

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & 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,

Indian Citation Index (ICI), 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 (2012) & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 6185 Cities in 195 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.	ADOPTION OF INTERNET BANKING IN INDIA: A COMPARATIVE STUDY BETWEEN RURAL AND URBAN BANKING CUSTOMERS <i>SHIVANGI AGARWAL & Dr. RAJESH KOTHARI</i>	1
2.	IMPACT ASSESSMENT OF AGRICULTURAL CREDIT OF REGIONAL RURAL BANKS ON AGRICULTURISTS IN HIMACHAL PRADESH <i>Dr. S S NARTA & SHELLY MAHAJAN</i>	6
3.	STUDY THE RELATIONSHIP BETWEEN PRODUCT DIVERSIFICATION STRATEGY WITH FINANCIAL PERFORMANCE <i>V.SUNDARA PRASAD & Dr. R.KRISHNAKUMAR</i>	10
4.	IMPACT OF 5S METHODOLOGY ON THE EFFICIENCY OF THE WORKPLACE: STUDY OF MANUFACTURING FIRMS <i>Dr. PALLAWI SANGODE</i>	14
5.	CONSUMER CHOICE AND CHOICE OVERLOAD: A DECISION MAKING PERSPECTIVE <i>MALEEHA GUL</i>	17
	REQUEST FOR FEEDBACK & DISCLAIMER	25

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**

Former Faculty, Shree Ram Institute of Engineering & Technology, Urjani

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

Principal (Retd.), Maharaja Agrasen College, Jagadhri

EDITOR**Dr. NAWAB ALI KHAN**

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

CO-EDITOR**Dr. G. BRINDHA**

Professor & Head, Dr.M.G.R. Educational & Research Institute (Deemed to be University), Chennai

EDITORIAL ADVISORY BOARD**Dr. A SAJEEVAN RAO**

Professor & Director, Accurate Institute of Advanced Management, Greater Noida

Dr. CHRISTIAN EHIOBUCHÉ

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

Dr. JOSÉ G. VARGAS-HERNÁNDEZ

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

Dr. M. N. SHARMA

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

Dr. TEGUH WIDODO

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

Dr. M. S. SENAM RAJU

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

Dr. KAUP MOHAMED

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

Dr. D. S. CHAUBEY

Professor & Dean (Research & Studies), Uttarakhand University, Dehradun

Dr. ANIL K. SAINI

Professor, Guru Gobind Singh Indraprastha University, Delhi

Dr. ARAMIDE OLUFEMI KUNLE

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

Dr. SYED TABASSUM SULTANA

Principal, Matrusri Institute of Post Graduate Studies, Hyderabad

Dr. MIKE AMUHAYA IRAVO

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

Dr. NEPOMUCENO TIU

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

Dr. BOYINA RUPINI

Director, School of ITS, Indira Gandhi National Open University, New Delhi

Dr. FERIT ÖLÇER

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

Dr. SANJIV MITTAL

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

Dr. SHIB SHANKAR ROY

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

Dr. SRINIVAS MADISHETTI

Professor, School of Business, Mzumbe University, Tanzania

Dr. ABHAY BANSAL

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

Dr. KEVIN LOW LOCK TENG

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

Dr. OKAN VELI ŞAFAKLI

Professor & Dean, European University of Lefke, Lefke, Cyprus

Dr. V. SELVAM

Associate Professor, SSL, VIT University, Vellore

Dr. BORIS MILOVIC

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

Dr. N. SUNDARAM

Associate Professor, VIT University, Vellore

Dr. IQBAL THONSE HAWALDAR

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

Dr. MOHENDER KUMAR GUPTA

Associate Professor, Government College, Hodal

Dr. ALEXANDER MOSESOV

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

RODRECK CHIRAU

Associate Professor, Botho University, Francistown, Botswana

Dr. PARDEEP AHLAWAT

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

Dr. DEEPANJANA VARSHNEY

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

Dr. BIEMBA MALITI

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

Dr. SHIKHA GUPTA

Associate Professor, Lingaya's Lalita Devi Institute of Management & Sciences, New Delhi

Dr. KIARASH JAHANPOUR

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

Dr. SAMBHAVNA

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

YU-BING WANG

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

Dr. MELAKE TEWOLDE TECLEGHIORGIS

Faculty, College of Business & 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. JASVEEN KAUR

Head of the Department/Chairperson, University Business School, Guru Nanak Dev University, Amritsar

SURAJ GAUDEL

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

Dr. RAJESH MODI

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

Dr. BHAVET

Former Faculty, Shree Ram Institute of Engineering & Technology, Urjani

FORMER TECHNICAL ADVISOR

AMITA

FINANCIAL ADVISORS

DICKEN GOYAL

Advocate & Tax Adviser, Panchkula

NEENA

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

LEGAL ADVISORS

JITENDER S. CHAHAL

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

CHANDER BHUSHAN SHARMA

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

SUPERINTENDENT

SURENDER KUMAR POONIA

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography; Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

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

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: SUBMISSION OF MANUSCRIPT IN THE AREA OF

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

DEAR SIR/MADAM

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

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

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

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

NAME OF CORRESPONDING AUTHOR :

Designation/Post* :

Institution/College/University with full address & Pin Code :

Residential address with Pin Code :

Mobile Number (s) with country ISD code :

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

Landline Number (s) with country ISD code :

E-mail Address :

Alternate E-mail Address :

Nationality :

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

NOTES:

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

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

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR, centered, separately numbered** & self-explained, and the **titles must be above the table/figure. Sources of data should be mentioned below the table/figure. It should be ensured that the tables/figures are referred to from the main text.**
13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.
14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.
15. **REFERENCES:** The list of all references should be alphabetically arranged. **The author (s) should mention only the actually utilised references in the preparation of manuscript** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper.** The author (s) are supposed to follow the references as per the following:
- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
 - Use (ed.) for one editor, and (ed.s) for multiple editors.
 - When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
 - Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
 - The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
 - For titles in a language other than English, provide an English translation in parenthesis.
 - **Headers, footers, endnotes and footnotes should not be used in the document.** However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

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

CONTRIBUTIONS TO BOOKS

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

JOURNAL AND OTHER ARTICLES

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

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

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

ONLINE RESOURCES

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

WEBSITES

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

IMPACT OF 5S METHODOLOGY ON THE EFFICIENCY OF THE WORKPLACE: STUDY OF MANUFACTURING FIRMS

Dr. PALLAWI SANGODE

ASST. PROFESSOR

Dr. AMBEDKAR INSTITUTE OF MANAGEMENT STUDIES & RESEARCH

DEEKSHABHOOMI

ABSTRACT

5S is a basic framework of workplace organization that focus on sort, set in order, shine, standardizes and Sustain. This methodology is used to attain lean in the manufacturing system by eliminating the wastages that are about to occur because of the untidy, unhealthy work environment. This paper is an attempt to understand the implementation of 5S methodology by a set of manufacturing firms of Nagpur region. A sample of 10 manufacturing units was taken for the study. Chi-square test was used to prove the assumption that organizations that implement 5S attain efficiency in the work place. The study concluded that the organizations have a positive impact of the 5S implementation. The prominent benefits were that the right things were kept at the right place, continual improvement of the work place and improvement in the human relations & motivation.

KEYWORDS

5S methodology, lean, efficiency, productivity.

JEL CODES

M 10, M11.

INTRODUCTION

Every manufacturing system that attempts to attain lean system follows a methodology that defines the basic rules or guidelines to reduce waste and maintain an efficient, safe, and clean work environment. This methodology is the 5S framework which comprises of "sort", "set in order", "shine", "standardize", and "sustain". 5S was developed in Japan which meant *seiri*, *seiton*, *seiso*, *seiketsu*, and *shitsuke* was identified as a workplace organization method. 5S methodology which was widely popular in manufacturing firms is now being applied to a wide variety of industries comprising health care, education, and government. Although the origins of the 5S methodology are in manufacturing, it can also be applied to knowledge economy work, with information, software, or media in the place of physical product. (5S Methodology).

MEANING OF 5S

Seiri: It means to straiten up. That includes sorting of work-in-process, unnecessary tools, unused machines, defective products and papers and documents. (Bhat, 2015) Sorting's benefits include: a more effective use of space, simplified tasks, a reduction in hazards, and a significant decrease in distracting clutter. (5S: Sort, Set, Shine, Standardize, Sustain).

Seiton: It means putting things in order. Things are put in order that is ready for use when required. With an organized and efficient use of storage, everyone is easily able to locate important items and enjoy a less stressful work environment.

Seiso: It means to clean up. Every individual should clean the workplace every day to improve the work productivity (Bhat, 2015). Employees will feel more comfortable in this clean and uncluttered environment, which could also lead to increased ownership of the organization's goals and vision (5S: Sort, Set, Shine, Standardize, Sustain).

Seiketsu: It means personal cleanliness and good housekeeping practices. When these new standards and best practices are implemented, the old habits will soon die out and be replaced by the more efficient patterns of behavior (Bhat, 2015). New standards, however, will probably require some oversight and enforcement until they are habitual; reminders such as visuals and emails are effective tools to help these new standards become set in stone (5S: Sort, Set, Shine, Standardize, Sustain).

Shitsuke: It means discipline. Every worker and manager has to follow procedures in the workplace with utmost sense of discipline (Bhat, 2015). By putting a formal system in place that includes regular training and communication, employees will be able to comfortably conform to the company's 5S procedures (5S: Sort, Set, Shine, Standardize, Sustain).

Implementation of 5S methodology at workplace results in improved profits thereby reducing costs, streamlining the labor costs and improving the quality. Because of standardized procedures workforce becomes more efficient. It keeps the workplace clean and organized hereby increasing the safety. This ultimately reduces errors and defects and makes problem solving easier.

This concept was invented in Japan but has been adopted by many non-Japanese companies. Indian companies also practice the principles of five S under the umbrella of their efficiency and quality initiative, Total Productive Maintenance (TPM) (Bedi, 2011).

OBJECTIVES

Every organization has its own best practices that contribute to the betterment of the organization in terms of employee involvement and motivation, efficient workplace, defect free environment etc. 5S is one such tool that most organizations implement in its internal workplace to improve the productivity. This research study aims at understanding the 5S implementation in different types of manufacturing set ups. Accordingly the objectives of this study are framed as under.

1. To determine whether the manufacturing firms implement 5S methodology at their workplace.

Organization whether manufacturing or services, implement 5S methodology for the reduction of wastage. But do these organizations have a standard platform for implementation of 5S? Do they know the concept of 5S? To answer these questions, the first objective was framed.

2. To determine the impact of 5S strategies on the efficiency of these manufacturing firms.

5S deals with sorting of unnecessary items for the necessary items, setting in order these items as per the use, keeping the workplace clean, standardizing and sustaining these 5S for making the manufacturing setup lean. But do these 5S impact the efficiency of the firm? Understanding this impact and advantage was the second objective of this study.

HYPOTHESIS

Implementation of 5S methodology has no significant difference on the efficiency of the Manufacturing firm.

LITERATURE REVIEW

(Agrahari, 2015) This paper on the Implementation of 5S Methodology in the Small Scale Industry concluded that implementation of 5S provides benefits to the organization in terms of Process development by cost reduction, Stock confinement, Better usage of workplace, Prevention of losing tools, Process growth, Increasing Efficiency, Shortening of time required for searching necessary things, Improved working conditions for workers. Maintenance of clean and neat layout

has increased the number of customers. Machine maintenance cost has been reduced. The standards of the company increased. Improvement in safety has supported in reducing the injuries of workers. Travel time of materials is reduced which led to reduction of work hazards. It gives a scope for Workers participation in the work area design and maintenance. Slips and falls of the material have been reduced.

(J. Michalska, 2007) This paper on the 5S methodology as a tool for improving organization concluded the implementation of 5S resulted in stock decrease, prevention of losing tools, safety improvements, increased machine efficiency, elimination of accidents. With respect to standardize and sustain methodology the benefits listed were reduction of industry pollution, increased awareness and morale and improvement in interhuman relations.

(Ghodrat, 2013) This study on the 5S implementation showed that it has an active impact on performance of organization. This study was performed on different companies with different kind of products and services and showed that 5S has had effect on organizational performance of all of them. It could be concluded that 5S is a useful quality management tool causes to improve performance in any organization without any limitation on different kinds of products or services.

(Rai, 2016) This study analyzed that 5s has positive effect on employees as well as organizational performance but there is lack of awareness among employees except few high tech firm who are known for TQM implementation and few top managers from both SMEs as well as from high tech firms. SMEs need to focus on 5s technique of quality management system. Another result comes out from the research is that employees are not feeling 100% responsible for 5s implementation this might be due lack of awareness and training for 5s.

(Young, 2014) This paper aimed at reviewing the use of 5S in health care sector. The study concluded that 5S can be applied to healthcare services with beneficial effects such as cleaner, organized, efficient workplaces for enhanced safety and increased productivity; reduction of inventory and supply costs and recapturing of valuable spaces and minimizing overhead costs. Sustain is a key to success.

RESEARCH METHODOLOGY

The population for the study was the small and medium manufacturing units of Nagpur region. 16 firms, 4 firms from each sector of chemical, manufacturing, agricultural products and automobile were put to the study. Out of 16 only 10 responded to the research survey.

Primary data was collected from the sample of 10 manufacturing organizations in Nagpur city. A structured questionnaire was used to collect the data from the respondents. The instrument comprised of 20 questions on the implementation and efficiency improvement because of 5S methodology.

Secondary data was collected related to 5S methodology with the help of various published journals, books and internet sources.

TABLE 1: DISTRIBUTION OF THE FIRMS ACCORDING TO THE SECTOR

S. No.	Sector	Type of firm	Total no. of firms	Percentage
1	Chemical	Anodising and colour anodizing	2	20 %
		Powder coating		
2	Manufacturing	Textile manufacturing	2	20%
		Furniture manufacturing		
3	Agriculture	Farm division	3	30%
		Farm equipment sector		
		Dairy sector		
4	Automobile	Auto component	3	30%
		Tractor		
		Automobile sector		
	Total		10	100

DATA ANALYSIS

Overall twenty parameters on the impact of 5S on the efficiency of the firm were studied. The table below shows the average responses and the standard deviation of the responses of the respondents on the given parameters. It can be seen that lowest mean values are obtained for easy accessibility of Tools and equipment/ essential items, time saving due to sorting and marking the position of the main passages and places of sorted items. Here the standard deviation is seen highest for Removal of waste material, nonconforming products and damaged tools and Easy maintenance of machines and equipment. This shows that there is an inconsistency in responses of respondents. Some organizations find that sorting removes the wastage material from the workplace and shining brings easy maintenance of machines. Some do not find relevance of sorting in waste material removal from the workplace. Shining or keeping the workplace clean do not confirm easy maintenance of machines for some firms.

TABLE 2

5S		Improvement in the following parameters that define the efficiency of workplace	Mean	Std. Deviation
S1 - Seiri	S1	Searching and receiving things/ tools	4.2	2.00
	S1	Maintaining the workplace clean	4.2	2.00
	S1	Removal of waste material, nonconforming products and damaged tools	4.7	3.08
	S1	Easy accessibility of Tools and equipment/ essential items	3.9	2.00
	S1	Time saving due to sorting	3.9	1.58
S2 - Seiton	S2	Marking the position of the main passages and places of sorted items.	3.9	1.58
	S2	Quick identification of items	4.2	2.55
	S2	Segregation of tools of regular use and specialized use	4.1	2.12
	S2	Reduction in time wasted in obtaining necessary items for an operation	4.1	2.00
S3 - Seiso	S3	Right thing is kept at the right place	4.8	2.00
	S3	Blockage removal	4.1	2.35
	S3	Easy maintenance of machines and equipment	4.7	3.08
	S3	Easy identification of faults and defects	4	1.58
S4 - Seiketsu	S4	improved productivity of the employee	4.4	2.35
	S4	Time saving due to standardization	4	1.87
	S4	Employees are adhered to their responsibilities	4.1	1.87
S5 - Shitsuke	S5	All the processes are carried out smoothly	4.3	2.55
	S5	Increased consciousness of staff.	4	2.00
	S5	Continual improvement of the organization/ work place	4.5	2.74
	S5	Improvement in the human relations & motivation	4.5	2.55

TABLE 3: SECTOR WISE SCORE AND MEAN f 5S

Sector		Sort	Strengthen	Shine	Standard	Sustain	5S
Chemical	Score	39	29	45	30	38	181
	Mean	19.5	14.5	22.5	15	19	90.5
Manufacturing	Score	42	34	44	34	44	198
	Mean	21	17	22	17	22	99
Agriculture	Score	58	50	59	49	65	281
	Mean	19.3	16.6	19.6	16.3	21.7	93.5
Automobile	Score	70	50	66	55	69	310
	Mean	23.3	16.6	22	18.3	23	103.2

The above table shows that mean response on the impact of 5S methodology on the efficiency of the firm is highest for automobile manufacturing sector. The lowest mean is seen for the agriculture manufacturing sector.

TESTING OF HYPOTHESIS

Data was collected on a likert scale of 5 points. The assumption made for this study was that 5S methodology implementation in an organization does not have any difference on the efficiency of the workplace. The null hypothesis of the study was that there is no significant difference between the implementation of 5S methodology and efficiency of the workplace. This hypothesis was tested using Chi-Square test. Here the expected responses from all the respondents were on the neutral side. This meant that the organizations that implemented 5S methodology had efficiency in their workplaces.

The significance level was considered to be 5%. And the degree of freedom (n-1) was 9. At 5% significance level the result obtained were as below.

TABLE 4

5S	p value	$\alpha = 0.05$	Accepting/ rejecting Null Hypothesis
Seiri	0.14	p value > α	Accept Ho
Seiton	0.16	p value > α	Accept Ho
Seiso	0.13	p value > α	Accept Ho
Seiketsu	0.21	p value > α	Accept Ho
Shitsuke	0.09	p value > α	Accept Ho

The Chi Square test proves that for all the 5S components, the null hypothesis has to be accepted. This means that when the organization implements all the components of 5S methodology, the overall efficiency of the organization increases. Highest p value was obtained or the fourth S that is 'Standardize'. This meant that the organizational efficiency was high due to the major contribution by the standardization of the first 3 S of the methodology.

FINDINGS AND CONCLUSION

The research study on the ten manufacturing units showed that 5S implementation has a remarkable impact on the workplace efficiency improvement. Automobile units of manufacturing sector showed highest mean on the efficiency level. Thus it can be concluded that proper sorting of things, setting in order all the required items based on the frequency of requirement, maintaining the workplace clean and tidy directly contribute to the productivity. Standardizing and Sustaining the first three S result in easy maintenance of machines and equipment, easy identification of faults and defects, improved productivity of the employee.

Employees also feel motivated to work, they are adhered to their responsibilities. Increased consciousness of staff is attended which ultimately results in continual improvement of the organization thereby contributing to the important principle of total Quality management.

REFERENCES

1. 5S Methodology. (n.d.). Retrieved from Wikipedia: [https://en.wikipedia.org/wiki/5S_\(methodology\)](https://en.wikipedia.org/wiki/5S_(methodology))
2. 5S: Sort, Set, Shine, Standardize, Sustain. (n.d.). Retrieved 12 2017, from <http://www.sixsigmadaily.com>: <http://www.sixsigmadaily.com/5s-sort-set-shine-standardize-sustain/>
3. Agrahari, R. S. (2015, April). Implementation of 5S Methodology in the Small Scale Industry: A Case Study. International Journal of Scientific & Technology Research, 180-187.
4. (2011). Five S. In K. Bedi, Quality Management (p. 480). Oxford University press.
5. (2015). In K. S. Bhat, Total Quality Management (p. 364). Himalaya Publishing House.
6. Ghodrati, A. (2013, March). The Impact of 5S Implementation on Industrial Organizations' Performance. International Journal of Business and Management Invention, 2(3), 43-49.
7. J. Michalska, D. S. (2007, October). The 5S methodology as a tool for improving the organisation. Journal of Achievements in Materials and Manufacturing Engineering, 24(2), 211-214.
8. Rai, P. (2016, January). EFFECTIVENESS OF 5S IMPLEMENTATION ON ORGANISATIONS PERFORMANCE. Abhinav International Monthly Refereed Journal of Research in Management and Technology, 5(1).
9. Young, F. Y. (2014, September). The Use of 5S in Healthcare Services: A Literature Review. International Journal of Business and Social Science, 5, 240-248.

REQUEST FOR FEEDBACK

Dear Readers

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

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

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

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

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

DISCLAIMER

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

ABOUT THE JOURNAL

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

Our Other Journals

