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

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Open J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)], Index Copernicus Publishers Panel, Poland with IC Value of 5.09 & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 3480 Cities in 174 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

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the areas of Computer Science & Applications;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

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

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____________

THE EDITOR
IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF** .

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

DEAR SIR/MADAM

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

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

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

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

NAME OF CORRESPONDING AUTHOR:
Designation:
Affiliation with full address, contact numbers & Pin Code:
Residential address with Pin Code:
Mobile Number (s):
Landline Number (s):
E-mail Address:
Alternate E-mail Address:

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

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

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

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

5. **KEYWORDS**: Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

6. **MANUSCRIPT**: Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.

7. **HEADINGS**: All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8. **SUB-HEADINGS**: All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.

9. **MAIN TEXT**: The main text should follow the following sequence:

   INTRODUCTION

   REVIEW OF LITERATURE

   NEED/IMPORTANCE OF THE STUDY

   STATEMENT OF THE PROBLEM

   OBJECTIVES

   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

   RECOMMENDATIONS/SUGGESTIONS

   CONCLUSIONS

   SCOPE FOR FURTHER RESEARCH

   ACKNOWLEDGMENTS

   REFERENCES

   APPENDIX/ANNEXURE

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

10. **FIGURES &TABLES**: These should be simple, crystal clear, centered, separately numbered &self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

11. **EQUATIONS**:These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.

12. **REFERENCES**: The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

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

CONTRIBUTIONS TO BOOKS

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

JOURNAL AND OTHER ARTICLES

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

CONFERENCE PAPERS

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

UNPUBLISHED DISSERTATIONS AND THESES

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

ONLINE RESOURCES

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

WEBSITES

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

A STUDY ON FINANCIAL HEALTH OF THE SELECTED CEMENT COMPANIES IN INDIA

DR. GAYATHRI BALAKRISHNAN. R.
ASST. PROFESSOR
PG & RESEARCH DEPARTMENT OF COMMERCE
SRI VASAVI COLLEGE
ERODE

R.GOWRI
ASST. PROFESSOR
DEPARTMENT OF COMMERCE
SRI VASAVI COLLEGE (SFW)
ERODE

ABSTRACT
Cement industry forms an indispensable part of the large scale industrial sector of India. It contributes to 1.3% of GDP and employs over 0.15 million people. It is amongst the largest contributor of central excise. India's rapid economic growth and soaring demand by sectors like real estate, steel industry automobiles at home and abroad has put cement industry on the global map. The objective of this paper is to analyse the financial health of the selected cement companies in India and offer conclusion for the improvement of financial health of the cement companies.

KEYWORDS
Financial Health - 'Z' Score, 'Grey Zone', Financial Distress, Discriminant Function, Retained Earnings.

INTRODUCTION
In India, Industrial economy is dominated by various industries like iron and steel, automobile, real estate, cement, textile, medical, electronics, hardware and power industry. Of them, Cement Industry is one of the fastest growing sectors. It forms the base for all developmental activities. The Indian cement industry plays a key role in the national economy generating substantial revenue for state and central government through excise and sales taxes. It contributes substantially to India's industrial and economic development. To every development activity, from the construction of a small factory to the structuring of multi-purpose projects, cement is an important ingredient. The Indian cement industry accounts for approximately 1.3% of GDP and employs over 0.15 million people.

FINANCIAL HEALTH ANALYSIS
The survival of the company depends on its performance in the past years. The company having a sound financial position and proper utilization of resources alone will survive and perform well. Today's good performer can become sick tomorrow, if proper care is not exercised to evaluate its performance. The quantitative and qualitative financial performance should be closely monitored to avoid industrial sickness and to ensure consistent growth. The ability to discriminate either the weak or the strong or in between these two that will fail or prosper is critical to successful economic development, bankers, suppliers, stockholders and government regulatory bodies etc., It is because, they have all vested interest in appraising the strength of both emerging and established companies. To properly assess the financial health of the companies, the popular model, the Altman 'Z score' model can be used.

STATEMENT OF THE PROBLEM
The Indian Cement Industry is facing many financial problems. Most of the cement companies are operationally viable but suffering from financial distress. Hence, it is the need to evaluate the financial health of cement companies and improve its financial efficiency to stay in the stiff competitive market in future. By keeping this mind, it was decided to examine the financial health of the selected Indian Cement Companies. The required data were collected from the Prowess Data Base and they were analysed with the Altman 'Z' Score Model.

OBJECTIVES OF THE STUDY
The following is the objectives of the study:
To analyse the financial health of selected Indian cement companies.

HYPOTHESIS OF THE STUDY
The null hypothesis was framed on the basis of the objectives of the study.
Ho : There is no significant difference between the size of the companies and financial health.

METHODOLOGY OF THE STUDY
SAMPLE SELECTION
The present study was purely based on secondary data. The required data were collected from the Prowess Data Base of CMIE (Centre for Monitoring Indian Economy). Several variable can be used as the measure of the firm's size. Some of them are net profit, total assets, total share capital and net sales. Out of which, total assets represent the exact overall size of the firm compare to other variables. Based on this, the size has been determined on the basis of the investment in total assets of a company. Those companies which have invested more than Rs.1000 crores in total assets during the last year of the study period have been selected for the present study.
In India, only 10 companies have invested more than Rs.1000 crores in total assets. Out of which five companies have been selected and the remaining were excluded from the study due to non-availability of data for the continuous period of 10 years.
Accordingly, the following five companies constitute the sample set for the study.

Name of the Company	Total Assets as on 31.3.2013 (Rs.in Crores)
Associated Cement Company Ltd (ACCL)	7824.84
Chettinad Cement Company Ltd (CCCL)	2079.66
India Cement Ltd (ICL)	6843.64
Ramco Cement Ltd (RCL)	4351.90
Ultra Tech Cement Company Ltd (UTCL)	19697.50

PERIOD OF STUDY

The study covers a period of 10 years from 2003-04 to 2012-13.

TOOLS FOR ANALYSIS

Altman introduced the 'Z' Score Model, a technique designed to predict corporate bankruptcy. Over the past 40 years, many academics and practitioners have used the 'Z' score to test under a wide range of industries and economic environments. It is an internationally recognized method frequently used by investors, lenders and analysts. The model uses common financial information such as sales revenue and total assets to derive five basic financial ratios. Each ratio is assigned a weight and summed together to produce the 'Z' Score. Based on the Multi Discriminant Analysis (MDA), the model predicts a company's financial health based on a discriminant function of the firm.

Further, the difference between the size of the companies and 'Z' Score was also examined by framing null hypothesis and the same was tested with ANOVA at 1% level of significance. To analyse the financial health, tools like Mean, Standard Deviation, Co-efficient of Variation (CV), Compound Growth Rate (CGR), and 't' test were used.

The formula to calculate the Z Score Model is as follows:

$$Z = 1.2\,X_1 + 1.4\,X_2 + 3.3\,X_3 + 0.6\,X_4 + 1.0\,X_5$$

Z = Discriminant function score of a firm

X_1 = Working capital / Total assets

X_2 = Retained Earnings/ Total assets

X_3 = EBIT / Total assets

X_4 = Market value of 'Equity / Book value of Debt

X_5 = Sales / Total assets

GUIDELINES

With the help of Altman guidelines, the overall financial healths of cement companies are measured during the study period.

Situation	Z Score	Zone	Comments
I	Below 1.8	Distress Zone	Future failure or bankrupt
II	Between 1.8 and 2.99	Grey Zone	Unpredictable future status
II	3.0 and above	Safe Zone	Future Success or Non-bankrupt

RESULTS AND ANALYSIS WITH ALTMAN'S Z SCORE MODEL

TABLE – 1: FINANCIAL HEALTH OF SELECTED CEMENT COMPANIES

Years	ACCL	CCCL	ICL	RCL	UTCL
2003-04	2.41	1.47	0.42	1.35	1.35
2004-05	2.43	1.73	0.56	1.36	1.46
2005-06	3.94	2.01	0.99	1.88	2.13
2006-07	4.25	3.36	1.53	2.92	3.22
2007-08	3.62	2.81	1.80	2.00	3.05
2008-09	3.52	1.43	1.63	1.70	2.66
2009-10	2.96	2.15	1.61	1.64	2.91
2010-11	3.22	1.92	1.26	1.40	2.31
2011-12	3.43	2.34	1.68	1.80	2.71
2012-13	3.19	2.49	1.59	1.96	2.59
MEAN	**3.30**	**2.17**	**1.31**	**1.80**	**2.44**
SD	**0.59**	**0.60**	**0.49**	**0.46**	**0.63**
CV	**18.03**	**27.84**	**37.52**	**25.65**	**25.89**
CGR	**1.73**	**2.83**	**13.58**	**1.18**	**6.33**
t Value	**17.59**	**11.38**	**8.47**	**12.06**	**12.18**

Source : Computed from Secondary Data

The Altman's Z Score Model mentioned above for the selected cement companies are presented in the table -1. From the year-wise observation, it is understood that ACCL was in the Grey Zone for 3 years (2003-2005, 2009-10) while it was in the safe zone for 7 years (2005-2009 and 2010-2013).The ACCL was good financial health whereas ICL was in financially distress during the study period. It was in the Distress Zone for all the years except for the year 2007-08. The RCL was neither in Distress nor healthy because it was in the Distress Zone for 5 years (2003-2005, 2008-2011) and the Grey Zone for 5 years (2005-2008 and 2011-2013).

The financial Health of CCCL was in the Distress Zone for 3 years (2003-2005 and 2008-09) while it was in the Grey zone for 7 years (2005-06, 2007-08 and 2009-2013). It was in the Safe Zone for one year (2006-07) whereas the financial health of UTCL was in the Distress Zone for 2 years (2003-2005) and the Grey Zone for 6 years (2005-2006 and 2008-2013). It was in the Safe Zone for two years (2006-2008). It shows that CCCL and UTCL were financially average but it becomes unpredictable during the study period.

The compounded growth rates were positive for all the companies and the 't' value is significant at 1% level because the calculated 't' value is higher than the table value (2.82).

As financially health position varied to size of the companies, it was decided to examine the difference between these two with the help of framed null hypothesis. The details of the findings are shown in the table -2.

ANOVA

TABLE – 2: SIZE OF SELECTED CEMENT COMPANIES & FINANCIAL HEALTH

Source of Variation	SS	df	MS	F
Between Groups	22.53508	4	5.63377	17.92962
Within Groups	14.13971	45	0.314216	
Total	**36.67479**	**49**		

Source : Computed from Secondary Data

Ho : There is no significant difference between the size of the companies and financial health.

With a view to test the significant difference between the size of the companies and the financial health, the F test has been applied. According to the Table -2, the calculated value (17.92) of F is higher than the table value (3.72). Hence, the null hypothesis is rejected and it can be concluded that there is a significant difference between the size of the companies and the financial health.

Finally, it is identified that the financial health of ACCL was good on an average over the period (Mean Z Score 3.30, in between 3 and above) whereas CCCL and UTCL were financially unpredictable over the period (Mean Z Score 2.70 and 2.44, in between 1.8 and 2.99), while ICL was in financially distress during the study period (Mean Z Score 1.30 i.e. below 1.80). But the financial health of RCL was neither in distress nor healthy on an average over the period (Mean Z Score 1.80)

CONCLUSION

On the basis of above analysis, it is clear that the efficiency of the working capital Management should be strengthened by the selected units which would help them to maintain the financial health. The Earnings before Interest and Taxes (EBIT) will adversely affect the financial health of the company. Hence, the companies can convert the EBIT into capital or reduce the fixed assets. It is suggested that the companies need to put in efforts to increase Z Score. This will help them to avoid any damage to its liquidity and solvency position, thereby avoiding financial distress and enhancing their overall financial health.

REFERENCES

1. Dheenadayalan V., "Financial Health of Steel Authority of India Limited: A 'Z' Score Approach", Indian Journal of Accounting, Vol.XXXVI, No.1, Dec.2008, pp 48-52.
2. Dheenadhayalan.V and Devianbarasi, "Financial Health of Co-operative Sugar Mills - A Case of NPKRR Co-operative Sugar Mills Ltd", Indian Co-operative Review, Vol.7, No.2, April 2009, pp.193-197.
3. Dr.Selvaraj, A. and Chandra, H, "Financial Health of Indian Steel Companies", Smart Journal of Business management, Vol.9, No.1, Jan-June 2013, pp,40-44.
4. Raiyani, J.R. and Bhatasna, R.B., "A Study on Financial Health of Textile Industry in India: A 'Z' Score Analysis", Indian Journal of Finance, Vol,12, No.5, Jan.2011, pp.9-12.

BOOKS

5. Prasanna Chandra (2005), Financial Management, TATA Mc GrawHill, NewDelhi.
6. Shasi K.Gupta and Sharma, R.K.(2006), Management Accounting-Principles and Practices, Kalyani Publishers, New Delhi, pp4.47-4.48.
7. Srivastav, S.S. and Yadav, R.A., Management and Monitoring of Industrial Sickness, New Delhi, Concept Publishing Company, 1986.

WEBSITES

8. www.cementindustry.com
9. www.investopedia.com
10. www.moneycontrol.com

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-mail**infoijrcm@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 co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals