage with her baby
- The more she feels understood the more likely she will give attention or rely on the brand
- One negative view of your product, its promotion, packing, environment can easily spread amongst millions of mommies as they are socially very well connected
- Target the mommy brain from a new perspective i.e. emphasize safety in a positive emotional context and not through fear

SUCCESS STORIES OF THE APPLICATIONS OF NEUROMARKETING

FRITO-LAY

Women snack more than men but research showed that they did not prefer Frito-lay snacks. The organization conducted an extensive research campaign which brought forward the following results:

- Women snack only 14% of the time on salty foods
- 24% of the time on sweet food
- Other 61% includes drinks, fruits and vegetables

Later the organization decided to make use of various Neuromarketing techniques for adjusting their marketing strategy. The research suggested that communication centre in a woman's brain is more developed due to which they process advertisements with more complexity and more pieces of information. She is especially interested in the guilt factor. Almost 100 females were asked to keep a log of their lives for about two weeks. The outcome of this exercise was that women feel guilty about a lot of things in life.

The following was the **action plan** of Frito-lay after applying Neuromarketing techniques:

- They focused on their ad campaign as "guilt-free" snack. The organization spread message that; "Snacking should make you feel good, not guilty."
- They toned down their packing and showed healthy ingredients like 0% fat, fibre etc
- After acquiring SmartFood it introduced new line of sweet, low calorie popcorn with flavors like canberry-almond. The packing highlighted nutritional ingredients like: Calcium, wheat, almond, fiber.
- Frito-lay started with the campaign "Only in a Womans World". The campaign has four cartoon women whose names are Anna, Cheryl, Maya, Nikki each possessing a distinct personality. These women are termed as fabulous, funny, and fearlessly female.
- Frito-lay came up with TV, print, online and webisodes at www.AWomansworld.com

Frito-lay came up with following variants for guilt-free women:

- **Baked Lays-"Eating better can be yummy."**

These are naturally baked with 65% less fat than regular potato chips. Baked Lays are light-tasting, crispy and full of flavors.

- **Smartfood Popcorn clusters-"Getting your fiber can be delicious"**

Popcorn clusters with excellent source of calcium, 5gms of fiber and no artificial colors or preservatives. Available in mouth watering flavors like: canberry almond, honey multigrain and chocolate cookie caramel pecan.

- **100 Calorie sun Chips-"Treat you to portion control".**

A 12 Gms of whole grain snack in interesting flavours like: harvest cheddar, white cheddar, asteroids.

- **Flat Earth-“We snuck some veggies in your crisps.”**

Half a serving of real vegetables in every ounce of crisps which are naturally baked with excellent source of vitamin A & C. Available in flavors like: tangy tomato, garlic & herb, spicy salsa.

FUTURE OF NEUROMARKETING

There is no element of doubt that Neuromarketing will enable advertisers to be very specific in providing products that the consumers really want. The more senses you trigger about your products and service you can influence the buying behavior. Still Neuromarketing is in ones infancy and not free from critics as well as issues.

NeuroFocus, Inc. is an American multinational Neuromarketing company with headquarter in Berkeley. NeuroFocus combines neuroscience research with consulting and marketing practices. NeuroFocus is the global market leader in neurological testing. In India too they have set up an office in Chennai. First *annual Neuromarketing awards* were announced by media brands IPG Media Lab and Affectiva at Cannes Lions International Advertising Festival in June 2011.

Inspite of all these issues Neuromarketing is here to stay. All advertising campaigns are not commercial as many focus on changing the behavior of the people. For example to convince people not to smoke, don't drink and drive or talk on a cell phone while driving.

REFERENCES

1. Ad Experts not so quick to buy into 'Buy logy' by Miley, Marissa Advertising Age 2008, Volume 79, Issue 40, Page 4 to 30
2. Market Researchers make increasing use of brain imaging by David Lewis and Darren Bridger Nature Neuroscience Volume 17, July 2004
3. Neuromarketing A peep in to Customer's Minds by J.K. Sharma, Deepali Singh, K.K. Deepak and D.P. Agarwal
4. Neuromarketing Eye tracking helps Campbell March 9, 2010
5. Neuromarketing Hope and Hype: 5 Brands conducting Brain research by Kevin Randal September 15th, 2009
6. Neuromarketing: The New science of Consumer Behavior by Christophe Morin January 14th, 2011
7. Neuromarketing: Who decides what you buy? By Vicky Phan The Triple Helix 2010
8. "Ovulation, Female Competition, and Product Choice: Hormonal Influences on Consumer Behavior," from the *Journal of Consumer Research* August 18th, 2010 by Kristina Durante
9. The Buying Brain- Secrets of Selling to the Subconscious Mind by Dr. A.K. Pradeep Founder & CEO, NeuroFocus, Inc
10. The Female Brain by Louann Brizendine
11. The Marketing Whitebook 2011-12 by Businessworld
12. The Mommy Brain: How motherhood makes us Smarter by Katherine Ellison
13. www.affectiva.com
14. www.awomansworld.com

REQUEST FOR FEEDBACK

Dear Readers

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

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

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

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

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

ABOUT THE JOURNAL

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

Our Other Journals

