

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.

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 2592 Cities in 161 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.	STANDARDIZING GOVERNMENT HOSPITAL LIBRARIES: WHERE ARE WE NOW? <i>DR. MA. LINDIE D. MASALINTO, DR. ESTRELLA ALMEDA SAN JUAN & DR. LAZARO E. AVELINO</i>	1
2.	CHALLENGES IN APPLICATION OF SIX SIGMA TECHNIQUES IN HR DOMAIN <i>NAGARAJ SHENOY & DR. KALYANI RANGARAJAN</i>	6
3.	COMPETITIVENESS IN NIGERIAN TELECOMMUNICATION INDUSTRY: MARKETING STRATEGY <i>FALANO, TOLULOPE & POPOOLA F. CORNELIUS</i>	9
4.	MANPOWER PLANNING IN HIGHER EDUCATION: A CASE STUDY IN DAKSHINA KANNADA DISTRICT IN KARNATAKA <i>DR. WAJEEDA BANO</i>	15
5.	IP TRACEBACK OF DOS ATTACKS <i>S. THILAGAVATHI. & DR. A. SARADHA</i>	21
6.	BEHAVIOURAL CONSEQUENCES OF FACEBOOK USAGE AMONGST GENERATION Y OF MUMBAI CITY <i>DR. ANKUSH SHARMA & KRATIKA SHRIVASTAVA</i>	24
7.	COMPARATIVE STUDY OF CRM (PUBLIC SECTOR BANKS Vs. PRIVATE SECTOR BANKS) IN DELHI REGION <i>R. C. BHATNAGAR, RAJESH VERMA & ADITI GOEL</i>	33
8.	FIRM, FINANCIAL SYSTEMS AND FINANCIAL DEREGULATIONS: A SURVEY OF LITERATURE <i>NEMIRAJA JADIYAPPA & DR. V. NAGI REDDY</i>	39
9.	PREFERENCES AND SIGNIFICANCE OF DEMOGRAPHICS ON THE FACTORS INFLUENCING INVESTMENT DECISIONS: A STUDY OF INVESTORS IN THANE CITY, MAHARASHTRA, INDIA <i>DINESH GABHANE & DR. S. B. KISHOR</i>	44
10.	DETERMINANTS OF LEVERAGE: AN EMPIRICAL STUDY ON INDIAN TEXTILE SECTOR <i>D. VIJAYALAKSHMI & DR. PADMAJA MANOHARAN</i>	49
11.	CUSTOMER SATISFACTION & AWARENESS REGARDING INSURANCE POLICIES <i>DR. MEGHA SHARMA</i>	53
12.	RISK-ADJUSTED PERFORMANCE EVALUATION OF INFRASTRUCTURE FUNDS IN INDIA <i>G. ARUNA</i>	59
13.	EMPOWERMENT OF RURAL WOMEN THROUGH ENTREPRENEURSHIP IN SMALL BUSINESS: A EMPIRICAL STUDY IN KHAMMAM DISTRICT OF A.P <i>DR. S. RADHAKRISHNA & DR. T. GOPI</i>	63
14.	THE ETERNAL FIGHT: SMALL TRADITIONAL STORES Vs. SUPERMARKETS <i>DR. FAYAZ AHMAD NIKA & ARIF HASAN</i>	68
15.	A STUDY ON CUSTOMER SATISFACTION TOWARDS MARKETING STRATEGY OF BANKING LOANS ADOPTED BY SCHEDULED COMMERCIAL BANKS WITH SPECIAL REFERENCE TO COIMBATORE DISTRICT <i>G. SANGEETHA & DR. R. UMARANI</i>	72
16.	KNOWLEDGE CAPTURE SYSTEMS IN SOFTWARE MAINTENANCE PROJECTS <i>SARFARAZ NAWAZ</i>	79
17.	SELF-MANAGING COMPUTING <i>K. M. PARTHIBAN, M. UDHAYAMOORTHY, A. SANTHOSH KUMAR & KONSAM CHANU BARSANI</i>	82
18.	A STUDY ON PERFORMANCE OF DISTRICT CONSUMER DISPUTES REDRESSAL FORUMS IN INDIA <i>GURLEEN KAUR</i>	87
19.	TEA INDUSTRY IN INDIA: STATE WISE ANALYSIS <i>DR. R. SIVANESAN</i>	89
20.	THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN ENHANCING THE QUALITY EDUCATION OF ETHIOPIAN UNIVERSITIES: A REVIEW OF LITERATURE <i>DR. BIRHANU MOGES</i>	94
21.	PROBLEMS & PROSPECTS OF WOMEN ENTREPRENEURS IN INDIA <i>JAINENDRA KUMAR VERMA</i>	102
22.	CAPITAL STRUCTURE AND PROFITABILITY: A STUDY ON SELECTED CEMENT COMPANIES <i>DR. BRAJABALLAV PAL & SILPI GUHA</i>	105
23.	MUTUAL FUND INDUSTRY IN INDIA: RECENT TRENDS AND PROGRESS <i>BHARGAV PANDYA</i>	114
24.	CHALLENGE OF ATTRITION: A CASE STUDY OF BPO INDUSTRY IN CHANDIGARH REGION <i>MANJIT KOUR</i>	120
25.	GOOD GOVERNANCE IN INDIA: NEED FOR INNOVATIVE APPROACHES <i>PARDEEP KUMAR CHAUHAN</i>	122
26.	RESPONSE OF PEASANT FARMERS TO SUPPLY INCENTIVES: AN INTER-REGIONAL ANALYSIS OF COTTON CROP IN SINDH, PAKISTAN <i>DR. MOHAMMAD PERVEZ WASIM</i>	126
27.	EFFECTS OF INTEREST RATE DEREGULATION ON DEPOSIT MOBILIZATION IN THE NIGERIAN BANKING INDUSTRY <i>SAMUEL, KEHINDE OLUWATOYIN & OKE, MARGARET ADEBIPE</i>	137
28.	AN E-3 VALUE MODEL FOR ASSESSING e-COMMERCE PARTNERSHIP PROFITABILITY TO SMEs IN GHANA <i>AMANKWA, ERIC & KEVOR MARK-OLIVER</i>	147
29.	A STUDY ON PERFORMANCE OF CONSUMER DISPUTES REDRESSAL AGENCIES IN STATE OF HIMACHAL PRADESH <i>GURLEEN KAUR</i>	154
30.	A STUDY OF SELECTED ENTREPRENEURIAL DIMENSIONS IN INDIA: AN EXPLORATORY STUDY <i>JAINENDRA KUMAR VERMA</i>	156
	REQUEST FOR FEEDBACK	159

CHIEF PATRON

PROF. 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

AMITA

Faculty, Government M. S., Mohali

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. M. N. SHARMA

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

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. BHAVET

Faculty, Shree Ram Institute of Business & Management, Urjani

EDITORIAL ADVISORY BOARD

DR. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

PROF. SANJIV MITTAL

University School of Management Studies, Guru Gobind Singh I. P. University, Delhi

PROF. ANIL K. SAINI

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

DR. SAMBHAVNA

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

DR. MOHENDER KUMAR GUPTA

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

DR. SHIVAKUMAR DEENE

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

ASSOCIATE EDITORS

PROF. NAWAB ALI KHAN

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

PROF. ABHAY BANSAL

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

PROF. A. SURYANARAYANA

Department of Business Management, Osmania University, Hyderabad

DR. SAMBHAV GARG

Faculty, Shree Ram Institute of Business & Management, Urjani

PROF. V. SELVAM

SSL, VIT University, Vellore

DR. PARDEEP AHLAWAT

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

DR. S. TABASSUM SULTANA

Associate Professor, Department of Business Management, Matrusri Institute of P.G. Studies, Hyderabad

SURJEET SINGH

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

TECHNICAL ADVISOR

AMITA

Faculty, Government M. S., Mohali

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 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/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>

CHALLENGES IN APPLICATION OF SIX SIGMA TECHNIQUES IN HR DOMAIN

NAGARAJ SHENOY
PROFESSOR
DEPARTMENT OF M.B.A.
PES INSTITUTE OF TECHNOLOGY
BANGALORE

DR. KALYANI RANGARAJAN
DIRECTOR
VIT BUSINESS SCHOOL
CHENNAI

ABSTRACT

Six Sigma, which started as process improvement tool to enhance quality perception of customers towards products and services, has transformed into a management philosophy for many organizations. Human Resource (HR) department plays a pivotal role in the successful execution of Six Sigma projects. But when it comes to implementing the Six Sigma techniques to the processes of HR domain itself, many impediments are posing problems. They range from the questions of feasibility to measurability to applicability. There is a widespread belief that Six Sigma techniques cannot be applied to HR processes. But the biggest challenge is the perception of HR professionals towards Six Sigma methodology. Apprehensions and disagreements about the measurability and quantifiability of HR processes among HR professionals are impeding the application of Six Sigma. There is a need to meet these challenges by the concerted efforts of all HR professionals.

KEYWORDS

HR Applicability, HR Measurability, Human Resource Management (HRM), Quality, Six Sigma.

INTRODUCTION

Perfection is an endless dream. Man's quest for flawless performance in all his work is taking him to the pursuit of constant improvement. Defects are dangerous, they have consequences much worse than earlier they use to. So, modern times have compelled the business world to explore the ways to improve their processes and works to ensure as defect-free as possible, their end products and services. This exploration led them to the discovery of many methods to improve the quality of their work.

Six Sigma is one such revolutionary concept that has transformed the manufacturing industry in the quality and excellence aspect. It changed the paradigm of excellence in every process and activity an industry is performing. Most importantly, it converted the qualitative parameter of 'Quality', a 'measurable' variable.

WHAT IS SIX SIGMA?

Six Sigma was first conceptualized at Motorola around 1986, when it was reeling under huge losses and was unable to face the competition. The word sigma (a Greek alphabet written as ' σ ') is derived from statistics where it is used denote 'standard deviation', which is a measure of deviation from the mean of the population. In organizational context this was used as measure of deviations from the 'perfection'. Lesser the deviations, more towards perfection.

The deviations in terms of sigma can be expressed in terms of defects per million opportunities (DPMO). In this concept Six Sigma allows only 3.4 defects per million opportunities. The DPMO values for 2, 3, 4, and 5 sigma levels are 308537, 66807, 6210, and 233 respectively. Six Sigma is influenced by the quality movements of its preceding time. Notable ones are quality control, Total Quality Management, and Zero Defects which are outcomes of the works of Shewhart, Deming, Juran, Ishikawa, Taguchi and others.

Six Sigma is statistical concept that measures a process in terms of defects. Six Sigma is a problem solving technology that uses an organization's human assets, data, measurements, and statistics to identify the vital few factors to decrease waste and defects while increasing customer satisfaction, profit, and shareholder value (Brue, 2002). Six Sigma focuses on establishing world-class business-performance benchmarks and on providing an organizational structure and road-map by which these can be realized. Although particularly relevant to the enhancing of value of products and services from a customer perspective, Six Sigma is also directly applicable to improving the efficiency and effectiveness of all processes, tasks and transactions of any organization. (Truscott, 2009).

Many companies have not understood how the poor quality impacts their bottom line. As the poor quality compels the companies to rework on designs, larger wastes in the form of scrap materials, resend the products, warranty claims, and of late recalling the products and facing court cases. 'In tracking companies from industries across the board, researchers have found that the cost of poor quality is in the range of 20 to 30 percent of total operating costs. A company engaged in Six Sigma can expect to cut that in half over three years' (Defoe, 2000).

In its methodology, begins with the Cost-Of-Poor-Quality (COPQ) that can trigger the movement of quality in an organization. Six Sigma focuses on customer satisfaction as its topmost priority. It identifies Critical-To-Quality (CTQ) elements in a business process or product that is what matters most for your customers. It leads to an effort to improve quality from customer's perspective. Six Sigma helps to set benchmarks to compare the progress made in the process.

Comparisons are inevitable. The way quality and performance levels of an organization are compared with others in same segment of business, the techniques of Six Sigma are also compared with other previous quality improvement movements. Most prominent among all these is its comparison with TQM. Well known quality guru *Joseph Juran* found nothing new in Six Sigma. He also criticized Six Sigma as "a basic version of quality improvement". But Six Sigma camp has its justification for the doubts raised by opponents. They feel Six Sigma is revealing a potential for success that goes beyond the levels of improvement achieved through the many TQM efforts (Pande, Neuman, & Cavanage, 2004). The following table is summarized comparisons between TQM and Six Sigma.

TABLE 1: SIX SIGMA VERSUS TQM

Sl. No.	TQM Pitfall	Six Sigma Solution
1	Lack of Integration	Links to the Business and Personal "Bottom Line"
2	Leadership Apathy	Leadership at the Vanguard
3	A Fuzzy Concept	A Consistently Repeated Simple Message
4	An Unclear Goal	Setting a No-Nonsense, Ambitious Goal
5	Purist Attitude And Technical Zealotry	Adapting Tools and Degree of Rigor to the Circumstances
6	Failure To Breakdown Internal Barriers	Priority on Cross Functional Process Management
7	Incremental vs. Exponential Change	Incremental Exponential Change
8	Ineffective Training	Blackbelts, Greenbelts, Master Blackbelts
9	Focus on Product Quality	Attention to All Business Processes

Information Source: Pande Peter S. et al, (2004), The Six Sigma Way, Tata McGraw Hill Publishing Company Limited, New Delhi, Page 42-48

The financial benefits of the implementation of Six Sigma are measured in many organizations and they are highly impressive. The global corporate giants like Motorola, Texas Instruments, IBM, Allied Signal, and most importantly General Electric, have implemented Six Sigma and saved literally billions of dollars. Later other companies like Ford, Dupont, Dow Chemical, Microsoft, and American Express followed the suit and reported similar benefits.

But Six Sigma is not only about money. It is more of a management philosophy, method of thinking, way of working, and above all commitment of an organization. In many top organizations like Dow Chemical, that are committed to Six Sigma, key managerial slots including HR managers, require Six Sigma certification. Jack Welch, considered as one among the greatest CEOs, initiated Six Sigma practices in General Electric, quoted as saying "Six Sigma is the most important initiative General Electric has ever taken. It is part of the genetic code of our future leadership".

As Six Sigma spreads its wings into other fields, it found its way into the areas. The activities which so far considered 'immeasurable' were brought into the folds of Six Sigma. In a study (Brewer, 2004), one company in US, Amdell Inc., turns to Six Sigma to find the answer to the issue of making employees feel more accountable for results. Six Sigma methodology helped this company discover that a culture of accountability, first and foremost, is a function of strategically aligned employee expectations and an effective system of rewards and consequences.

Seemingly similar work groups in organizations will have lot of performance variations. By managing such variability, an organization can raise overall performance by orders of magnitude and can create organic growth. A study by Fleming, Coffman, & Harter, attempts to address this issue and create a measure to quantify the concepts of employee engagement and customer engagement, which they called 'Human Sigma Score' (Fleming, Coffman, & Harter, 2005). This measure, they claim, a single measure of effectiveness for the employee-customer encounter and this measure has a high correlation with financial performance.

Realizing the impact of Six Sigma in all processes and functions of an organization, companies moved to the concept of making the whole organization a 'six sigma organization'. But there are some hitches. Whenever an organization is termed as 'six sigma organization' an obvious question raised is whether all critical processes are at Six Sigma level. If not, how an organization has been termed as 'six sigma organization'. An attempt is made in this direction by (Ravichandran, 2006) by assigning weights to all critical processes of an organization based on their relative importance.

WHY IN HRM?

The participation of HR in the successful implementation of any Six Sigma project is indispensable. Six sigma increases HR participation in employee, company, and customer development by integrating its function into management decisions, company strategy, as well as employee development. (Defoe, 2000). But when this comes to applying Six Sigma to HR functions per se, the answer is not encouraging.

Some larger corporations have integrated Six Sigma so well into the corporate culture that it can be considered the DNA of the company. However, even in such companies, the human resources department has been practically untouched by Six Sigma. (Gupta, 2005). Some questions rose in this issue were 'how can HR be measured?', 'How can you apply 3.4 defects per million opportunity rule to HR when no organization would have a million employees?'

But this perception that Six Sigma cannot be applied to HR processes - for whatsoever reasons - is not shared by all. "Applying Six Sigma to HR is really no different than applying it anywhere else in the organization," says Jackie Nelson, HR master black belt for GE Consumer Finance, Americas. "The key is, 'What are the gaps?' Once you understand what the problem is, it's like a mathematical problem you apply the right formula to solve." (Heuring, 2004).

So the real problem lies in the perception of an individual HR professional. If HR wants to remain in the supporting role in Six Sigma projects of other functions of the organization or take up some projects for its own domain, it is for the HR professionals to take the call.

THE HR CHALLENGE OF SIX SIGMA

Six Sigma is basically a data driven approach to eliminate defects to improve the processes and products. Hence it is obvious that any process to be subjected to Six Sigma analysis should produce data in its operations. That is, its processes must be 'measurable'. When we think of applying the Six Sigma techniques to HRM, an inevitable question is to what an extent all the processes of HRM are measurable.

'Measuring a process' in manufacturing is very easy, whereas the same in HR functions is very difficult. In manufacturing one can measure so many parameters of a process relatively with ease compared to the processes of HRM wherein the measurability of a process depends on the perception of an individual HR person. That is, for a same process some feel that it is measurable while others feel that the same is not measurable. There is disagreement on the degree of measurability of the process as well. There is no unanimity among HR fraternity about the mode of measurement of HR processes. Unless there is unanimity about the mode of measurement we cannot compare the performance levels of the processes among different organizations.

Another limitation of HR is that it is not considered as a major line function in many organizations. By the nature of work, HR is only considered as a staff function. This is due to the fact of not realizing the significance of HR. HR acts as undercurrent in smooth functioning of all processes of organization. But unfortunately it goes unrecognized. This is mainly due to the non-measurable nature of HR processes. Success is credited to those who demonstrate their performance in measurable numbers, who show the financial benefits to the company in terms of tangible moolah. There are other pragmatic opinions on this issue. 'It must be understood that HR isn't a huge part of any business, but it has a huge effect on every business. Human resources should be considered as human capital. HR must ensure that there's good return on investment in human capital' (Gupta, 2005).

Yet, we need to find ways to measure HR processes. If we cannot measure a process, we cannot control it. And if we cannot control it, we can neither improve it nor can we manage it. In the absence of all these, especially in case of HR, we cannot show the importance of the function, demonstrate financial gains to the organization, and gain the due recognition it deserves. As a first step in this direction an attempt is made in this research to analyze and understand the perceptions of HR persons working in software industry.

HR APPLICATIONS

Six Sigma is considered as management philosophy along with being quality improvement methodology. Carey finds Six Sigma is synonymous with good HR practice in a number of well-known companies. Done well and widely, Six Sigma can dramatically and often radically change the culture of an organization. According to Wandke and Garth Rymer, Motorola University's representative in Australia, the most successful and long-lived Six Sigma implementations (GE, Dow Chemical and Motorola are in their second or third decade of Six Sigma) have the upfront involvement and active participation of the finance and HR functions. HR is centrally involved in Six Sigma people policy development, then in the selection, recruitment, training, mentoring and development of these key people. (Carey, 2005a)

Overcoming all the obstacles there are many Six Sigma projects have been accomplished in many organizations. Examples of Six Sigma projects that companies' HR departments have completed include reduction in overtime, reduction in time and cost to hire an employee, reduction in employee retention or turnover, reduction in safety violations, reduction in cost of employee separation, and HR response to internal inquiries for benefits, payroll, promotion and fairness (Gupta, 2005). In addition, many organizations are using Six Sigma to reduce costs in everyday HR functions. Six Sigma is also being used in improving the hiring process; enhancing employee satisfaction, increasing the effectiveness of training and development programs, pay fixation, etc.

Some typical projects within HR include modeling the hire versus overtime dilemma. This is done by balancing the cost of entry point wages and salaries and the cost of induction and learning, against the cost of overtime, taking into account burnout, fatigue and additional allowances and breaks. (Carey, 2005b)

There is a high expectation from customers for every organization. To meet this expectation it has become imperative on the part of every department to perform to the best of its potential. The HR cannot afford to be an exception. Hence HR cannot afford to keep off from using Six Sigma tools and techniques to improve the processes of its own department.

CONCLUSIONS

Application of Six Sigma tools and techniques to HR processes and functions is complicated compared to its application in other functional areas. It is mainly due to the abstract nature of function of HR processes. But in view of the highly competitive market conditions, an organization can ill-afford to exclude HR from the purview of constant process improvement. The questions on the quantifiability and measurability of HR processes notwithstanding, the HR fraternity needs to think of going Six Sigma way to improvise their functional ability.

REFERENCES

1. Brewer, P. C. (2004). Six Sigma Helps A Company Create A Culture Of Accountability. *Journal of Organizational Excellence* .
2. Brue, G. (2002). *Six Sigma for Managers*. New Delhi: Tata McGraw Hill Publishing Company Ltd.
3. Carey, P. (2005a, February 22). What on earth has Six Sigma got to do with HR? - Part One. Retrieved July 02, 2008, from Human Resources Magazine Website: <http://www.humanresourcesmagazine.com.au/articles/F9/OC02CBF9.asp?Type=60&Category=903>
4. Carey, P. (2005b, March 8). What on earth has Six Sigma got to do with HR? - Part Two. Retrieved July 02, 2008, from Human Resources Magazine Website: <http://www.humanresourcesmagazine.com.au/articles/C9/OC02CCC9.asp?Type=60&Category=903>
5. Defoe, J. A. (2000, Summer). Six Sigma: New Opportunities for HR, New Career Growth for Employees. *Employment Relations Today* .
6. Fleming, J. H., Coffman, C., & Harter, J. K. (2005, July - August 2005). Manage your Human Sigma. *Harvard Business Review* , 106-114.
7. Gupta, P. (2005). Six Sigma in Human Resources. *Quality Digest* .
8. Heuring, L. (2004, March). Six Sigma in Sight. *HR Magazine*, published by the Society for Human Resource Management .
9. Pande, P. S., Neuman, R. P., & Cavanage, R. R. (2004). *The Six Sigma Way*. New Delhi: Tata McGraw Hill Company Limited.
10. Ravichandran, J. (2006). Six-Sigma Milestone: An Overall Sigma Level of an Organization. *Total Quality Management & Business Excellence* , 973 - 980.
11. Truscott, W. (2009). *Six Sigma: Continual Improvement for Businesses*. Burlington: Butterworth-Heinemann - An imprint of Elsevier.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, IT 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 i.e. 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

