INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT



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

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 3412 Cities in 173 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

CONTENTS

Sr.	TITLE & NAME OF THE AUTHOR (S)	Page
No.		No.
1.	PARADIGM SHIFT IN TEACHING AND LEARNING: BOTSWANALISATION OF THE LEARNING ARCHITECTURE BASED ON COLLABORATIVE CONSTRUCTIVISM RODRECK CHIRAU, MUKAI TURUGARE & RANGANAI TURUGARE	1
2.	BEHAVIORAL STUDY OF RELIABILITY CHARACTERISTICS OF A SYSTEM MODEL WITH BIVARIATE EXPONENTIAL FAILURE AND REPAIR TIMES PAWAN KUMAR	8
3.	TEACHING – IS IT A PROFESSION OR PROCESSION? DR. JEEMON JOSEPH	14
4.	CONSUMER PREFERENCES TOWARDS CONSTRUCTED HOUSES IN INDORE CITY ANKITA PANDEY, DR. AVINASH DESAI & DR. RAJESHRI DESAI	17
5.	DATA MINING IN HIGHER EDUCATION: A SURVEY SANJIV DATTA	23
6.	EFFECTS OF INTERNATIONAL BUSINESS ON DEVELOPING COUNTRIES ALPANA	26
7.	SPICE ROUTE INDIA SHUBHADA GALA	32
8.	CHALLENGES FACED BY HORTICULTURE BUSINESS IN JAMMU AND KASHMIR STATE AASIM MIR	35
9.	PERMANENT IDENTIFICATION OF SKIN MARKS (PISM): A HYBRID APPROACH FOR ROBUST FACE RECOGNITION NEHA VERMA, SUMIT PAL SINGH KHERA & YASMIN SHAIKH	41
10.	APPLICATION OF QUALITY CONTROL CHART IN MANUFACTURING INDUSTRIES USING A LOSS FUNCTION APPROACH OBAFEMI, O.S., IGE, S.O. & IBRAHEEM, A.G	44
11.	CHALLENGES ON ICT IMPLEMENTATION AND RECOMMENDATIONS DR. V. BALACHANDRAN, KALIYAPERUMAL KARTHIKEYAN & A. NAMACHIVAYAM	50
12.	AVAILABILITY OF POWER SUPPLY FOR INDUSTRIAL DEVELOPMENT IN NIGERIA: A CASE STUDY OF ODOGBE FARMS LTD. OKHUELEIGBE E.I. & IBRAHEEM U.F.	54
13.	A ROLE OF SMALL INDUSTRIAL DEVELOPMENT BANK IN THE DEVELOPMENT OF SMALL SCALE INDUSTRIES AT BANGALORE: AN EMPIRICAL STUDY BHAVESH RATHOD & KIRAN KUMARTHOTI	57
14.	MVA AND EVA IN TOP TEN SOFTWARE COMPANIES IN INDIA: ANOVA N.SARANYA	60
15.	THE STUDIES ON UNDERSTANDING THE DEMOGRAPHICS OF CUSTOMERS' AND THEIR ATTITUDES TOWARDS (CRM) PRACTICES: AN EXPLORATORY STUDY OF THE FIVE SELECT PUBLIC SECTOR BANKS IN ODISHA SWAYAMBHU KALYAN MISHRA	66
	REQUEST FOR FEEDBACK & DISCLAIMER	70

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

DR. SAMBHAV GARG

Faculty, Shree Ram Institute of Business & Management, Urjani

ADVISORS

DR. PRIYA RANJAN TRIVEDI

Chancellor, The Global Open University, Nagaland

PROF. M. S. SENAM RAJU

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

PROF. S. L. MAHANDRU

Principal (Retd.), MaharajaAgrasenCollege, Jagadhri

EDITOR

PROF. R. K. SHARMA

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

EDITORIAL ADVISORY BOARD

DR. RAJESH MODI

Faculty, YanbuIndustrialCollege, Kingdom of Saudi Arabia

PROF. PARVEEN KUMAR

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

PROF. H. R. SHARMA

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

PROF. MANOHAR LAL

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

PROF. ANIL K. SAINI

Chairperson (CRC), GuruGobindSinghl. P. University, Delhi

PROF. R. K. CHOUDHARY

Director, Asia Pacific Institute of Information Technology, Panipat

DR. ASHWANI KUSH

Head, Computer Science, UniversityCollege, KurukshetraUniversity, Kurukshetra

DR. BHARAT BHUSHAN

Head, Department of Computer Science & Applications, GuruNanakKhalsaCollege, Yamunanagar

DR. VIJAYPAL SINGH DHAKA

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

DR. SAMBHAVNA

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

DR. MOHINDER CHAND

Associate Professor, KurukshetraUniversity, Kurukshetra

DR. MOHENDER KUMAR GUPTA

Associate Professor, P.J.L.N.GovernmentCollege, Faridabad

DR. SAMBHAV GARG

Faculty, Shree Ram Institute of Business & Management, Urjani

DR. SHIVAKUMAR DEENE

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

DR. BHAVET

Faculty, Shree Ram Institute of Business & Management, Urjani

<u>ASSOCIATE EDITORS</u>

PROF. ABHAY BANSAL

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

PROF. NAWAB ALI KHAN

Department of Commerce, AligarhMuslimUniversity, Aligarh, U.P.

ASHISH CHOPRA

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

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

		DATED:
THE EDITOR IJRCM		
Subject: SUBMISSION OF MANUSCRI	IPT IN THE AREA OF	
(e.g. Finance/Marketing/HRM/General	l Management/Economics/Psychology/Law/C	omputer/IT/Engineering/Mathematics/other, please specify)
DEAR SIR/MADAM		
Please find my submission of manuscrip	t entitled '	' for possible publication in your journals.
I hereby affirm that the contents of this under review for publication elsewhere.	, ,	neither been published elsewhere in any language fully or partly,
under review for publication elsewhere.		
·		inuscript and their inclusion of name (s) as co-author (s).
I affirm that all the author (s) have seen	and agreed to the submitted version of the ma	
I affirm that all the author (s) have seen Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR:	and agreed to the submitted version of the ma	
Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR: Designation:	and agreed to the submitted version of the mad, I/We agree to comply with the formalities	inuscript and their inclusion of name (s) as co-author (s). as given on the website of the journal & you are free to pub
Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR: Designation: Affiliation with full address, contact num	and agreed to the submitted version of the mad, I/We agree to comply with the formalities	
Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR: Designation: Affiliation with full address, contact num Residential address with Pin Code:	and agreed to the submitted version of the mad, I/We agree to comply with the formalities	
Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR: Designation: Affiliation with full address, contact num	and agreed to the submitted version of the mad, I/We agree to comply with the formalities	
Also, if my/our manuscript is accepted contribution in any of your journals. NAME OF CORRESPONDING AUTHOR: Designation: Affiliation with full address, contact num Residential address with Pin Code: Mobile Number (s):	and agreed to the submitted version of the mad, I/We agree to comply with the formalities	

- 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)
- 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.
- 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.
- 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.
- NUSCRIPT TITLE: The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.
- OR NAME (S) & AFFILIATIONS: The author (s) full name, designation, affiliation (s), address, mobile/landline numbers, and email/alternate email 3. address should be in italic & 11-point Calibri Font. It must be centered underneath the title.
- 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 <u>BRITISH ENGLISH</u> prepared on a standard A4 size <u>PORTRAIT SETTING PAPER</u>. 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

MVA AND EVA IN TOP TEN SOFTWARE COMPANIES IN INDIA: ANOVA

N.SARANYA RESEARCH SCHOLAR VELLALAR COLLEGE FOR WOMEN THINDAL

ABSTRACT

Today India is home to some of the finest software companies in the world. The software companies in India are reputed across the globe for their efficient IT and business related solutions. With the huge success of the software companies in India, the Indian software industry in turn has become successful in making in the global arena. This industry has been instrumental in driving the economy of the nation on to a rapid growth curve. As per the study of NASSCOM the IT/TES industry recorded a growth of 4 – 7 percent in the year 2010. The IT/ITes sector has lead to employment opportunities, both direct and indirect, of nearly 2.8 million and around 8.9 million (direct and indirect) by 2015 and to around 30 million by 2030. The software industry has a strong future regardless of whether its products or as a service, or as a component or in packaged form. The software industry is going through a rapid and significant transition. India's domination in the IT and software sector and its growing reputation as one of the world's best outsourcing destinations have created good basis for future prospects. The key to creating wealth is adding value. Adding value is the way that all fortunes are made. In many studies relating to EVA and MVA, the twin wealth creation measures were established. Even though in the present study, most of the companies have observed negative and low positive EVA, their MVA performance is good. This implies that the wealth creation has the direct influence on market forces.

KEYWORDS

MVA, EVA, software companies.

1.1 INTRODUCTION

oday India is home to some of the finest software companies in the world. The software companies in India are reputed across the globe for their efficient IT and business related solutions. With the huge success of the software companies in India, the Indian software industry in turn has become successful in making in the global arena. This industry has been instrumental in driving the economy of the nation on to a rapid growth curve. As per the study of NASSCOM the IT/TES industry recorded a growth of 4 – 7 percent in the year 2010.

The IT/ITes sector has lead to employment opportunities, both direct and indirect, of nearly 2.8 million and around 8.9 million (direct and indirect) by 2015 and to around 30 million by 2030. The market size of the industry is expected to rise to USD 225 billion by 2020 considering India's competitive position, growing demand for exports, Government policy support and increasing global footprint. IT/ITes industry has led India's economic growth and this sector's contribution to the national GDP has risen from 1.2 per cent in 1997 – 98 to 7.5 per cent in 2011 – 12.

1.2 STATEMENT OF THE PROBLEM

The Indian IT sector has proved to be the country's fastest growing segment, even in troubled times. The software and services industry, a major component of India's IT sector, showed significant momentum, higher than that of other industries in the country. India continued to be a compelling investment destination, as leading companies either set up shop here or enhanced their existing infrastructure. The IT services sector has witnessed tremendous growth in the last decade fuelled by an increasing number of business expansion, acquisitions and green field projects funded both with domestic and foreign private investment. Some of the services typically rendered by the IT companies include Application Development (AD), Application management (AM), consulting and testing services performed either off shore (in India) or onsite (at the client location outside India). India has become one of the most favored destinations for outsourcing and IT Enabled Services (ITES).

- How were the movements of MVA & EVA of the selected companies?
- ➤ What are the factors influencing EVA & MVA?

1.3 OBJECTIVES OF THE STUDY

To gain an insight into the problem highlighted earlier, the following objectives have been framed for the study.

- To study the significance of income and cost variables in EVA, MVA & Value Addition.
- To find out the influence of select financial variables on EVA and MVA.
- To recapitulate the key findings and suggestions.

1.4 METHODOLOGY

The methodology followed to carry out the study has been presented below:

1.4.1 SELECTION OF COMPANIES

The companies selected for the present study are

- 1. Tata Consultancy Services
- 2. Wipro
- Infosys tech Ltd
- 4. Satyam Computer Services
- 5. Hindustan Computers Limited
- 6. Tech Mahindra
- 7. International Business Machines
- 8. Patni Computer Services
- 9. Mphasis
- 10. Larsen & Turbro infotech Ltd

1.4.2 STUDY PERIOD

The study pertains to a period of ten financial years from 2002 - 2003 to 2011 - 2012.

1.4.3 SOURCES OF DATA

The study is based on secondary data. Data were obtained from capital line database available in KSR Institute of Technology, Tiruchengodu. Company profiles and additional literature were collected from magazines, newspaper and various websites.

1.4.4 SELECTION OF VARIABLES

In the present study, a number of key financial variables have been identified for the purpose of analysis and they are: EVA, MVA, Accounting profit and Value Addition. Computation of these variables has been made for a period of ten years.

1.5 LIMITATIONS OF THE STUDY

- The study covers a decade from 2002 2003 to 2011 2012. It does not consider the changes that have been taken place before and after the study period.
- The study is based on financial accounting data; it is subject to the inherent limitations of accounting and accounting practices.
- The present study is confined to top ten software companies only. All other companies are not taken into account.
- Risk free rate of return can be taken either as Interest rate of Government Bonds or Average cost of time deposits of Scheduled Commercial Banks in India. In this study, average cost of time deposits of scheduled Commercial Banks in India is taken as risk free rate of return and it has been collected from "Bank of Baroda", Thindal Branch, Thindal, Erode, Tamilnadu.

2. RESEARCH METHODOLOGY

2.1 ZENG AND PING ANALYSIS ON EVA OF TOURIST INDUSTRY

Zeng and Ping (2010) performed a study on EVA of Tourist Industry. In this study, to overcome the limitations of the traditional indicators of business performance, shareholders performance evaluation method of EVA is used. In this paper, empirical, calculating the study in 2009 listed companies in China's tourist EVA, and comprising with the traditional accounting performance evaluation, through the empirical analysis of EVA used on operating performance of China's tourist listed companies, it is concluded that it convince more force than the net profit and net operating cash flow.

2.2 BHANAWAT, SHURVEER'S STUDY OF SHAREHOLDERS' WEALTH CREATORS AND DESTROYERS IN DIFFERENT SECTORS OF INDIAN MANUFACTURING INDUSTRY

Bhanawat, Shurveer's (2011) study made an attempts to measure the shareholders' wealth in terms of Economic Value Added (EVA) for different sectors of Indian manufacturing industry. The top five wealth creator and wealth destroyer sample units have been identified on the basis of five-year average amount of EVA generated by them during 2003-04 to 2007-08. The mean EVA generated by the Indian manufacturing industry during the study period is 929.14 cr. The cement industry showed very high fluctuations in EVA generation during the study period, while the FMCG industry reported consistency in the amount of EVA generation over the five-year span. ANOVA results show that there is no significant difference in the mean values of EVA of different sectors of Indian manufacturing sector. Hence, it can be concluded that the mean value of EVA of the selected sample units represent the mean value of the Indian manufacturing industry.

3. MVA & EVA ANALYSIS OF SELECTED COMPANIES

TABLE 3.1: MVA OF TOP 10 SOFTWARE COMPANIES (RS.IN CRORES)3.1 MARKET VALUE ADDED (MVA)

Year /	TCS	Infosys	Wipro	IBM	Tech	Patni	L&T info	Satyam	Mphasis	HCL
company		-			Mahindra	computer	tech Ltd	computer	_	
name						services		services		
2003	54,839.94	29,903.54	25,236.68	5,528.99	15,379.32	2,278.67	63.08	3,430.95	158.06	162.79
2004	58,517.42	29,654.92	28,132.53	9,234.91	6,313.46	1,837.27	128.90	6,701.04	1,570.86	639.87
2005	65,467.40	55,705.37	42,322.97	9,720.94	6,996.60	3,301	142.28	9,824.52	1,179.18	1,739.83
2006	88,051.03	75,241.81	73,207.50	21,942.92	8,967.92	4,274.67	166.13	23,216.83	2,821.15	1,065.28
2007	112,427.5	101,110.60	72,029.34	23,201.66	16,410.68	3,155.40	1,693.68	25,471.29	3,794.98	2,682.92
2008	68,450.72	68,313.97	50,544.91	15,548.95	7,350.13	538.82	2,706.99	19,096.16	3,193.89	2,890.84
2009	39,498.72	58,039.43	23435.73	-10,761.90	1,346.77	-871.07	1,535.09	3,106.69	2,992.80	3,739.19
2010	137,803.20	128,025	86,080.97	-4125.14	7,573.42	3,717.91	2,053.85	8,594.48	10,982.57	2,749.04
2011	211,961.90	161,337.50	96,074.19	-11,743.60	5,128.70	3,399.69	2,406.98	5,574.72	5,816.71	2,063.82
2012	203,817.40	134,757	83,586.90	-15.318.70	5,731.37	3,322.55	3,087.57	6,123.05	5,086.05	1,973.78

Sources: Secondary Data

Market Value Added (MVA) is the difference between the current market value of a firm and the capital contributed by investors. If the MVA is positive, the firm has added value. If it is negative, the firm has diminished value. The amount of value added needs to be greater than the firm's investors could have achieved investing in the market portfolio, adjusted for the leverage (beta coefficient) of the firm relative to the market.

Market Value Added = Market capitalization + Net worth

Table 3.1 explains the MVA performance of selected software companies during the study period from 2002 – 2003 to 2011 – 12. The MVA values of TCS, Infosys, Wipro, Tech Mahindra, L&T info tech Ltd, Satyam Computer services, Mphasis and HCL companies are found to be positive, because the increase in market capitalization could match the networth in those years.

MVA of IBM shows a highly fluctuating trend with MVA showing negative signs in four out of ten years of the study. Though MVA performance is quite encouraging from 2003 to 2007, it is as low as Rs. 5,528.99 Crores in 2003. MVA of Patni computer services shows a highly fluctuating trend with MVA showing negative signs in one out of ten years of the study. Though MVA performance is quite encouraging from 2004 to 2006, it is as low as Rs. 538.82 Crores in 2008

ECONOMIC VALUE ADDED (EVA)

EVA stands as a unique tool amongst most others because it includes a change against profit for the cost of the entire capital that a company employs. This helps the management in producing much more wealth for shareholders, customers and their own selves.

Economic Value Added (EVA) = Net Operating Profit After Tax - Cost of Capital Employed

Table 3.2 highlights the EVA values of TCS shows a highly fluctuating trend with EVA showing negative signs in six out of ten years of study. Though EVA performance is quite encouraging in 2011 and it is as low as 5,031.07 in 2005.

The EVA values of Infosys, Wipro, IBM, Patni computer services, L & T info tech Ltd, Mphasis and HCL companies are found to be positive, because the increase in Net operating profit after tax could match the Cost of capital employed in those years.

EVA of Tech Mahindra shows a highly fluctuating trend with EVA showing negative signs in four out of ten years of the study. Though EVA performance is quite encouraging from 2009 to 2011, it is as low as 144.66 in 2004.

EVA of Satyam computer services shows a highly fluctuating trend with EVA showing negative signs in three out of ten years of the study. Though EVA performance is quite encouraging from 2004 to 2008, it is as low as 403.47 in 2005.

TABLE 3.2: EVA OF TOP 10 SOFTWARE COMPANIES (Rs.IN CRORES)

Year /	TCS	Infosys	Wipro	IBM	Tech	Patni computer	L&T info	Satyam	Mphasis	HCL
company					Mahindra	services	tech Ltd	computer		
name								services		
2003	-363.17	397.45	1,322.10	4,408.85	-373.76	113.11	1,782.82	-415.09	5,612.17	1,012.15
2004	1,089.82	857.89	1,514.98	4,518.41	144.66	168.36	1,592.27	514.85	3,442.33	1,115.79
2005	5,031.07	1,352.91	2,070.46	3,492.80	-219.75	273.65	1,352.53	403.47	7,710.68	889.89
2006	-17,448.4	1,741.29	2,393.40	101,166	-88.24	190.13	986.76	680.47	6,190.42	914.54
2007	-22,891.2	3,454.58	2,647.09	2,890.36	-224.28	211.08	945	942.84	6,146.39	970.07
2008	62,935.18	6,190.18	7,374.41	11,613.84	1,137.47	684.68	868.42	2,309.30	11,249.33	1,026.64
2009	-82,616.4	4,887.34	3,287.04	3,034.91	289.48	510.97	376.60	-8,789.76	8,957.71	1,131.08
2010	-8,815.29	5,872.49	5,880.21	7,167.15	783.98	883.49	879.89	-225.64	12,093.28	1,273.99
2011	69,867.02	7,638.95	5,575.94	11,822.14	1,274.78	1,251.25	1,039.07	804.42	11,164.19	1,531.51
2012	-33,842.64	7,969.50	5,208.15	7,010.09	374.04	839.57	551.37	861.72	13,394.27	1,654.30

Sources: Secondary data

4. ANALYSIS OF VARIANCE (ANOVA)

One-Way ANOVA procedure to test the hypothesis that the means of two or more groups are not significantly different. One-Way ANOVA also offers:

- Group-level statistics for the dependent variable
- A test of variance equality
- A plot of group means
- Range tests, pair wise multiple comparisons, and contrasts, to describe the nature of the group differences
- The ANOVA test is conducted between the groups (EVA, NOPAT, MVA and Value Addition) which were formed on the basis of positivity of MVA. Value Addition is computed by the following rearrangement of the income statement as in Evraert and Riahi-Belkaou (1998):
- S-B = W + I + DP + T + R (or)
- S-B-DP = W + I + D + T + R
- Where
- R = Retained earnings
- S = Sales revenue
- B = Bought-in material and services
- DP = Depreciation
- W = Wages
- I = Interest
- D = Dividends
- T = Taxes
- VA= Value Addition

TABLE 4 1: CALCULATION OF VALUE ADDITION OF TCS

		IADLE 4.1.	CALCOLATIO	DIV OF VALUE AL	DITION OF I		
Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	4,914.70	1,012.70	15.2	92.9	283.02	220.5	3,290.38
2004	6,782.82	2,678.98	8.2	118.84	438.42	1.49	3,536.89
2005	8,051.10	3,967.52	10.4	133.22	552.13	280.76	3,107.07
2006	11,230.50	5,113.96	4.49	257.38	660.56	319.45	4,874.66
2007	14,939.97	6,186.85	3.43	343.41	1,125.39	410.8	6,870.09
2008	18,533.72	6,015.19	3.42	458.78	1,370.05	457.58	10,228.70
2009	22,401.92	7,370.09	7.44	417.46	1,370.05	340.37	12,896.51
2010	23,044.45	7,882.43	9.54	469.35	3,914.43	737.89	10,030.81
2011	29,275.41	10,190.31	20.01	537.82	2,740.10	1,130.44	14,656.73
2012	38,858.54	14,100.41	16.4	688.17	4,893.04	2,260.86	16,899.66

TABLE 4.2: CALCULATION OF VALUE ADDITION OF WIPRO

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	3,992.01	642.47	3	137.94	23.26	89.3	3,096.04
2004	5,134.89	864.44	3.41	151.6	675	141.27	3,299.17
2005	7,233.16	2,878.53	7.46	185.97	351.79	255.15	3,554.26
2006	10,227.12	4,279.03	2.13	292.26	712.88	286.1	4,654.72
2007	13,683.90	5,768.20	2.64	359.8	873.7	334.1	6,345.46
2008	17,492.60	7,409.10	32.6	456	876.5	406.4	8,312.00
2009	21,507.30	9,249.80	40.66	533.6	586	574.1	10,523.14
2010	22,922.00	9,062.80	12.02	579.6	880.9	790.8	11,595.88
2011	26,300.50	10,937.40	9.13	600.1	981.8	861.8	12,910.27
2012	31,682.90	13,223.70	6.65	739.5	1,475.20	1,233.50	15,004.35

TABLE 4.3: CALCULATION OF VALUE ADDITION OF INFOSYS

	- 1	ADLL 4.3. CAI	COLATION	OF VALUE ADDI	TION OF INFO	/313	
Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	3,622.69	1,677.12	518.21	188.95	178.81	199.5	860.10
2004	4,760.89	2,367.35	426.73	230.9	862.46	227.49	645.96
2005	6,859.66	3,183.25	384.02	268.22	309.8	325.3	2,389.07
2006	9,028.00	4,274.00	310.9	409	1,238.00	303	2,493.10
2007	13,149.00	6,316.00	235.84	469	649	352	5,127.16
2008	15,648.00	7,771.00	195.41	546	1,902.00	630	4,603.59
2009	20,264.00	9,975.00	250.29	694	1,345.00	895	7,104.71
2010	21,140.00	10,356.00	193.73	807	1,434.00	1,717.00	6,632.27
2011	25,385.00	12,464.00	488.2	740	3,445.00	2,378.00	5,869.80
2012	31,254.00	15,481.00	431.84	794	2,699.00	3,110.00	8,738.16

TABLE 4.4: CALCULATION OF VALUE ADDITION OF SATYAM COMPUTER SERVICES

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	871.73	87.81	38.9	11.09	31.91	0.82	701.2
2004	1,127.98	79.76	47.3	10.19	68.41	7.59	914.73
2005	1,447.01	106.99	64.8	6.5	103.22	16.1	1149.4
2006	3,032.92	130.22	84.34	6.75	134.68	18.3	2658.63
2007	3,768.62	217.73	113.8	12.55	135.3	112.14	3177.1
2008	4,615.39	292.96	136.93	16.35	136.84	129.72	3902.59
2009	4,675.09	325.98	184.9	17.27	111.27	113.42	3922.25
2010	5,078.76	368.41	136.3	21.73	170.73	107.1	4274.49
2011	6,794.48	448.31	124.6	33.2	176.3	58.08	5953.99
2012	8,907.22	458.79	152.05	43.12	66.88	13.68	8172.7

TABLE 4.5: CALCULATION OF VALUE ADDITION OF HCL

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	2,023.65	981.14	37.3	124.18	8.87	61.54	810.62
2004	2,541.55	1,338.84	26.3	111.62	16.24	106.15	942.40
2005	3,464.23	1,999.10	0.76	103.94	20.86	116.74	1,222.83
2006	4,634.31	2,702.24	0.72	122.81	32.02	206.14	1,570.38
2007	6,228.47	3,692.92	4.24	129.89	37.55	150	2,213.87
2008	8,137.28	4,964.84	16.2	137.94	74.89	226.12	2,717.29
2009	8,432.50	5,592.70	153.62	297.2	67.4	150.7	2,170.88
2010	5,107.60	3,731.00	9.96	190.8	63.81	16.2	1,095.83
2011	4,780.80	3,292.00	0.3	149.9	58.74	53.7	1,226.16
2012	5,964.30	3,635.40	0.31	149.4	49.75	53.9	2,075.54

TABLE 4.6: CALCULATION OF VALUE ADDITION OF IBM

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	568.43	162.54	114	13.38	9.33	24.6	244.58
2004	684.46	260.07	124	3.6	26.16	49.51	221.12
2005	902.86	395.51	136	26.59	37.44	49.47	257.85
2006	1,153.82	518.56	97	38.78	38.26	44.76	416.46
2007	1,552.34	715.99	146	56.54	42.46	26.37	564.98
2008	1,792.97	870.07	92	60.31	49.06	20.67	700.86
2009	2,212.62	1,058.51	118	42.84	83.05	36.58	873.64
2010	2,243.47	1,048.56	126	37.41	78.81	86.52	866.17
2011	2,360.51	1,052.13	97	33.65	115.38	66.41	995.94
2012	2,605.85	1,253.27	124	40.12	129.71	476.66	582.09

TABLE 4.7: CALCULATION OF VALUE ADDITION OF TECH MAHINDRA

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	602.62	123.17	54	22.53	117.22	33.79	251.91
2004	711.5	213.91	76	22.14	37.46	15.02	346.97
2005	922.34	353.73	110	31.53	22.32	14.28	390.48
2006	1,197.14	467.58	104	37.38	103.93	20.52	463.73
2007	2,753.22	840.41	56.56	46.28	26.62	61.51	1721.84
2008	3,604.70	1,222.40	11.48	73.6	66.8	68.9	2161.52
2009	4,357.80	1,419.70	20	107.4	48.8	103.9	2658
2010	4,483.80	1,598.70	261.72	129.9	42.8	131.4	2319.28
2011	4,965.50	1,943.80	91.93	138.3	51	109.3	2631.17
2012	5,243.00	2,209.80	149.9	150.5	51.4	118.4	2563

TABLE 4.8: CALCULATION OF VALUE ADDITION OF PATNI COMPUTER SERVICES

	TABLE 4.8. CALCOLATION OF VALUE ADDITION OF FATNI CONFOTENSERVICES											
Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA					
2003	448.21	166.7	4.42	29.73	3.91	26.83	216.62					
2004	537.01	233.3	0.83	39.21	12.48	23.99	227.2					
2005	702.07	286.08	0.9	47	25	25.71	317.38					
2006	875.6	392.8	5.19	60.03	34.47	38.51	344.6					
2007	997.83	446.15	1.96	72.56	41.48	100.13	335.55					
2008	1,172.30	560.19	4.35	80.48	41.82	48.18	437.28					
2009	1,541.02	742.55	6.29	87.82	38.45	24.14	641.77					
2010	1,734.86	812.47	6.52	91.98	38.74	39.06	746.09					
2011	1,891.27	946.22	2.3	91.9	84.67	60.49	705.69					
2012	2,151.67	1,244.51	2.15	109.73	75.39	90.39	629.5					

TABLE 4.9: CALCULATION OF VALUE ADDITION OF MPHASIS

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	728.92	162.54	28.7	54	23.26	73.89	386.53
2004	927.82	260.07	27.3	76	75	86.21	403.24
2005	1,036.63	395.51	49.68	110	61.79	135.62	284.03
2006	1,356.81	518.56	61.18	104	71.88	38.17	563.02
2007	1,673.37	715.99	39.3	56.56	87.7	26.7	747.12
2008	1,451.55	870.07	3.7	11.48	86.5	14.15	465.65
2009	3,405.02	1,058.51	3.33	20	586	33.94	1,703.24
2010	3,770.08	1,048.56	10.3	261.72	880.9	95.22	1,473.38
2011	3,404.13	1,052.13	1.27	91.93	981.8	129.57	1,147.43
2012	3,420.84	1,253.27	1.17	149.9	1,475.20	142.2	399.10

TABLE 4.10: CALCULATION OF VALUE ADDITION OF L&T INFO TECH LTD

Year	Sales	Wages	Interest	Depreciation	Dividends	Taxes	VA
2003	12,899.56	1,677.12	164.98	29.73	283.02	582.72	10,161.99
2004	14,871.91	2,367.35	378	39.21	438.42	736.18	10,912.75
2005	16,892.56	3,183.25	142.7	47	552.13	782.29	12,185.19
2006	18,788.72	4,274.00	237.7	60.03	660.56	845.42	12,711.01
2007	20,671.88	6,316.00	252.17	72.56	1,125.39	915.04	11,990.72
2008	24,946.11	7,771.00	42.52	80.48	1,370.05	982.05	14,700.01
2009	33,856.54	9,975.00	57.82	87.82	1,370.05	1,176.19	21,189.66
2010	36,870.19	10,356.00	9.47	91.98	3,914.43	1,577.02	20,921.29
2011	43,656.71	12,464.00	9.59	91.9	2,740.10	1,858.47	26,492.65
2012	53,265.95	15,481.00	58.95	109.73	4,893.04	1,853.83	30,869.40

The ANOVA test is conducted between the groups which were formed on the basis of positivity of MVA. It is found that eight of ten companies in the selected samples have positive MVA.

TABLE 4.11: ANOVA TEST RESULTS (GROUPING ON BASIS OF MVA)

	Sum of Squares	df	Mean Square	F	Sig.	
Accounting profit	Between Groups	7.619E7	1	5.619E7	7.865**	0.046
	Within Groups	9.736E8	99	10575051.2		
	Total	9.747E8	100			
Value added	Between Groups	2.603E10	1	2.603E10	3.583*	0.062
	Within Groups	6.467E11	99	7.267E9		
	Total	6.728E11	100			
	Between Groups	3.421E8	1	3.421E8	0.434	0.512
EVA	Within Groups	7.013E10	99	7.880E8		
	Total	7.048E10	100			
	Between Groups	1.362E8	1	1.362E8	51.787**	0.001
MVA	Within Groups	2.953E7	99	3329637.8		
	Total	4.758E7	100			

Table 4.11 shows that the positive MVA affect the EVA, accounting profit and value added to the organization cannot be differentiated on the basis of MVA.

TABLE 4.12: DESCRIPTIVE ANALYSIS OF ANOVA TEST RESULTS (GROUPING ON BASIS OF MVA)

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
	0	5	2743.38	3782.729	1372.82	4271.65	70	18920.63
Accounting profit	1	95	3783.73	2876.581	1976.61	2668.87	95.17	20921
	Total	100	3299.97	4587.706	2389.67	4210.27	70	20921
	0	5	3648.7289	4827.80903	2749.8379	4948.4543	389.84	83940.41
Value added	1	95	2748.8737	5378.76388	1738.6538	1426.7289	216.62	30869.40
	Total	100	4665.6427	5987.30063	3477.6324	5853.6530	216.62	30869.40
	0	5	1269.4355	19825.5224	-2972.7255	3984.9878	-71861.62	69867.02
EVA	1	95	2852.5910	15918.8172	681.7728	2062.6385	-101166.00	52761.719
	Total	100	1119.6753	17312.16416	-2315.4337	4554.7843	-101166.00	69867.02
	0	5	27739.738	42893.849	17498.25	35282.628	-11744	211962
MVA	1	95	22638.526	39628.425	12636.46	31526.756	-9168	17928
	Total	100	28390.96	44918.522	19432.12	37349.80	-11744	211962

Table 4.12 confirms that the mean value of MVA and Accounting profits vary across the groups. That is, negative MVA generating organizations have also resulted in lower market addition to the value of organization. At the same time, they also generate lower Accounting profits. However, they are considerably providing same values to the different stakeholders of the organization, irrespective of the MVA.

CONCLUSION

The software industry is going through a rapid and significant transition. India's domination in the IT and software sector and its growing reputation as one of the world's best outsourcing destinations have created good basis for future prospects. The key to creating wealth is adding value. Adding value is the way that all fortunes are made. In many studies relating to EVA and MVA, the twin wealth creation measures were established. Even though in the present study, most of the companies have observed negative and low positive EVA, their MVA performance is good. This implies that the wealth creation has the direct influence on market forces.

REFERENCES

- 1. Ali M Ghanbari and V S More "Relationship between EVA and MVA for Indian Automobile Industry", The IFCAI journal of Accounting Research, Vol. No.3
- 2. Dr. Hemal pandya and Chetana parmar "The measurement of Corporate Success", International journal of Research in commerce, Economics and Management, Vol.1, issue no.3, Page: 121-124
- 3. M.Rajesh, NRV Ramana Reddy, Dr.T.Narayana Reddy "Relationship between EVA and MVA", International Journal of Marketing, Vol.1, No.3, Pg: 87-97
- 4. Pratiwi Putri Wibowo; Ruben Garcia Berasategui "The relationship between EVA and MVA for listed companies in indonesia stock exchange", Journal of Applied Finance And Accounting, Vol.1
- 5. Seyed Mojtaba Hasani, Tehran Dr. Zadollahfathi's "Relationship Between EVA, MVA And Profitability Ratios", Interdisciplinary Journal of Contemporary Research in Business, July.2012, Vol.4, No.3, Pg: 406-415



REQUEST FOR FEEDBACK

Dear Readers

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

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

If youhave 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

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, nor 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 is 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 cooperation of like-minded scholars, we shall be able to serve the society with our humble efforts.







