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CONTENT ANALYSIS OF “INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT”



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ABSTRACT

This paper attempts to highlights the quantitative assessment of status of the Journal by way of analyzing the various features of Journal “International Journal of Operations & Production Management”. During 2009-2013 a total of 277 Articles were published in the Journal “International Journal of Operations & Production Management” by researchers in various countries.

KEYWORDS: Content analysis, Authorship Pattern, communication channels, International Journal of Operations & Production Management,

INTRODUCTION

Content analysis is rapidly becoming less of a tool to be used in the experimental manipulation of the communication process. In these instances of experimental studies, systematic changes in content are made and documented through content analysis, and the audiences are observed for the effects of these changes.

The specific role to be played by content analysis in organizing for recall the world's store of recorded knowledge. Content analysis appears to have two general and major functions. The first is to provide the descriptive abstract of any document at a level and of such a nature as will indicate what information may be found in it. The second is to provide guidelines in transforming document content from one medium to another and in reducing content for ease of bibliographic access.

The “International Journal of Operation of Production Management” is an international, peer-reviewed journal published monthly that aims to provide a Communication medium for all those working in the operations management field.



OBJECTIVES OF THE STUDY

The main objective of the study is to analyze the content of International Journal of Operations & Production Management and make the quantitative assessment of status of the Journal by way of analyzing the following features of Journal

1. To find out year-wise growth of publications,
2. To find out Geographical distribution of research output,
3. To find out the authorship and collaboration pattern in the publication,
4. To find out the extent of international collaboration,
5. To find out the most productive authors in the field,
6. To find out organization – wise distribution of publication,
7. To find out the channels of communications used by the scientists and
8. To find out the high frequency keywords appeared in the channels of communication.

SCOPE & LIMITATION OF THE STUDY

Scope of study is restricted to the Journal of “International Journal of Operation of Production Management” published during 2009 to 2013. The papers presented in the Journal are analyzed using content analysis technique. The present study is limited to the total numbers of 277 papers published during 2009 to 2013.

HYPOTHESIS OF THE STUDY

The study consists of following hypothesis:

1. Authorship trend is towards multiple authored papers.
2. UK is the high productive country.
3. Majority of the affiliated Institution are from UK.

ANALYSIS OF “INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT”

In views of the objectives of the present study, analysis of “International Journal of Operation of Production Management” is presented further (International Journal of Operation of Production Management, 2013).

YEAR-WISE PUBLICATION PRODUCTIVITY AND COLLABORATION RATE

The word publication means the act of publishing .Productivity refers to measures of output from production processes, per unit of input. Collaboration is a recursive process where two or more people or organizations work together toward an intersection of common goals

Table 1: Year-Wise Publication Productivity and Collaboration Rate

| Year | Single authored publication | Multi authored publication | Total no. of publication | Collaboration Rate |
|--------------|-----------------------------|----------------------------|--------------------------|--------------------|
| 2009 | 2 | 50 | 52 | 0.96 |
| 2010 | 3 | 47 | 50 | 0.94 |
| 2011 | 3 | 50 | 53 | 0.94 |
| 2012 | 4 | 57 | 61 | 0.93 |
| 2013 | 1 | 60 | 61 | 0.98 |
| Total | 13 | 264 | 277 | 0.95 |

It can be observed from Table No.1, that during 2009-2013 a total of 277 Articles were published

in the International Journal of Operations & Production Management by researchers in various countries.

GEOGRAPHICAL DISTRIBUTION OF RESEARCH OUTPUT

Geographical distribution of research output means the article published from different countries. In political geography and international politics, a country is a political division of a geographical entity. Frequently, but not exclusively, a sovereign territory, the term is most commonly associated with the notions of both state and nation, and also with government.

Table 2: Country-Wise Distribution of Articles

| Sr. No. | Name of the Country | Publications | Percentage |
|---------|-------------------------------------|--------------|------------|
| 1 | UK | 180 | 34.29 |
| 2 | USA | 158 | 30.10 |
| 3 | Netherlands | 63 | 12.00 |
| 4 | Spain | 50 | 9.52 |
| 5 | Italy | 39 | 7.43 |
| 6 | Australia | 34 | 6.48 |
| 7 | Canada | 26 | 4.95 |
| 8 | Sweden | 25 | 4.76 |
| 9 | China | 21 | 4.00 |
| 10 | Denmark | 20 | 3.81 |
| 11 | Finland | 15 | 2.86 |
| 12 | Germany | 13 | 2.48 |
| 13 | France | 11 | 2.10 |
| 14 | India | 8 | 1.52 |
| 15 | New Zealand | 8 | 1.52 |
| 16 | Portugal | 8 | 1.52 |
| 17 | Belgium | 7 | 1.33 |
| 18 | Brazil | 7 | 1.33 |
| 19 | Ireland | 7 | 1.33 |
| 20 | Korea | 7 | 1.33 |
| 21 | Switzerland | 7 | 1.33 |
| 22 | Taiwan | 6 | 1.14 |
| 23 | Iran | 5 | 0.95 |
| 24 | South Korea | 5 | 0.95 |
| 25 | Japan | 4 | 0.76 |
| 26 | Hong Kong | 3 | 0.57 |
| 27 | Israel | 3 | 0.57 |
| 28 | Norway | 3 | 0.57 |
| 29 | Greece | 2 | 0.38 |
| 30 | Malaysia | 2 | 0.38 |
| 31 | Sri Lanka | 2 | 0.38 |
| 32 | Thailand | 2 | 0.38 |
| 33 | United Arab Emirates | 2 | 0.38 |
| 34 | One time countries cited by (1 X11) | 11 | 2.10 |
| | Total | 764 | 100 |

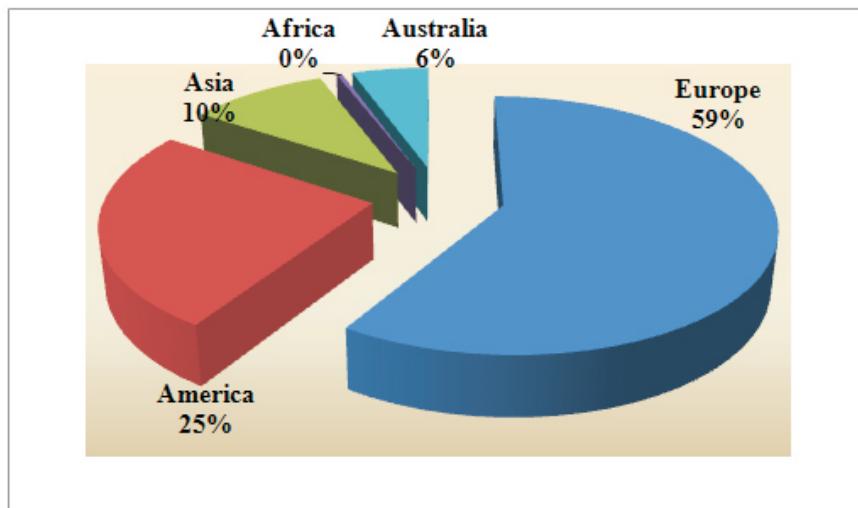


Figure 1: Country-Wise Distribution of Articles

It can be observed from Table No 2 and Figure No. 1 that, there were as many as 44 countries carrying out research and produced 277 articles. Table no.2 provides ranked List of countries contributing to this field, the number of publications of each country and their share in percentages. UK is the top producing country with 89 publications (34.29) of the total output. Therefore, the hypothesis, "UK is the high productive country" (Hypotheses No.2) is valid. It can be stated that UK being the publishing country the output is more than other country.

AUTHORSHIP AND COLLABORATION TREND:

Authorship is an observable phenomenon reflecting the contemporary scholarly practices clearly showing the communication, productivity and collaborative patterns and influences among researchers even though their quantities and qualities are not well understood. Collaboration in research is said to have taken place when 2 or more persons work together on a scientific problem of project and effort, both physical and intellectual. (Gupta, 1986).

Table 3: Authorship and Collaboration Trend

| Year | Single Author | Number of papers with various authorship | | | | | | | Total Publications |
|--------------|---------------|--|--------------|--------------|-------------|-------------|-------------|-------------|--------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | More than 6 | |
| 2009 | 2 | 18 | 25 | 6 | 0 | 0 | 1 | | 52 |
| 2010 | 3 | 23 | 14 | 9 | 1 | 0 | 0 | | 50 |
| 2011 | 3 | 17 | 28 | 2 | 2 | 0 | 1 | | 53 |
| 2012 | 4 | 19 | 27 | 8 | 1 | 2 | 0 | | 61 |
| 2013 | 1 | 25 | 20 | 9 | 5 | 0 | 1 | | 61 |
| Total | 13 | 102 | 114 | 34 | 9 | 2 | 3 | | 277 |
| % | 4.69 | 36.82 | 41.16 | 12.27 | 3.25 | 0.72 | 1.08 | | 100 |

It can be observed from Table No.3 that, year-wise authorship and collaboration trend is given in table 3. Authorship trend is towards multiple-authored papers. Single authored papers accounted for 4.69 %. Therefore, the hypothesis, "Authorship trend is towards multiple authored papers. (Hypothesis No.1) is valid.

INTERNATIONAL COLLABORATION PATTERN OF ARTICLES

The International collaborative production of articles is the simultaneous action of many people who try to combine their ideas to make a new one. In fact "collaborative" is the process where two or more people work together toward a common goal and they don't require leadership.

It can be observed from Table No.4 that, there was an only single international collaborative paper amongst UK and USA.

Table 4: International Collaboration Pattern of Articles

| No. of Countries | | | |
|------------------|--------------|---------------|--------------------------|
| Year | Single | Collaboration | Total No. of Publication |
| 2009 | 42 | 10 | 52 |
| 2010 | 32 | 18 | 50 |
| 2011 | 35 | 18 | 53 |
| 2012 | 39 | 22 | 61 |
| 2013 | 40 | 21 | 61 |
| Total | 188 | 89 | 277 |
| % | 67.87 | 32.13 | 100 |

MOST PRODUCTIVE AUTHOR

An author is defined both as "the person who originates or gives existence to anything" and as "one who sets forth written statements" in the Oxford English Dictionary (Fowler, 1988).

Table No. 5: Most Productive Author

| Sr. No. | Name of the Author | Country | No. of Publications | Rank |
|---------|------------------------|-----------------|---------------------|------|
| 1 | Alistair Brandon-Jones | UK | 6 | 1 |
| 2 | Dirk Pieter van Donk | The Netherlands | 6 | 1 |
| 3 | Chris Voss | UK | 5 | 2 |
| 4 | Christer Karlsson | DENMARK | 4 | 3 |
| 5 | Taco van der Vaart | The Netherlands | 4 | 3 |
| 6 | Benn Lawson | UK | 3 | 4 |
| 7 | Brian Fynes | Ireland | 3 | 4 |
| 8 | Daniel I. Prajogo | Australia | 3 | 4 |
| 9 | David Xiaosong Peng | USA | 3 | 4 |
| 10 | Frank Wiengarten | Spain | 3 | 4 |
| 11 | Gary Goertz | USA | 3 | 4 |
| 12 | Henk Akkermans | The Netherlands | 3 | 4 |
| 13 | Howard Lightfoot | UK | 3 | 4 |
| 14 | Jan Du | The Netherlands | 3 | 4 |
| 15 | Jan Olhager | Sweden | 3 | 4 |
| 16 | Kenneth W. Green | USA | 3 | 4 |
| 17 | Margaret Taylor | UK | 3 | 4 |
| 18 | Matteo Mura | Italy | 3 | 4 |
| 19 | Niall Piercy | UK | 3 | 4 |
| 20 | Pamela Danese | Italy | 3 | 4 |

| | | | | |
|----|--------------------------|-----------------|---|---|
| 21 | Pär Åhlström | Sweden | 3 | 4 |
| 22 | Roger G. Schroeder | USA | 3 | 4 |
| 23 | Steve Brown | UK | 3 | 4 |
| 24 | Steven A. Melnyk | USA | 3 | 4 |
| 25 | Abraham Nahm | USA | 2 | 5 |
| 26 | Adrian Wilkinson | Australia | 2 | 5 |
| 27 | Ahmed Abbas | New Zealand | 2 | 5 |
| 28 | Alan McKittrick | UK | 2 | 5 |
| 29 | Alan Wilson | UK | 2 | 5 |
| 30 | Aleda V. Roth | USA | 2 | 5 |
| 31 | Andrew Taylor | UK | 2 | 5 |
| 32 | Andrey Pavlov | UK | 2 | 5 |
| 33 | Angele Pieters | The Netherlands | 2 | 5 |
| 34 | Antonio K.W. Lau | China | 2 | 5 |
| 35 | Ari-Pekka Hameri | Switzerland | 2 | 5 |
| 36 | Barbara Caemmerer | UK | 2 | 5 |
| 37 | Ben Clegg | UK | 2 | 5 |
| 38 | Bernard J. Kornfeld | Australia | 2 | 5 |
| 39 | Brent Snider | Canada | 2 | 5 |
| 40 | Chin-Chun Hsu | USA | 2 | 5 |
| 41 | Christopher M. McDermott | USA | 2 | 5 |
| 42 | Danny Samson | Australia | 2 | 5 |
| 43 | Dotun Adebajo | UK | 2 | 5 |
| 44 | Eileen M. Van Aken | USA | 2 | 5 |
| 45 | Finn Wynstra | The Netherlands | 2 | 5 |
| 46 | Gensheng (Jason) Liu | USA | 2 | 5 |
| 47 | Gunter Lay | Germany | 2 | 5 |
| 48 | J.C. (Hans) Wortmann | The Netherlands | 2 | 5 |
| 49 | Jaydeep Balakrishnan | Canada | 2 | 5 |
| 50 | Jeffery S. Smith | USA | 2 | 5 |
| 51 | Jillian MacBryde | UK | 2 | 5 |
| 52 | John D. Hanson | USA | 2 | 5 |
| 53 | José Moyano-Fuentes | Spain | 2 | 5 |
| 54 | Keah Choon Tan | USA | 2 | 5 |
| 55 | Kevin Baird | Australia | 2 | 5 |
| 56 | Kim Sundtoft Hald | Denmark | 2 | 5 |
| 57 | Lawrence D. Fredendall | USA | 2 | 5 |
| 58 | M.B.M. de Koster | The Netherlands | 2 | 5 |
| 59 | Macarena Sacristán-Diaz | Spain | 2 | 5 |
| 60 | Marco Agliati | Italy | 2 | 5 |
| 61 | Marek Szwejczewski | UK | 2 | 5 |
| 62 | Mark Pagell | Canada | 2 | 5 |
| 63 | Martin Spring | UK | 2 | 5 |
| 64 | Matthias Holweg | UK | 2 | 5 |
| 65 | Mattias Hallgren | Sweden | 2 | 5 |

| | | | | |
|----|--|-----------------|------------|---|
| 66 | Merce Bernardo | Spain | 2 | 5 |
| 67 | Michael Lewis | UK | 2 | 5 |
| 68 | Mike Bourne | UK | 2 | 5 |
| 69 | Mike Sweeney | UK | 2 | 5 |
| 70 | Morgan Swink | USA | 2 | 5 |
| 71 | Nigel Slack | UK | 2 | 5 |
| 72 | Pamela J. Zelbst | USA | 2 | 5 |
| 73 | Paul Humphreys | UK | 2 | 5 |
| 74 | Pedro M. Reyes | USA | 2 | 5 |
| 75 | Pietro Micheli | UK | 2 | 5 |
| 76 | Ram Narasimhan | USA | 2 | 5 |
| 77 | Roberto Filippini | Italy | 2 | 5 |
| 78 | Robin Mann | New Zealand | 2 | 5 |
| 79 | Roger A. Calantone | USA | 2 | 5 |
| 80 | Sander de Leeuw | The Netherlands | 2 | 5 |
| 81 | Stefano Ronchi | Italy | 2 | 5 |
| 82 | Steffen Kinkel | Germany | 2 | 5 |
| 83 | Stephen Brammer | UK | 2 | 5 |
| 84 | Suhaiza Hanim Mohamad Zailani | Malaysia | 2 | 5 |
| 85 | Tim Baines | UK | 2 | 5 |
| 86 | Tipparat Laohavichien | Thailand | 2 | 5 |
| 87 | Tony Hak | Italy | 2 | 5 |
| 88 | Vedran Capkun | France | 2 | 5 |
| 89 | Authors publishing single paper (1x554) | | 554 | 6 |
| | Total | | 764 | |

It can be observed from Table No. 5 that, the most productive authors are Alistair Brandon-Jones and Dirk Pieter van Donk who had the highest number (6) of the publication. Christer Karlsson (Denmark) and Taco van der Vaart (The Netherlands) with 4 Publications each. 19 Authors with 3 publications, 64 Authors with 2 publications and 554 authors with single publication.

INSTITUTES WISE DISTRIBUTION OF ARTICLES PUBLISHED

Institution is a society or organization for the promotion of science, education etc. An institute is a permanent organizational body created for a certain purpose. Often it is a research organization (research institution) created to do research on specific topics. An institute can also be a professional body. In some countries institutes can be part of a university or other institution of higher education, either as a group of departments or an autonomous educational institution without a classic full university status such as a University Institute.

Table 6: Institutes wise distribution of articles

| Sr. No. | Name of the Institution | No. of publication | Rank |
|---------|---|--------------------|------|
| 1 | University of Strathclyde, Glasgow, UK | 12 | 1 |
| 2 | Faculty of Economics and Business Administration, VU University Amsterdam, Amsterdam, The Netherlands | 11 | 2 |
| 3 | Department of Management, Economics and Industrial Engineering, Politecnico di Milano, Milano, Italy | 8 | 3 |
| 4 | Bath School of Management, University of Bath, Bath, UK | 7 | 4 |
| 5 | Fraunhofer Institute for Systems and Innovation Research, Karlsruhe, Germany | 7 | 4 |
| 6 | Haskayne School of Business, University of Calgary, Calgary, Canada | 7 | 4 |
| 7 | Rotterdam School of Management, Erasmus University, Rotterdam, The Netherlands | 7 | 4 |
| 8 | Cranfield School of Management, Cranfield University, Cranfield, UK | 6 | 5 |
| 9 | Department of Management and Engineering, Linköping University, Linköping, Sweden | 6 | 5 |
| 10 | Faculty of Aerospace Engineering, Delft University of Technology, Delft, The Netherlands | 6 | 5 |
| 11 | Manchester Business School, Manchester, UK | 6 | 5 |
| 12 | Nottingham University Business School, The University of Nottingham, Nottingham, UK | 6 | 5 |
| 13 | Centre for Business Performance, Cranfield School of Management, Cranfield University, Cranfield, UK | 5 | 6 |
| 14 | Department of Accounting and Corporate Governance, Macquarie University, Sydney, Australia | 5 | 6 |
| 15 | Department of Management and Marketing, University of Melbourne, Melbourne, Australia | 5 | 6 |
| 16 | School of Management, Politecnico Di Milano, Milan, Italy | 5 | 6 |
| 17 | School of Mechanical and Manufacturing Engineering, The | 5 | 6 |

| | | | |
|----|--|---|---|
| | University of New South Wales, Sydney, Australia | | |
| 18 | Stockholm School of Economics, Centre for Innovation and Operations Management, Stockholm, Sweden | 5 | 6 |
| 19 | VU University Amsterdam, Amsterdam, The Netherlands | 5 | 6 |
| 20 | Bradford University School of Management, Bradford, UK | 4 | 7 |
| 21 | Centre for Innovation and Operations Management, Stockholm School of Economics, Stockholm, Sweden | 4 | 7 |
| 22 | Cranfield Innovative Manufacturing Research Centre, Cranfield University, Cranfield, UK | 4 | 7 |
| 23 | Department of Business Management, National Taipei University of Technology, Taipei, Taiwan, Republic of China | 4 | 7 |
| 24 | Department of Logistics and Operations Management, HEC Montreal, Montreal, Canada | 4 | 7 |
| 25 | Department of Management Science, Lancaster University Management School, Lancaster University, Lancaster, UK | 4 | 7 |
| 26 | Department of Management, Islamic Azad University, Science and Research Branch, Tehran, Iran | 4 | 7 |
| 27 | Department of Management, Monash University, Melbourne, Australia | 4 | 7 |
| 28 | Department of Marketing, Strathclyde University, Glasgow, UK | 4 | 7 |
| 29 | Department of Operations and Innovation Management, ESADE School of Business, Ramon Llull University, Barcelona, Spain | 4 | 7 |
| 30 | Department of Operations, Faculty of Economics and Business, University of Groningen, Groningen, The Netherlands | 4 | 7 |
| 31 | Department of Tranzo, Tilburg University, Tilburg, The Netherlands | 4 | 7 |
| 32 | Division of Operations Management, Chalmers University of Technology, Göteborg, Sweden | 4 | 7 |

| | | | |
|----|---|---|---|
| 33 | School of Business, Clarkson University, Potsdam, New York, USA | 4 | 7 |
| 34 | School of Management, Cardiff Metropolitan University, Cardiff, UK | 4 | 7 |
| 35 | Ulster Business School, University of Ulster, Newtownabbey, UK | 4 | 7 |
| 36 | Center for Industrial Production, Aalborg University, Aalborg, Denmark | 3 | 8 |
| 37 | Centre for International Service Research (ISR), University of Exeter Business School, Exeter, UK | 3 | 8 |
| 38 | Departamento de Organizacion de Empresas, Universidad del País Vasco, San Sebastian, Spain | 3 | 8 |
| 39 | Department of Business Administration, Business Management Faculty, University of Granada, Granada, Spain | 3 | 8 |
| 40 | Department of Business Administration, National Cheng-Chi University, Taipei, Taiwan, Republic of China | 3 | 8 |
| 41 | Department of Business and Production Engineering, Politenico di Torino University, Turin, Italy | 3 | 8 |
| 42 | Department of Industrial Engineering, Texas Tech University, Lubbock, Texas, USA | 3 | 8 |
| 43 | Department of Information Operations and Technology Management, College of Business Administration, University of Toledo, Toledo, Ohio, USA | 3 | 8 |
| 44 | Department of IT, HEC Montreal, Montreal, Canada | 3 | 8 |
| 45 | Department of Management and Engineering, University of Padova, Vicenza, Italy | 3 | 8 |
| 46 | Department of Management of Technology and Innovation, Rotterdam School of Management, Erasmus University, Rotterdam, The Netherland | 3 | 8 |
| 47 | Department of Management, University of Glasgow, Glasgow, UK | 3 | 8 |

| | | | |
|----|--|------------|----|
| 48 | Department of Management, University of Nebraska-Lincoln, Lincoln, Nebraska, USA | 3 | 8 |
| 49 | Department of Operations Management, Copenhagen Business School, Frederiksberg, Denmark | 3 | 8 |
| 50 | Department of Operations, Faculty of Economics and Business, University of Groningen, Groningen, The Netherlands | 3 | 8 |
| 51 | GIDEAO Research Group, Department of Finance and Operations Management, University of Seville, Seville, Spain | 3 | 8 |
| 52 | Grado Department of Industrial and Systems Engineering, Virginia Tech, Blacksburg, Virginia, USA | 3 | 8 |
| 53 | Judge Business School, University of Cambridge, Cambridge, UK | 3 | 8 |
| 54 | Marketing Department, Florida State University, Tallahassee, Florida, USA | 3 | 8 |
| 55 | Newcastle Business School, Northumbria University, Newcastle upon Tyne, UK | 3 | 8 |
| 56 | Operations & Information Management Group, Aston Business School, Aston University, Birmingham, UK | 3 | 8 |
| 57 | Operations and Management Science Department, Carlson School of Management, University of Minnesota, Minneapolis, Minnesota, USA | 3 | 8 |
| 58 | School of Industrial Engineering, Eindhoven University of Technology, Eindhoven, The Netherlands | 3 | 8 |
| 59 | School of Management, Politecnico di Milano, Milano, Italy | 3 | 8 |
| 60 | School of Management, University of Bath, Bath, UK | 3 | 8 |
| 61 | School of Management, University of Southampton, Southampton, UK | 3 | 8 |
| 62 | The Department of Management and Marketing, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, China | 3 | 8 |
| 63 | Thunderbird School of Global Management, Glendale, Arizona, USA | 3 | 8 |
| 64 | Institutions publishing 2 publication 2 x 226 | 452 | 9 |
| 65 | Institutions publishing 1 publication 1 x 280 | 280 | 10 |
| | Total | 778 | |

It can be observed from Table No. 6 that, there were 569 organizations involved in research activity. The organizations that have contributed in the publication during 2009-2013, University of Strathclyde, Glasgow, UK topped the list with 12 publication followed by VU University Amsterdam with 11 publications , Politecnico di Milano, Milano, Italy with 8 publications, 4 institutions with 7 publications, 5 institutions with 6 publications, 7 institutions with 5 publications, 16 institutions with 4 publications and 28 institutions with 3 publications, 226 institutions with 2 publications and 280 institutions with Single publication. Therefore the hypothesis "Majority of the affiliated institution are from UK (Hypothesis No.3) is valid".

DISTRIBUTION OF LITERATURE IN VARIOUS CHANNELS OF COMMUNICATION

Channel, in communications, refers to the medium used to convey information from a sender (or transmitter) to a receiver. Researchers communicated their publication through variety of communication channels

Table 7: Distribution of literature in various Channels of Communication

| Sr. No. | Channel of Communication | No. of Publication | Percentage |
|--------------|-----------------------------|--------------------|------------|
| 1 | Articles | 277 | 89.94 |
| 2 | Book review | 5 | 1.62 |
| 3 | Edition | 2 | 0.65 |
| 4 | Editorial | 5 | 1.62 |
| 5 | Call for paper | 3 | 0.97 |
| 6 | Acknowledgement of reviewer | 1 | 0.32 |
| 7 | Guest Editorial | 9 | 2.92 |
| 8 | Note for the publisher | 2 | 0.65 |
| 9 | Remembering Bob Johnston | 1 | 0.32 |
| 10 | Editor-in-Chief note | 1 | 0.32 |
| 11 | Awards for Excellence | 2 | 0.65 |
| Total | | 308 | 100 |

It can be observed from Table no..7 that, 89.94% of the Literature was published in Research papers followed by Guest Editorial , Book review, Editorial, Call for paper, Edition, Note for the publisher, Awards for Excellence, etc. (10.06%). The total content of International Journal of Operations & Production Management that is Editorial, Article, Book Reviews, etc. is analyzed.

DISTRIBUTION OF KEYWORDS

"A word occurring natural language text of documents or its surrogate that is considered significant for indexing and information retrieval". Keywords are the words that are used to reveal the internal structure of an author's reasoning. Keywords are one of the best scientometric indicators to understand the grasp instantaneously the thought content of the articles and to find out the growth of the subject field. By analyzing the keywords appeared either on the title or article will help in knowing in which direction the knowledge grows. (Feather and Sturgis, 2006).

Table No. 8: keywords

| Sr. No. | Keywords | Frequency | Rank |
|---------|----------------------------|-----------|------|
| 1 | Operations management | 63 | 1 |
| 2 | Supply chain management | 55 | 2 |
| 3 | Manufacturing industries | 25 | 3 |
| 4 | Performance management | 24 | 4 |
| 5 | Organizational performance | 16 | 5 |
| 6 | Product development | 14 | 6 |
| 7 | Competitive advantage | 11 | 7 |
| 8 | Lean production | 11 | 7 |
| 9 | Quality management | 11 | 7 |
| 10 | Australia | 10 | 8 |
| 11 | Buyer-seller relationships | 10 | 8 |
| 12 | Innovation | 9 | 9 |
| 13 | Manufacturing systems | 9 | 9 |
| 14 | Performance measures | 9 | 9 |
| 15 | Operational capabilities | 8 | 10 |
| 16 | Spain | 8 | 10 |
| 17 | United States of America | 8 | 10 |
| 18 | China | 7 | 11 |
| 19 | Operations strategy | 7 | 11 |
| 20 | Automotive industry | 6 | 12 |
| 21 | Strategic alignment | 6 | 12 |
| 22 | Strategic manufacturing | 6 | 12 |
| 23 | Supplier relations | 6 | 12 |
| 24 | Suppliers | 6 | 12 |
| 25 | Total quality management | 6 | 12 |
| 26 | Benchmarking | 5 | 13 |
| 27 | Canada | 5 | 13 |
| 28 | Change management | 5 | 13 |
| 29 | Collaboration | 5 | 13 |
| 30 | Critical success factors | 5 | 13 |
| 31 | Decision making | 5 | 13 |
| 32 | Hospitals | 5 | 13 |
| 33 | Human resource management | 5 | 13 |
| 34 | Integration | 5 | 13 |
| 35 | Management strategy | 5 | 13 |
| 36 | Outsourcing | 5 | 13 |
| 37 | Project management | 5 | 13 |
| 38 | Purchasing | 5 | 13 |

| | | | |
|----|------------------------------|---|----|
| 39 | Service industries | 5 | 13 |
| 40 | United Kingdom | 5 | 13 |
| 41 | Business performance | 4 | 14 |
| 42 | Cross-functional integration | 4 | 14 |
| 43 | Customer service management | 4 | 14 |
| 44 | Electronic commerce | 4 | 14 |
| 45 | Germany | 4 | 14 |
| 46 | India | 4 | 14 |
| 47 | Italy | 4 | 14 |
| 48 | Knowledge management | 4 | 14 |
| 49 | Literature review | 4 | 14 |
| 50 | Logistics | 4 | 14 |
| 51 | New product development, | 4 | 14 |
| 52 | New products | 4 | 14 |
| 53 | Organizational culture | 4 | 14 |
| 54 | Organizational innovation | 4 | 14 |
| 55 | Production planning | 4 | 14 |
| 56 | quality | 4 | 14 |
| 57 | Senior management | 4 | 14 |
| 58 | Servitisation | 4 | 14 |
| 59 | Supply chain integration | 4 | 14 |
| 60 | Survey research | 4 | 14 |
| 61 | The Netherlands | 4 | 14 |
| 62 | Transactional leadership | 4 | 14 |
| 63 | Aerospace industry | 3 | 15 |
| 64 | Case studies | 3 | 15 |
| 65 | Channel relationships | 3 | 15 |
| 66 | Communication technologies | 3 | 15 |
| 67 | Competitive strategy | 3 | 15 |
| 68 | Consumer behavior | 3 | 15 |
| 69 | Contingency planning | 3 | 15 |
| 70 | Contingency theory | 3 | 15 |
| 71 | Continuous improvement | 3 | 15 |
| 72 | Corporate strategy | 3 | 15 |
| 73 | Distribution management | 3 | 15 |
| 74 | Enterprise resource planning | 3 | 15 |
| 75 | Environmental performance | 3 | 15 |

| | | | |
|-----|--------------------------------------|-------------|----|
| 76 | Financial performance | 3 | 15 |
| 77 | Global operations management | 3 | 15 |
| 78 | Globalization | 3 | 15 |
| 79 | Health care | 3 | 15 |
| 80 | Health services | 3 | 15 |
| 81 | Information technology | 3 | 15 |
| 82 | ISO 9000 series | 3 | 15 |
| 83 | Lean | 3 | 15 |
| 84 | Learning | 3 | 15 |
| 85 | Managers | 3 | 15 |
| 86 | Manufacturing resource planning | 3 | 15 |
| 87 | Manufacturing strategy | 3 | 15 |
| 88 | Mass customization | 3 | 15 |
| 89 | Performance | 3 | 15 |
| 90 | Process improvement | 3 | 15 |
| 91 | Process planning | 3 | 15 |
| 92 | Product innovation | 3 | 15 |
| 93 | Product management | 3 | 15 |
| 94 | Production management | 3 | 15 |
| 95 | Production processes | 3 | 15 |
| 96 | Service | 3 | 15 |
| 97 | Simulation | 3 | 15 |
| 98 | Six sigma | 3 | 15 |
| 99 | Small to medium-sized enterprises | 3 | 15 |
| 100 | Strategic management | 3 | 15 |
| 101 | Strategic objectives | 3 | 15 |
| 102 | Survey | 3 | 15 |
| 103 | Team vision | 3 | 15 |
| 104 | Time to market | 3 | 15 |
| 105 | Senior managers | 3 | 15 |
| 106 | Key words having frequency (2 x 94) | 188 | 16 |
| 107 | Key words having frequency (1 x 512) | 512 | 17 |
| | Total | 1529 | |

It can be observed from Table No. 8 that, the high frequency keywords were Operations management (63), Supply chain management (55), Manufacturing industries (25), Performance management (24) Organizational performance (16), Product Development (14) Competitive advantage

(11),Lean production (11),Qualitative management (11), Australia (10), Table gives a list of keywords appeared in the articles.

CONCLUSION

The International Journal of Operations & Production Management looks at the managerial problems of developing and implementing operations plans and systems. Drawing on the experiences of both service and manufacturing industry sectors, in both private and public settings, the Journal has become a widely respected resource in a complex and increasingly important field in business management.

The Collaboration rate of articles published per year was 0.95.The highest numbers of Articles 61 each were produced in 2012 and 2013 respectively. There were as many as 44 countries carrying out research and Produced 89 articles.UK is the top producing country with 62 publications (34.29) of the total output. Authorship trend is towards single-authored papers. Single authored papers accounted for 4.69 %. There was only one international collaborative paper amongst UK and USA. The most prolific author is Alistair Brandon-Jones and Dirk Pieter van Donk who had the highest number (6) of the publication. There were 569 organizations involved in research activity. Keywords are one of the best scientometric indicators to understand the grasp instantaneously the thought content of the articles and to find out the growth of the subject field. By analyzing the keywords appeared either on the title or article will help in knowing in which direction the knowledge grows. The high frequency keywords were Operations management (63), Supply chain management (55), Manufacturing industries (25), Performance management (24) Organizational performance (16), Product Development (14) Competitive advantage (11),Lean production (11),Qualitative management (11), Australia (10), Table gives a list of keywords appeared in the articles.

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