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The Role of IAA Research Foundation in Promoting Accounting Education & Research

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ABSTRACT

This paper analyses the main activities of the IAA Research Foundation over a period of 30 years since its inception in 1991, based on its objectives and available literature. The Foundation is doing very well in respect of some fronts, namely, publication of an academic refereed journal, and holding of national and international conferences and seminars. Nevertheless, a relook leading to policy decisions seems imperative in respect of not-so-good performance in activities like management development programme and sponsoring research projects and publication thereof.

Key words: Research Projects, Education and Research, Management Development Programme, Indian Accounting Review, International conferences

I. INTRODUCTION

IAA Research Foundation is an academic accounting organisation registered in India under the West Bengal Societies Registration Act, 1961. It was registered during 1989-90 (Registration No. S/63876 of 1989-90).[1] Its membership profile (about 500) comprises accounting academics, professional accountants, and corporate executives in the area of accounting and finance. Professor Sukumar Bhattacharyya, the renowned chartered accountant-cum-lawyer, was the Founder President. Professor Bhabatosh Banerjee was the Founder Secretary. Professor Bhattacharyya was also actively involved with teaching as a guest faculty with the University of Calcutta and Administrative Staff College of India, Hyderabad. The **principal objectives** of the IAA Research Foundation *include the following*:

Promoting fundamental and applied research in accounting and allied subjects.

- Sponsoring research projects.
- Holding seminars, symposia, conferences, and workshops, etc.

[1]Many accounting stalwarts in the country, such as, Prof. S. K. R. Bhandari, Prof. H. S. Kulshrestha, Prof. Mukundlal of Varanasi, Prof. L. S. Porwal and Prof. P. K. Ghosh of Delhi, Prof. K. S. Mathur, Prof. D. Singh and Prof. M. C. Khandelwal of Jaipur, Prof. Y. Ranga Rao of Visakhapatnam, Prof. G. D. Roy, Prof. Pranes Das, Dr. J. B. Sarker and Prof. Bhabatosh Banerjee of Calcutta, joined their hands to form an accounting organization for promotion of research in accounting.

- Publishing research journals, books, and monograms.

It is very difficult to measure fundamental and applied research in a subject. Number 1 and number 2 objectives are intimately connected. In the context of the above avowed objectives, how does the IAA Research Foundation has been contributing to accounting education and research in India and abroad? Keeping in view the objectives of IAA Research Foundation, we can identify four important areas through which it can be done:

- Sponsoring research projects and their publication for dissemination of knowledge;
- Publication of high quality academic and refereed journal;
- Organising Managent Development Programmes, and
- Holding national and international conferences and seminars.

Sponsoring fundamental and empirical research is aimed at dissemination of knowledge in a subject. Publication of high quality of academic journal is one of the vehicles of promoting education and research. Similarly, when management development programmes are organised for corporate executives by distinguished resource persons, it also serves the same purpose. Organising a national or international conference or seminar in India or abroad aims to serve the cause of education and research because it is a learning process for both the speaker and the attendees. When all these are done in an organised way through a given platform provided by an academic and research organisation, there is no doubt that the objectives are better achieved.

The IAA Research Foundation was established on January 23rd 1991 through a three-day international conference in Kolkata (then Calcutta). So, since its inception, it has travelled 30 years. The objective of this paper is to examine the main activities of the IAA Research Foundation during these 30 years and its contribution to accounting education and research. It is an analytical study over the period 1991-2020 and takes into consideration some available literature relating to its important activities, as stated earlier, to infer a conclusion as to its success or failure. This kind of approach has its own limitations. Even then it will be a pointer to the successful or otherwise journey of the organisation over time. Policy decisions can be taken based on its success or failure.

This paper is organised as follows. Section II examines the research projects sponsored by the Foundation and publication of the project reports based on review. Section III deals with Management Development Programmes followed by publication of Indian Accounting Review since 1977 in Section IV. Section V gives a snapsot of international conferences and seminars. The last section contains concluding observations.

II. SPONSORING RESEARCH PROJECTS AND THEIR PUBLICATIONS

To date, the Foundation sponsored five research projects and published them. Four of them are:

i. *Contemporary Issues in Accounting Research*, edited by Bhabatosh Banerjee (1991, pp. 338, price ₹200, $25).

ii. *Budgeting for Corporate Success: Indian Practices*, jointly by M. N. Kaura and S. Mallikharjuna Rao (2000, pp.113, ₹200; $15).

iii. *Corporate Mis-governance* by P. Chattopadhyay (2008, pp.228, price ₹300; $25).

iv. *Accounting Standards and the Standard Regime in India*, by Arun Kumar Basu (2008, pp.262, Rs.300; 25).

It is not my objective to give details of each of the above research publications. For the sake of volume, only a brief outline about them is given below. Another research projerct was published by the Foundation which was authored by Dr. M. K. Kolay, Associate Professor, IIT-Kharagpur, probably after the publication of the second project. At the time of writing the manuscripts of this paper, no specific information is available. So, some details about the four projects are only given.

2.1 Contemporary Issues in Accounting Research (1991)

The Research Foundation was formally inaugurated on 23rdJanuary, 1991, followed by a three-day international conference (January 23-25). To mark the formal inauguration of the Foundation, the above research volume was released on the same day. It was the outcome of a unanimous decision of the Executive Committee at its meeting held on 19th April 1990. Prof. Pranes Das, a member of the Executive, suggested the title. Its implementation was rest on its Editorial Board comprising six members, viz. Sri Sukumar Bhattacharyya, Prof. G. D. Roy, Prof. Pranes Das, Dr. J. B. Sarker, Sri Arun Kumar Basu, and Dr. Bhabatosh Banerjee (Editor). Out of 18 research-based articles, ten articles were contributed by distinguished academics from abroad viz. Richard Mattessich (University of Vancouver, Canada), Bikki Jaggi (Rutgers University, New Brunswick, USA), Kenneth S. Most (Florida International University, USA), C. B. Roberts & S. J. Gray (University of Glasgow, the UK); Barry E. Hicks (Laurentian University of Sudbury, Ontario, Canada); Edward R. Shoenthal, Jeffrey Kanto, & Belvered E. Needles, Jr (DePaul University, Chicago, USA), KwabenaAnyane-Ntow (North Carolina Central University, Durham, USA); Kyojiro Someya (Waseda University, Tokyo, Japan); Norling G. Rueschhoff (University of Notre Dame, Indiana, USA), and Michael Costigan (University of Notre Dame). The Indian authors were: Arun Kumar Basu, G. D. Roy, Bhabatosh Banerjee (University of Calcutta), S. K. R. Bhandari (formerly of Banaras Hindu University); P. K. Ghosh (formally of Delhi University), Sudipti Banerjea (University of Calcutta), Swapan Kanti Chaudhuri (Management Development Institute, Gurgaon), and P. Chattopadhyay and J. B. Sarker (University of Burdwan). It was really a very tough job to contact 18 authors in India and abroad, collect their contributions, edit them and publish the volume over a period of nine months. The book was published at The *Statesman Commercial Press*, Kolkata, and financed (Rs.65,000) directly by Tribeni Tissues Ltd. - thanks to the kind support of Dr. N. G. Choudhuri, the then Chairman of Tribeni Tissues Ltd. Each artcle was of different nature and quality and for the sake of volume, I refrain from anylysing them in this paper.

In its Foreword, Prof. Sukumar Bhattacharyya, President of the Foundation, wrote:

> ...Like a river which starts from its mountain confines in its onward march to the ocean gathering strength all the time, our Foundation also embarks today on its journey of search of accounting truth aspiring to gain knowledge throughout its life in the field of Accountancy and allied subjects and to make significant contributions by way of research to the ocean of knowledge. It is for accounting research that the Foundation has been established, and the contents of the first publication constitute the first step in its research activities...

The volume was reviewed favourably in *The Indian Journal of Accounting* and a few others. The response was good and the research volume was sold out within a short period of time. More than 50 copies were sold in the US. In the process, the Foundation built up some fund and reputation for publishing further research publications.

2.2 Budgeting for Corporate Success: the Indian Practices (2000)

This research volume was published on a contemporary topic, Budgeting. Budgeting is considered as one of the important tools of management to enable an organisation to attain its objectives, enhance its competitive ability and meet the challenges of changing environment. Both the authors were from the Administrative Staff College of India, Hyderabad. The authors postulated a few hypotheses and tested them. They are:

- The process of Budgeting is likely to be influenced by the type of ownership (Public sector and private sector).
- The success of a budgeting system is significantly associated with:
  - ✓ Issue of guidelines
  - ✓ Participative system
  - ✓ Communication system
  - ✓ Budget formats.

The study was based on 406 responses from the executives of 120 companies out of 1,000 questionnaires sent. They also conducted semi-structured interviews with top-level managers to elicit their views on different variables. Based on the findings and observations, the authors suggested a framework for an effective budgeting system. In his Foreword (dated 31.12.1999), the President of the Foundation made the following observations:

> ....The Foundation considers the work entrusted to Dr. Kaura and Dr. Rao to be of national significance and the findings and conclusions arrived at by them important enough for publication so that managers in Indian industries may compare their own budgeting practices with what has been found by the authors and what has been advocated by them. The findings may be of assistance to others also, national and international, who have a practical or academic interest in the process of Budgeting in Indian industries. ....

2.3 Corporate Mis-Governance (2008)

The study was undertaken "at the instance of Late Professor Sukumar Bhattacharyya who was worried about the state of things in the corporate sector", wrote Professor Chattopadhyay in his Acknowledgement and the volume published in August 2008 was dedicated to Professor Sukummar Bhattacharyya. In the Foreword (dated 25th August, 2008) written by the author (as President of the Foundation), it was stated that:

> .....Many corporate scandals took place during the last few decades the world over. A study of some examples of these 'Hall of Shame' suggests some common fabrics. Prof. P. Chattopadhyay has analysed painstakingly many of the intricate areas and issues concerning corporate misgovernance before suggesting "ani-dotes" in the interest of better corporate governance in India and abroad. The literary style adopted by this scholar of great reputation will be helpful in comprehending the facts and the issues in clearer perspectives.

The publication was the first of its kind in the Indian sub-continent. Dr. Chattopadhyay pleaded for a re-look exercise in the matter. There is no doubt that it would provide some thoughts for the policy makers in government and other institutions.

2.4 Accounting Standards and the Standard Regime in India (2008)

This volume was published in September 2008. It is divided into *Part I* concerning Accounting Standards (General Issues) and *Part II* on Accounting Standard Regime in India. In the first part, Prof. Basu examined (i) the nature of accounting standards, (ii) attributes of quality of accounting standards, (iii) rationality for setting accounting standards, (iv) due process followed in fixing accounting standards, (v) theoretical basis of accounting standards, (vi) implementation and enforcement, and (vii) global convergence of accounting standards. The second part considers (i) structure of accounting regulation framework currently operating in India, (ii) institutional arrangements for setting accounting standards, (iii) structure and contents of current accounting standards in India, and (iv) alignment of Indian accounting standards with International Accounting Standards. In the end, he also gave An Addendum highlighting Recent Developments. The Foreword (dated 1st September, 2008), written by the author as President of the Foundation said:

> ....Along with globalisation of business comes globalisation of the language of business -Accounting. As a natural corollary, one of the significant trends in business is the commitment of an overwhelmingly large number of countries the world over to work towards convergence of accounting standards. ...
>
> Prof. Arun Basu is an established accounting scholar with high reputation. He has given his articulated series of reflections on the nature and significance of accounting standards and how these standards are established, enforced, and implemented. Also, he did not hesitate to put his considered views on the shape of things that are likely to come in the context of globalisation of accounting standards.

In Summary and Conclusions, he beautifully sketched the successes and failures on the part of the standard setting bodies over the years. In the end, he recommended specific policy options emerging from the study. In short, this volume can be described as a "master-piece" on the subject that gives future direction to the standard setters as well as to the preparers of financial reports at the corporate level for informed decision making. Till the time the volume was published, there was no comprehensive study on the subject in India. Thus, Prof. Basu could easily claim to be the pioneer in this vital area of accounting standard-setting and corporate financial reporting.

What role did we play in getting research volumes published? We played the role of a facilitator. Let us quote from Dr. P. Chattopadhyay's Dedication of his Volume to Prof. Sukumar Bhattacharyya:

> This study is dedicated to the loving memory of my long-time friend, Professor

Sukumar Bhttacharyya, M.Sc., LL.B., FCA, who deftly brought together and developed a team of practising professionals, academics, and scholars in the field of accounting research and encouraged them to think, write and debate on many different related issues, at both national and international fora.

We believe there cannot be a better compliment to the role that we have been playing in promoting accounting education and research in India and abroad through the activities of the IAA Research Foundation.

III. MANAGEMENT DEVELOPMENT PROGRAMME (MDP)

Another periodical activity we started was MDP. Once I discussed the issue with Professor Sukumar Bhattacharyya, and he readily endorsed the idea. Later on, a formal decision was taken in the Executive Committee to explore the possibility of organising a two-day MDP periodically either immediately before or after the International Conference so that advantage of one or two foreign faculty who would come to Kolkata to attend the international conference might be taken. Accordingly, we could organise 5 MDPs between 1991 and 2012, out of which I would briefly discuss the 1st and 5th MDPs only.

In 1991 Dr. Subir Choudhury was the Director of the Indian Institute of Management Calcutta (IIMC). Prior to joining the IIMC, he was Director of IISWBM Calcutta, and as Dean of Commerce and Management of Calcutta University, I developed good working relation with him. In mid-1990 once I went to IIMC and met Dr. Choudhury in his Chamber to discuss the possibility of jointly holding a two-day MDP on the campus of IIMC. Dr. Choudhury told me that as per Institute's convention, one faculty member should join as the Joint Programme Director and that any surplus or deficit would be shared equally by the two host bodies. He then asked me to talk to one of the faculty members of IIMC. I talked to Dr. Shyamal Ghosh, who had been teaching in the Commerce Department of Calcutta University for quite some time and then joined IIMC. Dr. Ghosh agreed to our proposal. The reason for collaborating with IIMC was that IIMC has a reputation in the industry, and IAA Research Foundation was new in the venture. So, our strategy was to build up a reputation in the market.

Thus, the **first MDP** was organised in the campus of IIMC in the first half of January, where Shyamal and I acted as Joint Programme Directors. There were two foreign faculties in the programme – one from the Massey University of New Zealand and the other was an academic from Dubai, both of them came to attend our First International Conference in Kolkata. The MDP was held immediately after the First International Conference. Other faculty members were: Professor Sukumar Bhattachayya, Dr. Binoy K. Chatterjee, Professor Shyamal Ghosh, and me. However, the number of participants was not as per our expectation even though the programme ended with a surplus of about ₹40,000, which was equally shared by the IIMC and IAA Research Foundation, as per agreement.

Thus, our journey with MDP started in 1991, and thereafter we held second, third and fourth MDP over time, all by our own efforts without collaborating with any other institutions. The second and third Ppogrammes were organised in the Burdwan Suite of Oberoi Grand, Kolkata. Needless to mention, Professor Sukumar Bhattacharyya was the main source in getting delegates for the MDP from the industry. Then fourth and fifth MDPs were organised in the Mandarin

Room of Hotel Taj Bengal Kolkata. Dr. N. M. Kaura of Administrative Staff College, Hyderabad, and Professor Shyam Sunder, Carnegie Mellon University, USA, participated in the fourth MDP, and on each occasion we made some reasonable surplus. Organising International Conference and MDP, back to back, involved a huge workload on us. So, we decided to hold the two events separately.

Accordingly, the **fifth MDP** was held on January 6 & 7 (Friday and Saturday), 2012, at Hotel Taj Bengal, Kolkata. Prof. R. P. Banerjee, Director, EIILM-Kolkata, and I were the Joint Programme Directors. It was held after my retirement from Calcutta University so that I could give required time for the success of the programme. The theme of the two-day programme was **IFRS and India** concerning International Financial Reporting and Standards Setting particularly with respect to convergence of Indian Accounting Standards with the International Standards. At that time, the roadmap to the convergence having been indicative, a number of issues relating to convergence, IFRSs, and Ind.ASs, were discussed. The faculty members were:

- Dr. Rajendra P. Srivastava, Ernst & Young Distinguished Professor and Director of Ernest & Young Center for Research and Technology, the University of Kansas, USA.
- Mr. P. R. Ramesh, Chairman of Deloitte India, Mumbai Area, India (Accounting).
- Dr. Ashok Banerjee, Professor, Finance & Control, and Chairperson, Finance Lab, IIMC.
- Dr.Bhabatosh Banerjee, Member, Standards Advisory Council (IAAER), IASB, former Professor of Commerce and Dean of Commerce and Management, University of Calcutta.

Prof. Srivastava took sessions on XBRL dealing with its conceptual and technical aspects, global perspectives, preparation, and certification of XBRL documents for financial statements, etc. It may be mentioned that the Ministry of Corporate Affairs, Government of India, had required certain classes of companies to file their financial statements in XBRL form only from the financial year 2010-11. So, issues relating to XBRL were extremely important to the corporate sector in India.

Mr. P. R. Ramesh was to deal with several intricate issues relating to convergence, international financial reporting standards, and Ind.ASs. However, because of his pressing activities, he could not attend, and in his place, a Sr. Partner of Deloitte dealt with the same topics competently.

Prof. Ashok Banerjee spoke on accounting standards on financial derivatives with particular emphasis on hedge accounting. His discussions focussed on accounting for financial instruments, different products, measurement, recognition, and disclosure. He discussed with the help of a case study, accounting for one of the derivative instruments.

My topics for discussion included the following: journey to convergence with IFRS in the Indian context, global convergence of accounting standards with IFRS, various developments, opportunities, and challenges. The early evidence of convergence in some EU countries were presented to the participants to show opportunities and challenges of convergence in India. A number of cases on converted Indian Standards (Ind.ASs) were also presented.

We prepared a booklet containing programme materials for distribution to the participants. Prof. Dhrubaranjan Dandapat, Secretary of IAA Research Foundation, worked hard to make the MDP a success. Our Treasurer, CA Prof. Satyajit Dhar, co-ordinated the programme on 6th and 7th in Taj Bengal. I must also mention the role of Mr. Amit Kr. Sen, Vice-President who was instrumental in getting a number of delegates. The registration fee was ₹15,000 (with a provision for 10% discount for more than 1, and 20% discount for more than two). Nineteen senior and middle-level executives, mainly from public sector enterprises, registered for the Progamme, viz., Nicco Group (3); MSTC, Coal India, SAIL, HCL, EIILM and East India Pharmaceuticals (2 each), and IOL, Senbo, Andrew Yule, Unit Construction (1 each).

In our opinion, not only the participants but also the faculties benefitted from such programmes because the standard of interaction was high in view of good background of the participants. Programme was always on contemporary issues, which compelled the faculty to make necessary preparation with case studies. As a Programme Director, I used to remain present in other sessions, whenever possible, with consent from the concerned faculty. In the process, I could learn many things. Overall feedback for all our programmes was always good, and all the programmes ended up with a surplus. Nevertheless, after the 5th MDP, the Foundation could not organise any such programmes for a number of compelling reasons.

IV. PUBLICATION OF INDIAN ACCOUNTING REVIEW (IAR)

During 1995-96, I had been working as a Visiting Professor of Accountancy in Rutgers University (New Bruhswick, N.G.) and was constantly was constantly in touch with Professors Shyam Sunder, Gyan Chandra, and Rajendra P. Srivastava. An idea was floated for publication of an academic journal in accounting in India from IAA Research Foundation. During a discussion meeting Dr. Bin Srinidhi and Dr. Saurav Datta were present. Both of them were faculty members of the Management Department, Rutgers University, Newark Campus. There was a consensus to go ahead with the new venture.

We were also in touch with Professor Sukumar Bhattacharyya about the prospect of the publication of an academic journal in accounting by the IAA Research Foundation. Sir always appreciated new ideas. Apart from his professional expertise and competence, he was a person of broad mind so that there was no difficulty in pushing the new idea of publishing an academic accounting journal under the banner of IAA Research Foundation. At that time, Dr. J. B. Sarker was working as the Secretary and Prof. Arun Kumar Basu, as Treasurer. They also supported the proposed new venture. In December 1996, a seminar was held in the Institute of Modern Management, Kolkata, where Prof. Sukumar Bhattacharyya and Prof. Rajendra P. Srivastava, who was visiting India, were the keynote speakers. Towards the end of the seminar, we discussed about the possible names of the journal, Indian Academic Journal in Accounting, Accounting Review and a few others. Then Prof. Srivastava suggested that "let it be Indian Accounting Review" rather than only Accounting Review, which would clash with the Accounting Review of AAA. After some discussion, we decided on the name of the new journal, as **Indian Accounting Review (IAR)**. The decision was approved by the Executive Committee of the Foundation.

With the help of The World Press Private Ltd., we applied for the registration of the journal, and we got the registration number (ISSN 0972-1754) very quickly and the design of the front cover, out of three alternatives provided by Ajanta Printers, was approved by the President in consultation with us and we have been going with the same design of the front cover page even today.

The first issue of the IAR was published in June 1997. How was it possible because I was visiting the New Jersey Institute of Technology for an academic year up to 31st May 1997? In view of the shortage of time, I requested my two Associate Editors, Prof.Arun Kumar Basu and Dr. Kanika Chatterjee, to start with the work of editing and proof-reading. Both of them were working with me in publishing the *Indian Journal of Accounting*. In early 1996, I resigned from the Chief Editorship of the *Indian Journal of Accounting* (of IAA). Arun and Kanika were competent, dedicated, and loyal to the Foundation. So, there was no difficulty in going ahead with the publication of the first issue by the end of June 1997. M/s Ajanta Printers were the printers. Initially, my job was to collect some good articles from distinguished academics for the first issue, and I succeeded in that. Finally, the following articles were published in the first issue:

i. *Accounting and the Firm: A Contract Theory* by Shyam Sunder (Carnegie Mellon University, USA)

ii. *Evolution of the Number Concept and Its Relation to Accounting and Business* by Richard Mattessich (University of British Columbia, Canada)

iii. *A Framework for Harmonising Financial Statement User Needs with Accounting and Auditing Standards* by Sourav Dutta, Lynford E. Graham (Rutgersn University, Newak) and Rajendra P. Srivastava (University of Kansas, Lawrence, USA)

iv. *The Role of Cultural Differences in Implementing a Code of Ethics for the Internal Auditing Profession* by Philip H. Siegel (Monmouth University) and Khursheed Omer (University of Houston-Downtown, USA)

v. *Accounting Standards and Standard Setting Process in India* by Bhabatosh Banerjee (University of Calcutta) and Bikki Jaggi (University of Rutgers, New Brunswick)

vi. *Users' Preferences, Accountants' Inclinations and Corporate Reporting – Some Indian Evidences* by V.K. Vasal (University of Delhi, South Campus)

vii. *Financial Disinvestment of the Public Enterprises in India* Asit Kr. Sengupta (Vidyasagar Evening College, University of Calcutta).

Several decisions were taken by us relating to the publication of IAR. Following the International practices, there would not be any editorial by the Editor. Second, IAR would be exclusively financed by IAA Research Foundation – no advertisement would be published. Third, there would not be any review of text books, but for a research publication, a detailed review may be published. It may be done by the Editor, or Editor may entrust it to an expert on the subject. We also decided that a Foreword should be written by the President of the Foundation for the first issue of IAR. Let us quote the first two paragraphs from the Foreword (dated 09.06.1997) written by Professor Sukumar Bhattacharyya:

> The Indian Accounting Association Research Foundation presents to the accounting fraternity of the world the first issue of its journal INDIAN ACCOUNTING REVIEW to be published hereafter at the end of every six months in June and December. That it is being published from India will be manifest from the journal's name, but the topics dealt with therein will encompass accounting issues of international importance and not merely those arising in the Indian context.
>
> The Foundation's aim is to inspire persons in the academic and practical fields of Accountancy to carry on fundamental research with a view to establishing and propagating new ideas. To some extent this has been achieved by two publications already in existence. It was felt that in order to attain the goal more effectively a periodical publication of research-oriented articles on Accountancy and related matters from persons engaged in accountancy work, national and inter-national, should be made available to the public at large. With this objective in mind the Foundation is publishing INDIAN ACCOUNTING REVIEW.

From the names of the articles and their authors, there cannot be any doubt that the first issue was published with a bang. Prof. Bhattacharyya mentioned that "two articles" in this volume were of the nature of fundamental work. The first article was the revised version of chapter 2 of Prof. Sunder's book, *Theory of Accounting and Control,* for which he received the Notable Contributions to Accounting Literature Award in 1998 from the American Accounting Association. Shyam is one of the Inductees to the Accounting Hall of Fame of the AAA in 2020[2]. Professor Richard Mattessich's work on *Evolution of the Number Concept and Its Relation to Accounting and Business* falls in the same group. He was widely known as philosopher-cum-academic in accounting. The whole team in the Foundation was very jubilant with the release of its new product, which created a good response in the academic and professional fields in India and abroad.

Then the challenge was to publish Issue No. 2, Vol. 1, on time and maintaining the standard already set by us. We used all our academic contacts in the States to fulfil our objective. As expected, we could publish Issue No. 2 with the following articles:

i. *A Perspective on Financial Reporting in the USA* by A. Rashad Abdel-Khalik (University of Florida)

ii. *Identification and Examination of Factors in the Estimation of the Probability of Fraud* by Bin Srinidhi (University of Rutgers, Newark) and Kashi R. Balachandran (New York University)

iii. *Empirical Analysis of the Incremental Information Content of SAS No.59 Going Concern Modified Reports* by Waqar I. Ghani (Saint Joseph's University), Asokan Anandarajan (NJIT, Newark), and A. J. Stagliano (St. Joseph's University)

iv. *Government Accounting in India* by K. R. Sharma (M. L. Sudhadia University, Udaipur)

[2]For details, see *Indian Accounting Review*, June 2020, pp.77-78.

v. *Methods Used by Small Indian Investors to Appraise Investments in Equity Shares – A Survey* by Samirendra Nath Dhar (University of North Bengal), and

vi. *Regulation of Financial Reporting in India and the Provisions of the Companies Bill, 1997* by Bhabatosh Banerjee (University of Calcutta).

All the team members connected with publication of the IAR were jubilant again to have been achieved the objective of publishing the second issue of the new journal. As President, Professor Bhattacharyya was also very pleased to see that the Foundation was successfully carrying with one of its objectives through the publication of the *Indian Accounting Review.*

The author of the first article of Issue No. 2, Professor Rashad, is a very distinguished academic in the States. At that time, he was a Graduate Research Professor in the Fisher School of Accounting, Florida University. Later on, he became Editor of *Accounting Review*, AAA, and then joined as Research Professor of Accounting at the University of Illinois at Urbana Champaign. One of his main activities is to edit the *International Journal of Accounting.* Later on, he also published another article in the *Indian Accounting Review*. Rashad happily has been continuing as a member of the Advisory Editorial Board of IAR. Professor Srinidhi of the Department of Management, University of Rutgers (Newark), was, as mentioned earlier, involved in the planning stage of floating a new academic journal in accounting in India. Therefore, it was a matter of great satisfaction for both of us to see an article authored by Bin published in the *Indian Accounting Review*. The journey of the *Indian Accounting Review* from June 1997 till date, a little over 30 years, has been successful. Firstly, we could create an Endowment Fund with an adequate amount to finance its publication and distribution. The first donor to the Endowment Fund was late Professor H. S. Kulshrestha, former Professor and Head of Commerce Department, Simla University, and Treasurer, Indian Accounting Association. So far, we have 39 institutions in the permanent subscription category along with another around 40 annual institutional subscribers. Another notable development is the availability of the soft copy of the journal. The Impact Factor of IAR has been improving. It is now (GIF: 2019) 2.8229 from (GIF: 2017) 2.7342. We believe no other accounting journal published from India has a similar impact factor. About a decade ago, we introduced submission fees for articles submitted for *Indian Accounting Review* – for foreign authors, a non-refundable US $50, and for SAARC-country authors, ₹500. For SAARC country authors, an incentive was there i.e., double the submission fee to be awarded to the author concerned, and in case of a joint article, for one of the authors at their choice, if the article is published. Now the figures are US $100 and ₹800 respectively. The introduction of the submission fee has a favourable impact in the quality of articles we have been receiving from authors of SAARC countries. Probably, this is also the first of its kind in India. We have also modernised the website of *Indian Accounting Review*[3] in 2020 for the benefit of all stakeholders. A Committee was set up for the purpose and Dr. Amalendu Bhunia, Professor of Commerce and Dean of Arts and Commerce, University of Kalyani, was instrumental in revamping the earlier website relating

[3]For details see www.journal.iaarf.in

to IAR. Professor Anil Saha of Jaipuria College and Professor Ashish Sana, Head of Commerce, University of Calcutta, were the other active members.

When everything was going well, the author resigned from the Editorship of Indian Accounting Review in 2017 for a number of reasons. First, according to advice of my attending eye specialist, I have to restrict my "screen time" considerably. Second, now that there are competent academics, who have been working with me, one of them should come forward to give the leadership in my place. This would ensure continuity of publication of IAR without any major break. Consequently, Editorial Board and Advisory Editorial Board have been re-constituted. Professor Dhrubaranjan Dandapat, the former Dean of Commerce and Management, University of Calcutta, and the Secretary of the Foundation, has accepted the onerous position of Editorship. I am still continuing as one of the Consulting Editors. The other two Consulting Editors are Professor Shyam Sunder, Yale School of Management, USA, and Professor Sid Gray, University of Sydney Business School, Australia. The Associate Editors are Prof. Amalendu Bhunia, University of Kalyani, Prof. Ashish Sana and Prof.Tanupa Chakraborty, both from the University of Calcutta. All of them are working hard to maintain the tradition of IAR – ensuring the quality and timeliness of the publication. Let me give one example of their sincerity and hard work. The June 2020 issue was published by 7th July, along with its soft copy, in spite of Covid-19 Pandemic and resulting lockdown.

Lastly, we must state that our effort to float a new academic journal in accounting under the banner of IAA Research Foundation has become popular, and IAR is now considered to be one of the refereed international journals in accounting in India and abroad. We believe, we have contributed our mite in promoting accounting education and research in India and abroad through the publication of *Indian Accounting Review* for a period of 26 years without any break.

V. HOLDING INTERNATIONAL CONFERENCES

Time and again, it is said by distinguished academics that national and international conferences serve the purpose of education and research because contemporary issues are discussed that enhance the horizon of knowledge of participants, including speakers and presenters. The inauguration of the IAA Research Foundation was done on 23rd January 1991, along with its first three-day international conference (January 23-25) in Kolkata in 1991. It was held in Great Eastern Hotel, Kolkata. Because of its success, we decided, under the leadership of Prof. Sukumar Bhattachayya, that the Foundation would hold an international conference every alternate year apart from a national conference and seminar every year. From the very beginning, our efforts were to pool resources from industrial houses by advertisements and sponsorship rather than banking on government funding.

Between 1991 and 2018, IAA Research Foundation organised fourteen[4]

[4]The Fifteenth International Accounting Conference was scheduled to be held in Science City, Kolkata, on January 9 & 10, 2021 but could not be held due to Covid-19 Pandemic situation (see Foundation's notification on pages 70-73, *Indian Accounting Review,* June 2020) and also Foundation's website www.iaarf.in. It is now rescheduled on January 8 & 9, 2022, at the same venue, subject to normal situation.

international conferences and numerous national seminars and conferences in Kolkata. Over time, we got regular sponsorship from Deloitte India and also, on a number of occasions, from Eastern Institute for Integrated Learning and Management (EIILM), Kolkata. Many enterprises both from the public sector and the private sector sponsored a good number of executives as delegates for enhancing the quality of the proceedings of our conference through their participation. Accordingly, we could organise our international conferences in Great Eastern Hotel, Hotel Taj Bengal, Hyatt Regency, Calcutta University, and Science City. We restricted the number of participants from 200 to 250 to make the show manageable by us.

There are a few *distinguishing features* of our international conference. They are:

- *Plenary and concurrent sessions*: Apart from the Inaugural session for one hour, we hold two plenary sessions by distinguished speakers – one immediately after the inaugural session and the other on the second day before lunch. Concurrent sessions are held with a duration of 90 minutes for presentation of three (or at the most, four) papers. As a result, paper presenters get about 20 to 25 minutes for presentation, including questions and answers.
- The last one hour (day 2) is earmarked for Valedictory Session for address by a distinguished speaker from outside.
- Each paper is screened, and only the accepted papers are allowed for presentation. A team of dedicated academics and professionals work hard to screen the papers so as to maintain the quality of the presentation.
- A printed booklet entitled *Conference Programmes and Abstracts* containing Conference Programme, abstracts of papers (generally one page for each paper) accepted for presentation, and keynote addresses are published for distribution to the delegates.
- Two best papers are awarded a Cash Prize of Rs.2,500 each and a citation. The selection of the best papers is done based on objective criteria by a small committee. From the next conference both the amount of cash price and the number of awardees would be increased.
- The registration fee is kept as low as possible to make it within the means of our member-delegates. The registration fee is just a small fraction of the total budget of the conference. However, the registration fee of the corporate executives is normally higher than that payable by a member-delegate.
- *Time management:* We try to manage time strictly according to the programme and generally there is no time overrun of any session. One of the local delegates is authorised to help each session chairperson to ensure that the concurrent session is completed within the allotted time.
- Up to 12th International Conference, we used to organise a cultural programme with international cultural troupe for one hour to one and

half hour in the evening of first day of the conference for relaxation of delegates (mainly foreign and outstation) followed by dinner. Due to financial and other problems, we discontinued the cultural programme.

Details of several conferences – from 10th to 14th - are available from the Website (www.iaarf.in) of IAA Research Foundation. Many photographs are also posted. In each conference, we had one or two distinguished speakers from abroad for giving keynote address on contemporary issues. This practice adds to the quality of our international conferences for the benefit of national delegates who cannot afford to go abroad to attend international conferences. Some names of *distinguished academics and professionals, both foreign and Indian, who participated in our international conferences*, are given below:

- Professor P. J. Hutchinson, University of Sydney, Australia
- Dr. N. G. Choudhury, former Chairman & Managing Director, Tribeni Tissues Ltd.
- Dr. Subir Chowdhury, Director, Indian Institute of Management Calcutta
- Professor Stephen A. Zeff, Rice University, Houston, and Past President, AAA
- Professor Sidney J. Gray, University of Sydney Business School, Australia, and Past President, International Association for Accounting Education and Research (IAAER)
- Professor Kazuro Hiramatsu, Kwansei Gukuin University, Japan, Past President, Japan Accounting Association and also Past President, IAAER
- Professor Donna L. Street, University of Dayton, USA, Past President, IAAER
- Professor Gary L. Sundem, University of Washington, Seattle, USA and Past President, IAAER
- Professor Andrew D. Bailey, University of Illinois at Urbana-Champaign, and Past President, AAA
- Professor Shyam Sunder*, Yale School of Management, USA, Past President, AAA. Professor Sunder is an inductee of the Accounting Hall of Fame of AAA in 2020
- Professor Bruce K. Behn*, The University of Tennessee, Past President, AAA
- Professor Rajendra P. Srivastava*, University of Kansas, Lawrence, USA
- Professor Belverd E. Needles, Jr.*, DePaul University, Chicago, Past President, IAAER
- Professor Bikki Jaggi, Former Chair, University of Rutgers (New Brunswick), USA
- Professor S. Gupta, Former Chair, Department of Accounting, Lehigh University, USA
- Professor Arup Sengupta, Chair Professor, Department of Engineering, Lehigh University, USA

- Professor Tony Kang, Memeber, IAAER and Member, AAA
- Professor Stefano Zambon*, Past President, IAAER, Italy
- CA Mr. P.R. Ramesh*, Chairman, Deloitte India
- CA Mr. Dipankar Chatterjeee*, Partner, L.B. Jha and Co.
- CMA Mr. Souren Datta, Director of Finance, Damodar Valley Corporation
- Dr. Bhaskar Banerjee, Chairman, The Calcutta Stock Exchange Ltd.
- Professor Asis Kumar Banerjee, Former Vice-Chancellor, University of Calcutta
- Professor Swagata Sen, Former Pro. Vice-Chancellor (Academic Affairs), University of Calcutta
- Current President of the Indian Accounting Association in each year

*(*These academics attended our International Conference in Kolkata several times.)*

Does not the above list speak volumes in favour of our efforts to bring in many distinguished national and international speakers to enrich the proceedings of our conference? It is important to mention that we could extend only free local hospitality and, in a few cases, modest accommodation in the international guest house of The RamakishnaMisssion Institute of Culture, Golpark, for three nights. They came here to support our cause of holding a quality conference for the improvement of accounting education and research in India.

Let us now give some details of the **2nd International Conference held on January 22-23, 1994 at Hotel Taj Bengal**. The **theme** of the Conference was *Expanding Dimensions of Accounting – Challenges Ahead.* His Excellency, the Hon'ble Governor of West Bengal, Mr. K. V. Raghunatha Reddy, inaugurated the Conference. While inaugurating the Conference, His Excellency spoke in some details about the *Cad Berry Committee Report* in the UK and its Implication on Corporate Governance. He expected that India would soon follow suit. During Inaugural Session the other dignitaries present were: Professor G. D. Roy, former Professor of Accountancy and Head of the Department of Commerce, University of Calcutta, and Professor N. M. Khandelwal, President Indian Accounting Association. Each one of them made a brief presentation on the theme of the Conference.

The Inaugural Session was followed by the First Plenary Session with Professor Stephen A. Zeff as the only speaker. The Session was chaired by Professor Sukumar Bhattacharyya, President, IAA Research Foundation. Professor Zeff gave his keynote address on *Standard Setting and its Implication on Corporate Financial Reporting – A Decision Context* and kept the audience spellbound by his oration and expertise. The address was followed by some useful comments from the President and then questions and answers.

After the Luncheon, the Crystal Room of Taj Bengal was divided into two parts for concurrent sessions till 5.00 p.m. with an intermission for tea and coffee. This continued till the next day (23rd January) up to lunch to facilitate paper presentation. All together, we had eight concurrent sessions for presentation of accepted papers. The conference ended with the Valedictory Session with

Professor P. J. Hutchinson of the University of Sydney, Australia, in Chair. Dr. Subir Chowdhury, Director, Indian Institute of Management Calcutta, gave the Valedictory Address on *The Role of Indian Institute of Management Calcutta in Promoting Management Education in India.* Overall, the conference was held successfully and the 200 and odd delegates gained academically from it. Some of them spoke on the Valedictory Session about their experience of attending the 2nd International Conference organised by the IAA Research Foundation.

Receiving His Excellency, Hon'ble Governor of W.Bengal, Mr. K V Raghunath Reddy

Presidential Address by Prof. Sukumar Bhttacharyya

Inauguration by His Excellency

Welcome Address by the Conference Secy.

Address by Prof. Stephen A. Zeff, Chief Guest

A section of Delegates at Taj Bengal

VI. CONCLUDING OBSERVATIONS

A review of the performance of IAA Research Foundation, based on available literature, over the last thirty years, 1991-2020, suggests a mixed scenario – it has been doing well in two fronts, publication of an academic refereed journal, *Indian Accounting Review*, and holding of international and national conferences. In two others, namely, organising MDP and sponsoring research projects and their publications, a serious relook is required.

Regarding lauching of *Indian Accounting Review* in 1977 and publication of two volumes every year benefits the readers and Institutional subscribers. The presence of internationally acclaimed academics as Consulting Editors and Members of Advisory Editorial Board and publication of thought-provoking articles by many of them in different issues puts a pressure on those concerned regarding maintenance of regularilty and high quality of the journal. The changing pattern of distinctive feature of the journal in keeping with the changing needs of the stakeholders probably contributes to the gradual rise of its Impact Factor. Overall, the Foundation can claim that it has been contributing greatly to the cause of accounting education and research in India and abroad through publication of *Indian Accounting Review.*

We gave details of some international conferences organised by the Foundation. Regarding others, one can refer to the website (www.iaarf.in) for having a look as to how the Foundation has been working tirelessly in this front. The presence of internationally reputed academics and professionals from India and abroad gives a testimony of the quality of academic discussion (incuding paper presentation) which speaks volume in favour of the dedicated efforts put by our active members and office bearers of the Foundation. When the environment is different elsewhere in the country, the IAA Research Foundation has been consistently maintaining the rigour of the International Conferences.

For the sake of volume, we have not mentioned earlier anything about the annual conference/seminar organised by the Foundation. Generally, it is a one-day affair along with its AGM. In the major portion of the time allotted for the purpose, one hour is devoted to G. D. Roy Memorial Lecture by a very distinguished academic and for the seminar, about 90 minutes. A reference to the website of the Foundation (see menu 80-G & Memorial Lecture) a brief background of the speaker and abstract of the lecture on a contemporary topic in accounting and finance is given for each year since its introduction in 2014. Memorial Lecture paper is then published in the *Indian Accounting Review* subject to compliance with journal publication policy. For the seminar, papers are invited on the seminar topic from the members. For presentation of seminar papers, submitted papers are screened and only accepted papers are allowed presentation for enhancing quality of discussion. It is necessary to mention in this context that the Foundation generally organises the one-day conference/ seminar in collaboration with a professional institute or an academic institution. For example, the Department of Commerce, University of Kalyani, collaborated with the Foundation long ago to organise its national conference. The Institute of Cost Accountants of India (ICAI) collaborated a number of times for our annual seminar. The International Management Institute, Kolkata, collaborated with the Foundation three times. Rabin Mukherjee College, Behala, organised the national seminar twice. City College of Commerce and Business Administration hosted it once. Last but not least, The Eastern Institute for Integrated Learning and Management (EIILM)-Kolkata collaborated with the Foundation for at least four occasions to organise its national conference/seminar in the Institute's premises. There is no doubt that the collaborative organisations are attracted by the academic activities of IAA Research Foundation. In view of the above, the IAA Research Foundation can claim that it has been contributing to accounting education and research in India and abroad through its national and international conferences and seminars.

Although the Foundation organised five **Management Development Programmes** between 1991 and 2012, we started facing heat in this front due to both internal and external factors. Firstly, Professor Sukumar Bhattacharyya was instrumental in securing corporate participants both from the public and private sectors. After his sad demise, we banked upon Mr. Amit Kumar Sen, Managing Director and Chairman, East India Pharmaceutical Works Ltd. Mr. Sen mainly looked after MDP as Vice-President of the Foundation. After his demise, we do not have any member of the Foundation who can help us in securing participants. It can be seen from details of our 5th MDP, that the participants from Public Enterprises were majority in number. The Policy of Public Enterprises has also changed in the mean time. They do not come forward to sponsor participants for MDP although some of them continued to sponsor delegates for our International Conferences. This is due to change in Economic Policy of the Government and the restrictions imposed on the PEs. As for example, Coal India Ltd. and Steel Authority of India can no longer render support in organising similar programmes. The external economic condition is no longer conducive to organise management development programmes. Presently, the world economy is shattered by Covid-19 Pandemic situation and no body knows how long it will take to recover from the present shocking situation.

Last but not least, comes the sponsoring of **research projects and their publication** after review of project reports. It is true that the Foundation's performance does not appear to be satisfactory after publications of five research volumes up to 2008 for a number of reasons. First, the funding for new project from the Foundation does not appear to be competitive compared to other organisations, such as ICSSR, UGC, etc. On a number of occasions the Executive Committee made appeal to the members to come forward for undertaking research projects for two years with a modest amount of ₹50,000 from the Foundation and ₹50,000 from the proposed matching grant from EIILM-Kolkata. An insertion published in the *Indian Accounting Review* inviting proposals did not also produce any favourable outcome.

It has to be mentioned here that Foundation does not have adequate fund to compete with other organisations in funding a research project. Dedicated competent members have to come forward to undertake research project with such a modest budget to contribute their mite for the development of accounting education and research. Each of the earlier member-reseachers (viz. Prof. M. N. Kaura and Dr S. M. Rao, Prof. Paresh Chattopadhya, Prof. A. K. Basu) worked with a minimal grant to contribute their research findings.

In spite of the above not-so-good situation, there is a good news that one research project is being published soon by the Foundation. This is funded by EIILM-Kolkata. The title of the project, voluntarily undertaken by the present author, is *My Journey: Down the Memory Lane.* It is not an autobiography but is written in the context of experience of the author to motivate others concerned to work hard to contribute more and more to accounting education and research in India and abroad. It is a description of many academic events in India and abroad and contains many academic inputs that would be useful for academics and professionals. The volume of the proposed research publication will be about 500 pages. Another important area of research may be *Thirty Years of IAA Research Foundation: 1991-2020.* We believe the earlier examples of Prof. A. K. Basu and Prof. P. Chattopadhya along with the ongoing publication will motivate our members to come forward to strengthen the contributions of the Foundation to accounting education and research.

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Corporate Social Responsibility – A Study on Indian Maharatna Companies

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ABSTRACT

Corporate Social Responsibility (CSR) has started playing a very crucial role in recent times as the survival and growth of a company depends to a great extent on its positive impact on the society. The new Companies Act 2013 has introduced mandatory provision about CSR requiring some specified companies to contribute a minimum two percent of its average net profits for immediately preceding three previous years on CSR investments for the holistic welfare and development of the society. The present paper is an attempt towards analysing the CSR practices, disclosures, compliances of the statutory CSR provisions by Maharatna companies through descriptive as well as empirical analysis.

It has been observed that the disclose-or-explain mandate seems to be promoting greater transparency and disclosure of CSR practices.

Key words: Companies Act 2013, Corporate Social Responsibility, Central Public Sector Enterprises, Maharatna Companies

I. INTRODUCTION

In today's competitive business world, the organisations have started realising that failure to deliver what the society demands from them may pose a threat to their existence and to their sustainable development. This has provided great impetus to the role of Corporate Social Responsibility (CSR) in building trust and sustainable relationship with stakeholders and society at large, and as a result, companies now have started behaving ethically and responsibly towards the holistic welfare of the society.

Although there were some companies like the Tata group, Birla group, Infosys, ITC Limited, HSBC India, Max New York Life, who have been contributing towards different issues in the society on a voluntary basis since prior to introduction of mandatory provisions of CSR under Companies Act 2013, there is a need for collective effort by all resourceful companies, instead of only a few

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as before, towards the betterment of the society. Keeping this in view and to encourage collaborative activities of more entities towards the holistic welfare of the society, an innovative provision has been introduced in the Companies Act, 2013 making CSR mandatory for the "capable" companies to contribute towards social developmental activities. According to Section 135 of the Act, companies with a specified net worth or turnover or net profit must spend two percent of its average net profit for previous three years towards specified CSR activities.

The Central Public Sector Enterprises (CPSEs) are classified into Maharatna, Navratna, Miniratna Category-I and Miniratna Category -II based on the Board of Directors' powers to take decisions without involvement of Central Government. As on January 2020, there are 10 Maharatna companies, 14 Navratna companies, 62 Miniratna Category-I and 12 Miniratna Category–II companies. These CPSEs are required to abide by the guidelines (Annexure B) provided by the Department of Public Enterprises (DPE) on CSR and Sustainability for CPSEs, published by the Ministry of Heavy Industries and Public Enterprises as revised w.e.f 1st April, 2014, along with the mandate provisions of the Companies Act. However, if there is any conflict between the two, viz. CSR rules and the DPE Guidelines, then the former shall stand in all circumstances.

II. REVIEW OF LITERATURE

Some of the literatures relating to CSR have been reviewed and the essence of the same are summarised below.

Author (s) of the Study	Primary Objective of the study	Methodologies used	Brief Findings
Adeyeye A. (2012)	Whether anti-corruption can be a part of CSR initiatives practiced by MNCs in developing countries.	Descriptive study	After analysing the global scenario, the author opined that anti-corruption as a CSR issue can be practised by MNCs in developing countries.
Tilakasiri K. (2013)	Developing an appropriate index for measuring CSR interventions in developing countries like Sri Lanka.	Dichotomous approach has been followed in order to construct the index through review of annual and sustainability reports of 50 companies over a five-year span from 2005-2009.	A dichotomous CSR index has been developed on the CSR related items as employees, community, education, health, customers and the environment.
Jain A. (2014)	Analysing the people's perceptions on the new provisions making CSR mandatory in India	A descriptive study based on secondary data.	Based on the analysis of the arguments for and against the 2% CSR policy, the author concluded that this CSR mandate clause may turn out to be a blessing for both the corporate and the society, thus helping the nation towards inclusive growth and sustainable development.

Author (s) of the Study	Primary Objective of the study	Methodologies used	Brief Findings
Mal D. and Chauhan K. (2014)	To explore the contribution of corporate towards the socio-economic developments of rural India	The study is based on secondary data of five public and five private companies.	It has been observed that education sector for rural development has been the most focal area followed by health and livelihood while 30-40%of the surveyed companies have been found to be taking initiatives in infrastructure and environmental areas.
Allen M. and Craig C. (2016)	To examine whether climate change threats are redefining the concept of CSR from discretionary extravagance into necessity.	The analysis is on the basis of data obtained from secondary sources.	It has been observed that responsiveness and initiatives of the companies towards CSR and sustainability issues are being published through different reports, viz., CSR reports, sustainability reports, Global Reporting Initiative (GRI), etc.
Kim S. and Bae J. (2016)	To analyse whether there is impact of two types of CSR campaign messages, conceptual vs. Perceptible, and buying goal of stakeholders such impact differs by cultural difference in uncertainty avoidance such impact negotiated through apprehended lucidity of the CSR campaign message and actual CSR investments.	Two cultural groups, 90 American and 110 Korean college students were considered for the purpose of the study. Inferential statistics such as Two-way ANOVA have been employed to analyse the data.	The study observed that there is more impact of concrete, i.e. perceptible CSR message campaigns than conceptual on the buying goal among Korean students than Americans, with high uncertainty avoidance among the former as compared to the latter. Further, this preferred impact has been observed to be negotiated through apprehended lucidity of the concrete CSR campaign message and such actual CSR investments.
Moratis L. and Egmond M. (2018)	To observe the relationship between CSR performance level of corporate and extent of earnings management which the companies are practising and the influence of industries with high and low environmental reverberations on this type of relationship.	A large sample of 5494 companies over a time span of 7 years from 2003 to 2009 has been considered for the purpose of the study.	The study reveals that there is a positive but statistically insignificant relationship between earnings management and CSR, and the firms having 'high environmental impact' though may not seem to practice earning management to the extent as practiced by firms with 'low environmental impact', are found to be spending a huge amount of money in CSR interventions.

III. RESEARCH GAP

In course of reviewing CSR related literature, it has been found that studies have been made regarding conceptual aspects of CSR, the challenges in implementing CSR policies, the relationship between the initiatives taken under this concept by corporate and its financial impact, and also in analysing different aspects of CSR - anti-corruption practised as a CSR intervention by MNCs, protecting environment, helping in green marketing, boosting in rural development, studying whether the Companies Act, 2013 can be considered as a boon or a bane for the corporate, etc. However, no recent studies have been found wherein the CSR disclosures, practices and compliance in light of the mandate provision of Companies Act 2013 and DPE guidelines by CPSEs, who have been endowed with greater responsibility in the development of a nation's economy and fulfilment of various social obligations, have been made.

IV. OBJECTIVES OF THE STUDY

Fulfilling social obligations being one of the important objectives for establishing the CPSEs, the study aims at:

- looking at the mandate CSR clause under Section 135 of new Companies Act 2013 along with DPE guidelines, and
- analysing the CSR practices, disclosures and compliances of the new and revised CSR regulations and guidelines by the Maharatna companies, one of the groups of CPSEs, during pre- and post- Act era.

The remainder of the paper is desiged as follows : Section V deals with methodulogy. This is follow by analysis and findugs in Section V. Section VI and VII give conclusion and limitations and furthur scope of the study, respectivly.

V. METHODOLOGY

This is a descriptive as well as exploratory study conducted through review of annual reports of all Maharatna companies (10 nos. – *Annexure A*) over a time span of 10 years from 2009-10 to 2018-19. The 5-year period prior to the implementation of the mandate clause of CSR of the Companies Act, 2013, i.e., 2009-10 to 2013-14, have been considered as Pre-Act Era and 5-year thereafter as Post-Act Era. In order to analyse qualitative data quantitatively, *Content Analysis* and *Cluster Analysis* have been conducted for the companies over the said time frame. Moreover, after studying various CSR dimensions included in internally recognized indices and matching with the thrust areas mentioned in Schedule VII of Companies Act 2013 (*Annexure C*), three basic parameters have been chosen to construct the CSR Investment Index, and on the other hand, based on the existing literature, CSR Disclosure Index has been constructed using dichotomous approach based on the disclosure of selected CSR parameters/sub-parameters by the companies.

V. ANALYSIS AND FINDINGS

Section 135 of Companies Act, 2013 relating to CSR, Schedule VII and Companies (Corporate Social Responsibility Policy) Rules came into force with effect from 1st April 2014. In tune with the revised provisions, there have been some amendments in the DPE guidelines (*Annexure B*).

Since CPSEs have been set up with a major objective of serving the society, the Department of Public Enterprises (DPE), Ministry of Heavy Industries and Public Enterprises issued CSR guidelines on 9th April, 2010, i.e., before the Companies Act 2013 came into being, and such guidelines were further revised by new guidelines on 'Corporate Social Responsibility and Sustainability for Central Public Sector Enterprises' effective from 1st April, 2013.

The provisions of Section 135 of Companies Act, 2013 with some *salient points* as per the DPE guidelines are summarised below:

- Every Company (including its holding or subsidiaries, foreign company with branches or project offices in India) having a minimum of net worth of rupees five hundred crore, turnover of rupees one thousand crore or net profit of rupees five crore, must spend in every financial year, at least two per cent of their respective average net profits made during the three immediately preceding financial years. It is to be noted that as per DPE guidelines, even if the profit-making CPSEs are found to be not falling within the eligibility criteria, then too, if those CPSEs are making profit in the preceding year, those CPSEs must spend minimum 2% of the profit of the previous year on CSR activities.
- A CSR Committee of the Board has to be constituted and needs to abide by the following regulations: a) It should consist of three or more directors, out of which at least one director shall be an independent director. b) It would be responsible to formulate and recommend to the Board the CSR policy indicating the CSR initiatives in accordance with Schedule VII, the mandate amount of CSR to be spent, and develop internal operating system and a transparent monitoring mechanism for the CSR activities of the company. There should be special emphasis towards conducting CSR interventions in the local area and areas around which the company operates.
- After considering the suggestions regarding CSR from the CSR committee, the Board of every company shall approve the CSR policy. It must report or include a comprehensive Report on CSR in the format as prescribed in the Companies (Corporate Social Responsibility Policy) Rules, 2014, containing particulars on overview of CSR Policy, composition of the CSR Committee, average Net Profit, CSR to be spent, details of its spending, reason in case of failure to spend the prescribed amount, the CSR activities to be taken up through different projects, details of different implementing agencies through which the CSR interventions will be conducted, etc.
- The CSR policy should also be available on the Company's Website.
- The CSR interventions may be implemented, as decided by the Board, in project/ programme mode either directly, or through the company's own Foundation or through an implementing agency, as defined in the CSR Rules. For CPSEs, implementation has to be made through projects.

Though it is the discretion of the board whether the unspent amount will be carried forward to the following year or get lapsed in the current year, in case of CPSEs, mere reporting and explaining the cause of not spending the budgeted amount will not suffice, rather, that needs to be carried forward to the following year for spending on CSR activities. However, in this regard, Companies (Amendment) Act, 2019 has incorporated some changes like transferring the unspent amount to a specified fund as stated in Schedule VII within a stipulated time period after which that said amount being unspent will be again transferred to a special account known as the Unspent Corporate Social Responsibility Account in any scheduled bank. This amount, if not spent within a period of three financial years from the date of such transfer, is to be again transferred to a fund specified in Schedule VII, within a period of thirty days from the date of completion of the third financial year. Failing to comply with any of the above provisions will attract punishable offence both for the company and every officer of the defaulting company.

5.1 CSR Investments of Maharatna Companies in pre- and post- Act era

CSR investments (Rs. in crore) of the companies over the study period have been shown in table 1.

TABLE 1

Total CSR Investment over the Study Period of 10 years (2009-10 to 2018-19)

Financial Yr. Maharatna Companies	Actual Spent on CSR Activities (Cr.)									
	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10
BHEL	35.84	7.36	26.78	66.2	102.06	46.54	37.96	36.46	21.55	4.01
BPCL	177.94	166.02	90.98	95.58	33.95	34.38	17.88	7.05	5.18	5.42
CIL	27.33	24.31	128.05	73.26	24.62	141.7	23.73	10.35	5.94	No data available
GAIL	119.29	91.65	92.16	118.64	41.36	62.57	64.65	54.43	59.90	20.77
HPCL	159.81	156.87	108.11	71.76	34.07	23.74	21.76	No data available		
IOC	490.6	331.05	213.99	156.68	113.79	81.91	78.97	75.24	No data available	
NTPC	285.46	241.54	277.81	413.5	205.18	109.77	69.24	49.44	No data available	
ONGC	614.64	503.4	525.9	421	495.23	341.3	261.57	No data available		
PGCIL	195.51	157.99	147.27	115.78	47.42	21.66	21.75	26.97	15.58	4.29
SAIL	31.18	25.7	29.05	76.16	35.04	62.06	53.29	61.25	68.27	No data available

Source: Annual Reports

It can be observed that HPCL, IOC and PGCIL have shown a constant upward trend during the Post-Act Era (2014-15 to 2018-19) while others have shown a fluctuating trend. Though relevant information of the pre-Act era are not available for all the years, it can be said that the CSR investment has significantly increased during Post-Act era, i.e., 2014-15 onwards, specifically for BPCL, GAIL, HPCL, IOC, NTPC, ONGC, PGCIL i.e. 70% of the Maharatna companies. However, it is to be noted that CIL's CSR expenditure in 2013-14 was the highest during the study period due to its intervention in disaster management.

5.2 CSR Disclosures in Pre- and Post- Act era

In the pre-Act era, CSR disclosures regarding CSR budget, actual expenditure on CSR and CSR practices have been made at a very minimal level. According to the DPE guidelines, CPSEs are to prepare CSR budget on the basis of net profit or profit after tax of previous year. In accordance with the DPE guidelines of 2010 and 2013, details regarding CSR disclosure for 4-year period (2010-2014) of the pre-Act era have been shown in Table 2.

The year 2009-10 has not been shown in the table as the DPE guidelines 2010 were not prevalent during that period and as a result, all the relevant data are not available.

TABLE 2

CSR Disclosures in Pre- Act Era

Maharatna Companies	Years in Pre-Act Era	Net Profit/ PAT of Previous Year (₹ in Crore)	CSR Budget as per DPE guidelines	Amount spent (₹ in Crores) [% of Net Profit/ PAT]
BHEL	2013-14	6615	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	46.54 [0.7]
	2012-13	7040	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	37.96 [0.54]
	2011-12	6011		36.46 [0.61]
	2010-11	4311		21.55 [0.5]
BPCL	2013-14	2642.9	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	34.38 [1.3]
	2012-13	1311.27	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	17.88 [1.36]
	2011-12	1546.68		7.05 [0.5]
	2010-11	1537.62		5.18 [0.34]

Maharatna Companies	Years in Pre-Act Era	Net Profit/ PAT of Previous Year (₹ in Crore)	CSR Budget as per DPE guidelines	Amount spent (₹ in Crores) [% of Net Profit/ PAT]
CIL	2013-14	9794.32	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	141.7 [1.45]
	2012-13	8065.1	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	23.73 [0.29]
	2011-12	4696.1		10.35 [0.22]
	2010-11	3779.91		5.94 [0.16]
GAIL	2013-14	4022.2	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	62.57 [1.56]
	2012-13	3653.84	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	64.65 [1.77]
	2011-12	3561.13		54.43 [1.53]
	2010-11	3139.84		59.9 [1.91]
HPCL	2013-14	904.71	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	23.74 [2.62]
	2012-13	911.43	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	21.76 [2.39]
	2011-12	Data not Available		
	2010-11			
IOC	2013-14	5005.17	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	81.91 [1.64]
	2012-13	3954.62	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	78.97 [2]
	2011-12	7445.48		75.24 [1.01]
	2010-11	Data not Available		
NTPC	2013-14	12619.39	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	109.77 [0.87]
	2012-13	9223.73	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	69.24 [0.75]
	2011-12	9102.59		49.44 [0.54]
	2010-11	Data not Available		

Maharatna Companies	Years in Pre-Act Era	Net Profit/ PAT of Previous Year (₹ in Crore)	CSR Budget as per DPE guidelines	Amount spent (₹ in Crores) [% of Net Profit/ PAT]
ONGC	2013-14	20925.7	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	341.3 [1.63]
	2012-13	25122.9	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	261.57 [1.04]
	2011-12	Data not Available		
	2010-11			
PGCIL	2013-14	4234.5	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	21.66 [0.51]
	2012-13	3254.95	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	21.75 [0.67]
	2011-12	2696.89		26.97 [1]
	2010-11	2040.94		15.58 [0.76]
SAIL	2013-14	2170.35	1% - 2% (since PAT of previous year is above ₹ 500 Crore)	62.06 [2.86]
	2012-13	3542.72	0.5% - 2% (since Net profit of previous year is above ₹ 500 Crore)	53.29 [1.5]
	2011-12	4904.74		61.25 [1.25]
	2010-11	6754.37		68.27 [1]

Source: Annual Reports

Table 3 shows that there has been changes in CSR disclosure practices during the Post-Act era in order to fulfil the requirement of the new norms.

TABLE 3

CSR Disclosures during Post- Act Era

Maharatna Companies	Years	Average Net Profit for last 3 Years (₹ in Crore)	CSR Mandate as 2% of Average (₹ in Crores)	Amount spent (₹ in Crores) [% of Average Net Profit]	Amount Unspent (₹ in Crores)
BHEL	2018-19 2017-18 2016-17 2015-16 2014-15	333.29 517.58 1874.21 5501.63 8222.33	6.67 10.35 37.5 110.1 165	4.7 [1.41] 7.36 [1.42] 26.78 [1.43] 66.2 [1.2] 102.06 [1.24]	1.97 2.99 10.72 43.9 62.94
BPCL	2018-19 2017-18 2016-17 2015-16 2014-15	10165.92 9166.48 7957.09 5629.89 3800.53	203.32 183.33 159.14 112.60 76.01	31.07 [0.31] 38.79 [0.42] 31.91 [0.4] 53.53 [0.95] 33.95 [0.89]	172.25 144.54 127.23 59.07 42.06

Maharatna Companies	Years	Average Net Profit for last 3 Years (₹ in Crore)	CSR Mandate as 2% of Average (₹ in Crores)	Amount spent (₹ in Crores) [% of Average Net Profit]	Amount Unspent (₹ in Crores)
CIL	2018-19	324.84	6.50	27.33 [8.41]	-
	2017-18	393.87	7.88	24.31 [6.17]	-
	2016-17	681.75	13.65	128.05 [18.78]	-
	2015-16	984.59	19.69	73.26 [7.44]	-
	2014-15	1202.12	24.04	24.62 [2.05]	-
GAIL	2018-19	4360.64	87.21	119.29 [2.74]	-
	2017-18	3483.5	69.67	91.65 [2.63]	-
	2016-17	4074	81.47	92.16 [2.26]	-
	2015-16	5117.05	102.34	118.64 [2.32]	-
	2014-15	5933.37	118.67	41.36 [0.7]	77.31
HPCL	2018-19	7942.93	158.86	159.81 [2.01]	-
	2017-18	6318.78	126.38	156.87 [2.48]	-
	2016-17	4145.04	82.9	108.11 [2.61]	-
	2015-16	2696.07	53.92	71.76 [2.66]	-
	2014-15	1701.49	34.03	34.07 [2]	-
IOC	2018-19	24,529.81	490.60	490.6 [2]	-
	2017-18	16397.11	327.94	327.94[2]	-
	2016-17	10633.26	212.67	209.56 [1.97]	3.11
	2015-16	7075	141.5	141.5 [2]	-
	2014-15	5647.5	112.95	112.95[2]	-
NTPC	2018-19	11850.34	237.01	285.46[2.41]	-
	2017-18	11037.3	220.75	241.54 [2.19]	-
	2016-17	11392.68	227.85	277.81 [2.44]	-
	2015-16	13567.43	271.35	413.5 [3.05]	-
	2014-15	14173.78	283.48	205.18 [1.45]	78.30
ONGC	2018-19	24010.39	480.21	614.64 [2.56]	-
	2017-18	2435.19	487.04	503.4 [20.67]	-
	2016-17	26783.46	535.67	525.9[1.96]	9.77
	2015-16	29684.8	593.7	421 [1.42]	172.7
	2014-15	33030	660.61	495.23 [1.5]	165.38
PGCIL	2018-19	9336.05	186.72	195.52[2.09]	-
	2017-18	7896.81	157.94	157.99[2]	-
	2016-17	6779	135.58	147.27[2.17]	-
	2015-16	6089.71	121.79	115.78 [1.9]	6.01
	2014-15	5525.53	110.51	47.42[0.86]	63.09
SAIL	2018-19	N.A.	N.A.	31.18 [N.A.]	-
	2017-18	N.A.	N.A.	25.7 [N.A.]	-
	2016-17	N.A.	N.A.	29.05[N.A.]	-
	2015-16	2859.9	57.2	57.2[2]	-
	2014-15	3872	78	35.04 [0.9]	42.96

Source: Annual Reports.

Table 3 shows that CIL has incurred CSR expenditure much above the mandate amount during all the years and ONGC has spent for CSR in 2017-18 much above the mandate amount. BHEL and BPCL are having unspent amount during all the years and for other companies in some years there are some unspent amount. Though no amount is mandated to be spent for CSR for the years 2018-19, 2017-18 and 2016-17, due to reporting of average net loss during the three immediately preceding financial years concerned, SAIL as a responsible corporate citizen has continued its endeavour towards serving the society spending the amount for CSR activities in spite of having reported losses, excepting for the year 2014-15 when there is unspent amount.

Table 4 summarises the findings as to whether the companies have fulfilled the norms during pre-and post-act era towards CSR spending.

TABLE 4

Compliance of Pre- and Post- Act Regulations/ Guidelines with respect to CSR spending

<table>
<tr><th>Maharatna Companies</th><th>CSR Spending is within the CSR Budget Range as per DPE 2010 Guidelines (Pre-Act Era)</th><th>CSR Spending is equal or more than CSR expenditure to be made as per Companies Act 2013 (Post-Act Era)</th></tr>
<tr><td>BHEL</td><td>Yes</td><td>No</td></tr>
<tr><td>BPCL</td><td>Yes, except in 2010-11</td><td>No</td></tr>
<tr><td>CIL</td><td>No</td><td>Yes</td></tr>
<tr><td>GAIL</td><td>Yes</td><td>Yes, in all the years except in 2014-15</td></tr>
<tr><td>HPCL</td><td>Yes (data for 2010-11 and 2011-12 are not available)</td><td>Yes</td></tr>
<tr><td>IOC</td><td rowspan="2">Yes (data for 2010-11 are not available)</td><td>Yes, except in 2016-17</td></tr>
<tr><td>NTPC</td><td>Yes, except in 2014-15</td></tr>
<tr><td>ONGC</td><td>Yes (data for 2010-11 and 2011-12 are not available)</td><td>Only in 2018-19 and 2017-18</td></tr>
<tr><td>PGCIL</td><td>Yes</td><td>Yes, except in 2014-15 and 2015-16</td></tr>
<tr><td>SAIL</td><td>Yes</td><td>No amount was required to be spent due to reported losses, yet the company spent for CSR activities in 2018-19, 2017-18 and 2016-17, and total amount was spent as per norms in 2015-16, and there was unspent in 2014-15.</td></tr>
</table>

Section 135 of the Companies Act 2013 provides if the CSR mandate amount remains unspent, the Board of the defaulting company shall report the reasons for not spending the required amount for CSR activities.

The *major reasons* stated by the companies are as follows.

- Multi-year projects related to infrastructure, sanitation, education, health, rural development are time-consuming ones.
- Procedural delays, administrational glitches and other obstacles in implementation of CSR interventions.
- Payments are linked to achievement of different progress levels of each CSR initiative.

5.3 CSR Initiatives in pre- and post- Act era

In pre-Act era, disclosure on investment in different CSR initiatives or thrust areas have been observed to be made only by ONGC in 2013-14.

In post-Act era, investments in different CSR initiatives or thrust areas as per Schedule VII of Companies Act, 2013 by the Maharatna companies have been shown in table 5.

TABLE 5

Thrust Areas of CSR Investments

CSR Thrust Areas	Observations
Education and Skills Development	BPCL and NTPC have shown a constant upward trend in this thrust area.
Other Community Development Issues	ONGC has invested the most in this thrust area among the surveyed companies.
Environmental-related Issues	ONGC has emphasized the most among the surveyed companies. Among the surveyed companies, IOC has shown constant upward trend in investing in this thrust area.
Promotion of Sports, Arts, Culture and protection of heritage	IOC has invested the most among the companies showing fluctuating trend over the surveyed years.
Beneficial Relief to Armed Veterans	Around 30% of the surveyed companies have explored this thrust area. PGCIL has invested the most among them.
Rural Development	The investment in the concerned thrust area has shown a fluctuating trend among the surveyed companies.

Source: Annual Reports.

It has been found that ONGC, among the surveyed companies, has contributed to ONGC Foundation which also qualifies as CSR expenditure as per General Circular No. 21/2014 of Ministry of Corporate Affairs (MCA) dated June 18, 2014. Its respective contributions to the said fund over 2015-16 and 2016-17 are 9.9 Cr. and 0.40 Cr.

5.4 Content Analysis

Content analysis is a widely used qualitative research technique through interpretation and coding of textual facts to formulate replicable and suitable conclusions. Among the three different approaches to *Content Analysis* - Conventional, Directed and Summative, the *Summative Content Analysis* has been deployed in the study which involves counting and comparisons, specifically of keywords or content, followed by the elucidation of the latent context.

In order to conduct content analysis, the following 31 sub-parameters have been selected according to each and every thrust area as specified in Schedule VII.

Socio/Social, Hunger, Poverty, Malnutrition, Livelihood, Health, Sanitation, Safe Drinking Water /Drinking Water, Education, Skill, Employment, Children/ Day care, Women, Orphans/ orphanages, Under-privileged/ Disabilities/ Differently abled, Old-Age/ Elderly, Gender Equality, Community /Communities, Slum, Environment, Ecological Balance, Flora & Fauna, Animal Welfare, Agroforestry, Natural Resources, Heritage, Art &/and Culture, Sports, Technology Incubators, Army veterans/armed forces, Rural.

5.5 Cluster Analysis

Cluster Analysis, or clustering, is a method in which a set of objects are congregated in such a manner that objects in the same group (called a cluster) are more similar (in some sense or another) to each other than to those in other groups (clusters).

Among the various clustering models, *Connectivity Model* has been adopted for the purpose of the study.

Herein, the basic assumption is that points closer to each other are more related. The acceptable process of algorithm in this process is to continuously subsume a data point or group of data points with other data points and/or groups until all points are incorporated into one big cluster. At different distances, different clusters are formed, which can be represented using a dendogram. In a dendogram, the y-axis represents the distance at which the clusters merge, while the objects are placed along the x-axis such that the clusters do not get mixed.

After conducting content analysis, the 31 sub-parameters have been clubbed into the following 11 broad parameters for the purpose of cluster analysis:

- 'Socio/social' sub-parameter taken under 'Social' parameter
- The sub-parameters 'hunger, poverty, malnutrition, livelihood' clubbed into parameter 'Basic Livelihood'
- 'Health, Sanitation, Safe Drinking water/Drinking Water' clubbed into 'Healthcare'
- 'Education, Skill, Employment' clubbed into 'Education and Skill Development'
- 'Children/ Day care, Women, Orphans/ orphanages, Under-privileged/ Disabilities/ Differently abled, Old-Age/ Elderly, Gender Equality, Community /Communities, Slum'- all these sub-parameters taken under 'Other Community Development Issues'
- 'Environment, Ecological Balance, Flora & Fauna, Animal Welfare, Agroforestry, Natural Resources' clubbed under 'Environment Sustainability'
- 'Heritage' taken under the parameter 'Restoration of Heritage'
- 'Art &/and Culture, Sports' clubbed under 'Promotion of sports, arts and culture'
- 'Technology Incubators' taken under 'Contribution to Technology Incubators'
- 'Army veterans/armed forces' clubbed under 'Benefit to Army veterans/ armed forces'

- 'Rural' under the parameter 'Rural Development'.

Comparative analysis in respect of only 'Social' parameter for the post- and pre Act era is graphically shown in Figures 1 & 2, respectively, For other parameters, same process has been followed.

FIGURE 1

Post- Act Era

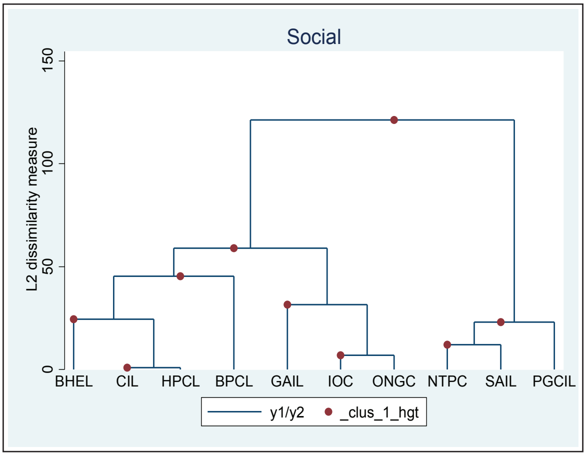
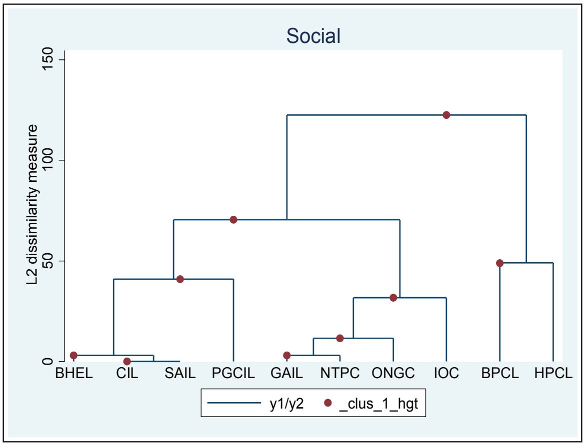


FIGURE 2

Pre- Act Era



From figures 1 & 2, it can be seen that in the post-Act era, through employing single-linkage criterion, CIL and HPCL, IOC and ONGC, NTPC and SAIL have been clustered together whereas during the pre-Act era, CIL and SAIL, GAIL and NTPC, BPCL and HPCL have been found to have formed the clusters. The remaining clusters and overall linkage have been formed through average linkage criterion in both pre- and post Act era.

In respect of the other 10 parameters, similar pattern of clusters have been observed among Maharatna companies during both the pre- and post- Act era, thereby reaching to the conclusion that all the Maharatna companies seem to have been engaged in CSR initiatives in both the eras, though transparent disclosures of CSR initiatives have been observed only after the implementation of the new Act.

5.6 Construction of CSR Index

While constructing an index for CSR, two perspectives have been looked into:

- Investment perspective, and
- Disclosure perspective.

In constructing CSR Investment Index, objectivity has been maintained as it is based on pecuniary aspect whereas CSR disclosure index is based on subjective analysis of selecting CSR disclosure items and scoring them on a dichotomous scale.

5.7 CSR Investment Index

Globally acceptable indices incorporating CSR dimensions are:

- **MSCI KLD 400 Social Index:** This capitalization weighted index exhibiting excellent Environmental, Social and Governance (ESG) ratings incorporates environment, community and society, employees and supply chain, customers, governance and ethics as CSR dimensions.
- **Fortune Most Admirable Index**: Fortune classify companies on the basis of the following nine key aspects, viz., Innovation, People management, Use of corporate assets, Social responsibility, Quality of management, Financial soundness, Long-term investment value, Quality of products/services, Global competitiveness.
- **Vigeo Index**: Human resources, Environment, Corporate governance, Community involvement, Business behaviour, Human rights are considered as CSR dimensions.
- **Dow Jones Sustainability Index (DJSI):** The dimensions mentioned in this index are:

  a) Economic Dimensions - Corporate governance, Risk and crisis management, Codes of conduct/compliance/anti-corruption and bribery, Industry-specific criteria

  b) Environmental Dimensions- Environmental reporting, Industry-specific criteria

  c) Social Dimensions- Human-capital development, Talent attraction and retention, Labour practice indicators, Corporate citizenship/ philanthropy, Social reporting, Industry-specific criteria.
- Taking into consideration the above CSR dimensions incorporated in the aforesaid four internationally recognised indices and matching with the CSR thrust areas specified in Section VII of the Companies Act 2013, three basic CSR parameters- Environment, Community & Society and Human Capital Development have been chosen to construct the

following CSR Investment Index for the surveyed companies. Since investments in different CSR thrust areas cannot be obtained for the pre-Act era, *investments in the post- Act era have been considered while constructing the CSR Investment Index*. The investments in 'Education and Skill Development' thrust area during the post-Act era have been incorporated in 'Human Capital Development' parameter, investments in 'Environmental related Issues' thrust area have been clubbed in 'Environment' parameter and investments in other thrust areas have been considered for 'Community and Society' parameter.

- CSR Investment Index has been constructed using the following formula:
- *(Investment in each basic parameter ÷ Total investment in all the parameters)* x *100*
- Investment in each basic parameter for the study period concerning the post-Act years has been shown in table 6:

TABLE 6

Investment during post-Act period (Rs. in Cr)

Maharatna Companies	Environment	Community and Society	Human Capital Development
BHEL	7.12	66.57	150.91
BPCL	11.19	412.77	139.3
CIL	16.05	232.19	28.87
GAIL	Insufficient data		
HPCL	122.95	204.38	202.43
IOC	276.05	640.64	329.19
NTPC	174.46	948.53	339.67
ONGC	442.18	1657.67	378.22
PGCIL	36.76	470.36	132.11
SAIL	23.68	103.72	66.01

Table 7 shows the CSR Investment Indices calculated based on the figures shown in table 6.

TABLE 7

CSR Investment Indices

Maharatna Companies	Environment	Community and Society	Human Capital Development
BHEL	3.170080142	29.63935886	67.190561
BPCL	1.98664915	73.28232078	24.73103007
CIL	5.791923785	83.78983075	10.41824546
HPCL	23.20862277	38.57973422	38.21164301
IOC	22.15702957	51.42068257	26.42228786
NTPC	11.92758399	64.84965747	23.22275854
ONGC	17.84372516	66.89359058	15.26268427
PGCIL	5.750668773	73.58227868	20.66705255
SAIL	12.24342071	53.62700998	34.12956931

From the above analysis, it can be observed that BHEL has invested mostly in 'Human Capital Development' parameter whereas other Maharatna companies have been emphasizing on 'Community and Society' parameter.

5.8 CSR Disclosure Index

A disclosure index represents a form of quantification of disclosure level in annual report of companies (Martin R. *et al,* 2018). According to Botosan (1997), this index serves as a good substitute for the level of disclosure provided by a firm across all disclosure avenues.

While constructing CSR disclosure index, the method adopted for scoring items has been dichotomous in nature (Tilakasiri, 2013). Herein, score of one (1) has been assigned to an item which is found to be reported in the study period and a score of zero (0) to an item which is observed to have been not at all reported during the period (Table 8). Therefore, the total score (T) for a particular company after assigning scores to disclosed and non-disclosed items or parameters/sub-parameters will be:

Where T→Total Score; n→ maximum number of items; t_1→total of a company for all parameters/sub-parameters; di→ disclosure score

No weights have been assigned to the disclosure scores assuming that each chosen parameter/sub-parameter/item is equally significant for all the companies under study.

The CSR indices have been calculated accordingly by summing up all the scores of disclosed items/ CSR sub-parameters and dividing the same by the required sum of scores of all the items. It has been found that total 24 items have been disclosed out of 31 items by BHEL. Therefore, the CSR index for BHEL has been calculated as 24/31, or 0.77419. In the same way, the CSR indices of all the Maharatna companies have been calculated and shown in table 8.

TABLE 8

CSR Disclosure Indices

CSR Sub-Parameters Maharatna Companies	BHEL	BPCIL	CIL	GAIL	HPCL	IOC	NTPC	ONGC	PGCIL	SAIL
Socio/Social	1	1	1	1	1	1	1	1	1	1
Hunger	0	1	1	1	0	0	1	1	1	1
Poverty	1	1	1	1	1	1	1	1	0	1
Malnutrition	0	1	1	0	0	0	1	1	1	1
Livelihood	1	1	1	1	1	1	1	1	1	1
Health	1	1	1	1	1	1	1	1	1	1
Sanitation	1	1	1	1	1	1	1	1	1	1
Safe Drinking Water/ Drinking Water	1	1	1	1	1	1	1	1	1	1
Education	1	1	1	1	1	1	1	1	1	1
Skill	1	1	1	1	1	1	1	1	1	1
Employment	1	1	1	1	1	1	1	1	1	1
Children/Day Care	1	1	1	1	1	1	1	1	1	1
Women	1	1	1	1	1	1	1	1	1	1
Orphans /Orphanages	1	1	0	0	1	0	1	1	1	1
Under-privileged/ Disabilities/ Differently-abled	1	1	1	1	1	1	1	1	1	1
Old-Age/ Elderly	1	1	0	1	1	1	1	1	0	1
Gender Equality	1	1	1	1	1	1	1	1	0	1
Community / Communities	1	1	1	1	1	1	1	1	1	1
Slum Area Development	1	1	1	0	1	0	0	1	0	0
Environment	1	1	1	1	1	1	1	1	1	1
Ecological Balance	1	1	1	0	1	1	1	1	1	1
Flora & Fauna	0	1	0	1	0	0	1	1	1	1
Animal Welfare	0	1	0	0	0	0	1	1	1	1
Agroforestry	0	1	0	0	0	1	1	1	0	1
Natural Resources	1	1	1	1	1	1	1	1	1	1
Heritage	1	1	0	1	1	1	1	1	1	1
Art &/and Culture	1	1	1	1	1	1	1	1	1	1
Sports	1	1	1	1	1	1	1	1	1	1
Technology Incubators	0	0	0	0	0	0	0	0	0	0

CSR Sub-Parameters Maharatna Companies	BHEL	BPCIL	CIL	GAIL	HPCL	IOC	NTPC	ONGC	PGCIL	SAIL
Army veterans/armed forces	0	0	1	0	1	0	0	0	1	0
Rural	1	1	1	1	1	1	1	1	1	1
Total Disclosure Score (T)	24	29	24	23	25	23	28	29	25	28
Required Score (R)	31	31	31	31	31	31	31	31	31	31
CSR Disclosure Index (T/R)	0.77419	0.93548	0.77419	0.74194	0.80645	0.74194	0.90323	0.93548	0.80645	0.90323
Disclosure Index (%)	77	94	77	74	81	74	90	94	81	90

The closer the final score to 1, the CSR disclosure is considerably higher (Martin, *et al,* 2018). Now, ranking of each category of CPSEs has been done as below:

(i) Companies with CSR Disclosure Index lower than 50% have been ranked as Companies in 'Low Disclosure' category.

(ii) Companies with CSR Disclosure Index within 50% to 75% have been ranked as Companies in 'Moderate Disclosure' category.

(iii) Companies with CSR Disclosure Index above 75% have been ranked as Companies in 'High Disclosure' category.

Table 8 reveals that most of the Maharatna Companies (80%) belong to 'High Disclosure Category' and only 20% fall in 'Moderate Disclosure' category.

VI. CONCLUSION

The new Companies Act 2013 has undoubtedly brought a new dimension in CSR investments and reporting of such by the corporate. As evident from the foregoing analysis, it can be stated that there has been more transparency and consistency in CSR initiatives among corporate, more clarity in their reporting of those CSR investments. It has been found that CSR expenditure has significantly increased during post-Act era, i.e., from 2014-15 onwards and the disclosure of CSR interventions and CSR expenditure as required under the Act have been made by most of the Maharatna companies particularly during last three years of the study period. The *CSR Investment Index* reveals that 90% of Maharatna have focussed on 'Community and Society' parameter while the second most important parameter is 'Human Capital Development'. On the other hand, *CSR Disclosure index* shows that 80% of Maharatna companies have ranked in 'High Disclosure' category which are reporting more than 75% of the CSR disclosure items and none of the companies have been put in 'Low Disclosure' category. Therefore, it may be concluded that though majority of the Maharatna companies have been investing in CSR initiatives since prior to the introduction of statutory provisions of CSR under the Companies Act 2013, CSR activities and expenditure have been disclosed in a more transparent manner during the Post-Act era.

VII. LIMITATIONS AND FUTURE SCOPE OF RESEARCH

The present study has focussed on only one group of CPSEs, i.e., Maharatna Companies, and based on only information available from the secondary sources. Moreover, impact of CSR spending could not be studied. Therefore, further studies may be made considering all the groups of CPSEs (Maharatna, Nabaratna, Miniratna –I and Miniratna – II Companies), and impact of the CSR spending may be an important study to explore to what extent the mandatory provisions have been effective towards fulfilment of social objectives.

ANNEXURE A

List of the Maharatna Companies

1. Bharat Heavy Electricals Limited (BHEL)
2. Bharat Petroleum Corporation Limited (BPCL)
3. Coal India Limited (CIL)
4. GAIL (India) Limited (GAIL)
5. Hindustan Petroleum Corporation Limited (HPCL)
6. Indian Oil Corporation Limited (IOC)
7. NTPC Limited (NTPC)
8. Oil & Natural Gas Corporation Limited (ONGC)
9. Power Grid Corporation of India Limited (PGCIL)
10. Steel Authority of India Limited (SAIL)

ANNEXURE B

DPE Guidelines, 2010 and 2013

According to 2010 DPE guidelines, CPSEs are mandated to create CSR budget through a Board Resolution as a percentage of net profit of previous year as follows:

Net Profit of Previous Year	CSR budget (% of profit)
(i) Less than ₹100 Crore	3% - 5%
(ii) ₹ 100 Crore to ₹ 500 Crore	2% - 3% (subject to a minimum of 3 Crore)
(iii) ₹ 500 Crore and above	0.5% - 2%

As per 2013 DPE guidelines on CSR and Sustainability, CPSEs are mandated to create budget for CSR and Sustainability activities with the approval of its Board of Directors on the basis of Profit after Tax (PAT) in the previous year as follows:

PAT in Previous Year	CSR budget (% of PAT)
(i) Less than ₹ 100 Crore	3% - 5%
(ii) ₹ 100 Crore to Rs. 500 Crore	2% - 3%
(iii) ₹ 500 Crore and above	1% - 2%

ANNEXURE C

Thrust Areas as per Schedule VII of Companies Act 2013

- To efface the daily life segments including poverty, malnutrition and hunger while enhancing the standard of living and promoting the facets of better health care and sanitation.
- To promote the different segments of education including special education and programs, to enhance the vocation skills for all ages like children, women, elderly and differently-abled and also to conduct other livelihood enhancement projects.
- To bring the uniformity in respect of different sections of the society, to promote gender equality and other facilities for senior citizens and to develop hostels for women and orphans and to take initiatives for empowering women and reducing inequalities faced by socially and economically backward groups.
- To ensure protection of the segment of flora and fauna, considering to restore the ecological balance and sustainability of the environment and animal welfare, conservation of natural resources and ago forestry while maintaining the quality of air, water and soil.
- To keep Heritage India in mind through protecting art and culture and undertaking measures to restore sites of historical importance and national heritage and promoting the works of art and setting up of public libraries.
- To provide beneficial relief to armed forces veterans, war windows, and their dependents.
- To arrange for sports programs and training sessions to enhance the level of rural sports, nationally recognized sports, paralympic sports and Olympics sports.
- To contribute to Prime Minister's National Relief Fund or any other fund set up by the Central Government for promoting socio-economic development and welfare of the Schedule Castes, Schedule Tribes and other backward classes, minorities and women. However, CPSEs are not allowed to donate in this fund.
- To provide funds to enhance the technology incubators situated within academic institutions approved by the Central Government.
- To introduce various projects for Rural Development.
- To develop slum areas.

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Anchor Investment and Post-Listing Price Performance of IPOs: Evidence from India

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ABSTRACT

Security Exchange Board of India (SEBI) in June 2009 launched the mechanism of 'Anchor investment' with twin objectives of ensuring greater efficiency and enhancing the confidence of investors in Initial Public Offering (IPO) in Indian capital market. The orientation of the mechanism is price stability in the post-listing share price. The present study is an attempt to examine the influence of anchor investment on IPOs price performance. As many as 162 samples (IPO Anchor backed and IPO non-Anchor backed) issued through book building method and listed in National Stock Exchange of India from July 2009 to December 2016 have been considered. Analysis of the data using Mann Whitney U-test revealed that on listing date, anchor investment has no influence on the price of share. However, in six months and in one year after listing date, anchor investment has a positive influence on price performance of IPOs. However, a further research with extended empirical evidence is suggested to validate the present findings.

Key words: IPO, Anchor Investment, Underpricing

I. INTRODUCTION

The large scale economic reforms in India in July 1991 triggered significant development in Capital Market. The Government of India clipped the wings by scraping the control and regulated regime Controller of Capital Issue (CCI) and replacing it with a more transparent and independent regulator called Securities and Exchange Board of India (SEBI). On the basis of recommendations of the Narasimham Committee, SEBI was given statutory recognition in 1992. The Capital Market is divided into three parts, namely, Stock Market, long term Government Bonds and Debt Market. Sweeping technological advancement and stringent regulatory control in the stock market have brought fair environment in stock investment in India. Investors across the country as well from the globe have started perceiving Indian Capital market as a new investment opportunity to make profit. The companies have started considering Indian Capital Market as a good place to raise equity capital. Industrial securities market (Stock market) is bifurcated into two segments, (a) the primary market (new issue market) for

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newly created securities and (b) the secondary market (stock market) where existing stocks are traded. The new issue market has also shown tremendous improvement in recent years along with the developments in the stock market. The new issue market deals with two kinds of issue, particularly the Initial Public Offering (IPO) and the Follow-on Public Offering (FPO). An Initial Public Offering (IPO) is the first sale of securities by the privately owned company to the general public. For both financing new projects and in an exit strategy of promoters, IPO can be used. From company's perspective, IPO facilitates in fixing issue price and also helps to identify its real value which is determined by the investors once the shares are listed in Stock Exchanges. From investor's point of view, IPO gives an opportunity to purchase shares of a company, directly from the company at the choice price (book building process of IPOs). The issue price may be determined and fixed by the issuing company or it may be ascertained through the book-building process. In India, the book building process is more popular (in term of number of IPO issues). Mayur and Kumar (2006) found statistically significant relationship between IPOs and financial needs of a company.

II. STATEMENT OF PROBLEM

Several studies have found evidence that IPOs are underpriced and therefore after listing of the stock it provides a positive initial return on the first day of trading**.** Underpricing of IPO is a well recorded phenomenon in the economic literature. There is underpricing when the market price of share on the first day of trading is lower than the offer price. The length of underpricing of IPOs differs amongst countries. Because of the prevailing bullish effect in India during the period 2005-06 to 2007-08, excessive underpricing has been noticed. A good number of IPOs have been issued during this period in the primary market. In the year 2008, a massive crash has been noticed in the Indian stock market. As a result, there was an erosion of investors' confidence in capital market. In order to bring back confidence amongst the investors and enhance price discovery as well as price stability to the post-issue price of IPO, SEBI has been introducing different strategies from time to time. Book building mechanism is the dominant price discovery mechanism in Indian IPOs introduced by market regulator. Despite the growing use of book building mechanism in India, IPOs issued in India observed higher rate of underpricing as compared with developed markets like that of the UK and other European countries. Sahoo (2014) found a significant underpricing of IPO issued in India. Another important initiative taken to improve price stability of post-listing IPO price is introduction of Green Shoe Option (GSO) on 12 August 2003. Green Shoe Option is a special provision in an IPO which allows underwriters to sell investors more shares than originally planned by the issuer. GSO initiative also could not do well in Indian IPO market, and volatility still remained the same. Against this backdrop, the capital market regulator SEBI launched the mechanism of Anchor Investment in June 2009. The principal reason behind the launching of the concept anchor investment was to bring price stability to the issue as there is a lock-in period of 30 days during which the allotted shares of anchor investors (investment) are not allowed to flip off. Moreover, it is hoped to improve price discovery and also to stimulate the confidence of investors in IPOs. An anchor investor (investment) is a qualified institutional buyer, who is offered shares of an IPO one day before the public issue. The anchor investor can invest up to 60% of the Qualified Institutional Buyer (QIB) quota and the minimum application size of each anchor investor is ₹10 crore. Obviously as an influential and high net worth investor, an anchor investor is expected to do a lot of research about the company, ahead of making any investment. Having information advantage as compared to retail investors, the anchor investor's confidence is expected to trickle down to the retail investors. Association with anchor investors provides a lot of comfort to the issuer as well as to the banker. In this backdrop, the present study is directed to comprehend (a) whether price stability of share increased after introduction of the concept 'anchor investment'? and (b) whether under-pricing is still prevailing in the secondary market of India?

III. RATIONALE OF THE STUDY

The study helps to figure out whether lunching the new concept Anchor Investment in the primary market has benefitted the retail investors from investment point of view. It also helps companies to figure out whether introduction of anchor investment on IPOs has brought stability in the market or not, and whether or not anchor investment has attracted investors in the market.

IV. REVIEW OF LITERATURE AND RESEARCH GAP

We present below a few literature review on the subject and, based on the analysis, identify research gap.

Low (2009) examined the concept of cornerstone investors in Hong Kong and anchor investors in India are almost similar. In Hong Kong, before launch of IPOs, business tycoons invest capital in the hope of earning handsome returns. Involvement of Cornerstone contributes positively towards growing the general receptiveness of the issue. The study contended that the presence of the big household names and their commitment to hold the stock for a given lock-in period acts as positive signal for the market.

Mishra (2012) tried to prove new evidence on the first day IPO market performance, using a set of 235 IPOs listed between April 1, 1997 and March 31, 2008 on the Indian Stock Exchange. The study examined how a change in the institutional arrangement that govern the pricing of IPOs from the traditional fixed price approach to the building of a book affected the level of underpricing. Examination found that Indian Market was being experienced under-pricing from 2003, which increased over time and was particularly high in 2007. However, the market declined in the first part of 2008. Study also found no significant difference in under-pricing between fixed price and book building offers.

Malpani (2013) studied about the effectiveness of anchor investment to serve the purpose of stimulating investors' confidence and provide stability in a dynamic market at different time period. Using 17 IPO issued during 2009 to 2011, study found that the presence of anchor investment has no influence on the share price ranging from short term and long term horizon. Ity also revealed that price fluctuation of post listing IPOs are mainly caused by other market factors than anchor investment. Ramesh and Dhume (2015) studied the price performance of the IPOs, listed on National Stock Exchange (NSE), using a sample of 150 IPOs that entered the new issue market during May, 2007 to December; 2011. The study revealed that there exists overpricing in the new issue market of India. Secondly, overpricing was more prevalent in the long run time period than short run.

Gupta and Jindal (2016) examined the effect of the lunching of anchor investor that has had on the IPOs returns by comparing the returns from the Anchor backed IPOs with non Anchor Backed IPOs Returns. For the purpose of comparing total 101 IPOs (from 2009 to 2011) listed on the NSC were taken as a sample. The study calculated absolute as well as the market adjusted excess returns on the day of listing and one month post listing data.. Study found no significant difference in the average absolute initial returns and market adjusted excess return between anchor back and non anchor back IPOs. Authors also found that return of both categories of IPOs fall substantially after 30 days.

Amblily *et al.* (2016) studied the performance of IPOs in India, during 2013 to 2015, listed in National Stock Exchange of India. The study finds that there is, on an average, positive return from IPOs. The study further examined that, most of the investors are mainly investing in the securities by looking at the image of the company and not on the basis of fundamental analysis.

Sahoo (2017) using a database of 135 IPOs issued through book building method in Indian market, during 2009-2014, tried to examine the impact of anchor investors' investment on initial public offering. From the study, author found that, IPOs backed by anchor investor are underpriced with lesser magnitude as compared to non-anchor backed IPOs. It further documented that anchor backed IPOs are more liquid and less volatile in the short run.

Hawaldar *et al.* (2018) tried to compare long run price performance of book building IPOs with fixed price IPOs, which went public from 2001 to 2011. Authors found that in comparison to fixed price IPOs, book building IPOs were underpriced by lesser magnitude. Further, the study also finds that book building IPOs generate negative cumulative average abnormal returns up to five years after listing, but fixed price IPOs gives positive cumulative average abnormal returns after one and half years of listing and continue to be positive afterwards. Manu and Saini (2020) examined whether or not Indian IPOs are underpriced in short run. Further, it also tried to determine whether various independent factors such as promoter's holding post–issue, size of the issue and ownership factor have an impact on returns of the selected companies, using data of IPOs issued in the year 2017 at National Stock Exchange. It was found that majority of IPOs in 2017 were underpriced. Further, results also revealed no significant impact of various independent variables on the returns of the selected Indian IPOs.

Even though a large body of work exists in the area of IPOs under-pricing, but very little work has been done focusing on the mechanism of anchor investment and its impact on IPO returns in India. Thus, there is a definite need to ascertain the effect of anchor investment and comprehend the issue of under-pricing of IPOs in Indian context. The **objective of the study** is to find out the intricacies of Anchor backed and Non-Anchor backed IPOs and their post listing price performance.

The remainder of the paper is organized as follows. Research design, and financial techniques used to measure price performance, and statistical techniques and tools used are given in sections V, VI and VII, respectively. Sections VIII and IX deal with results and discussion. Finally, section X contains conclusion and suggestion for further research.

V. RESEARCH DESIGN

5.1 Data Collection and Sample Design

The present study is based on secondary data. The data have been collected from prime database.com. Established in 1889, prime database.com is Indian's first and the only data base to provide data on primary market, fund raising by corporate sector and government through debt / securities and equity in India and abroad. Besides, the secondary data have been collected from nseindia.com, books, magazines, reports and theses. The study is done using data from July 2009 to December 2016.The research included IPOs with equity as instrument, listed in National Stock Exchange. The study tried to compare and analyze the price performance of Anchor backed IPOs with Non Anchor backed IPOs.

5.2 Sample

The sample for the study was taken on the basis of following criteria:

- Companies listed on National Stock Exchange and having a trade history of up to a period of one year were considered for analysis.
- Information regarding Offer Price, Listing Price, Listing Date, and the prices subsequently are available.
- Equity shares and S&P CNX Nifty issue instruments were selected as the market index for the study (for the same period).
- Only retail subscription data are selected for anchor subscription.
- For the study the companies who have issued bonus share and split stock within one year were not considered.
- IPOs issued through fixed price method are also not considered.

Total 171 IPOs were offered to public which were listed in national stock exchange during the study period. Out of 171 IPOs, 5 companies split their shares or issued bonus shares within one year of listing and 4 companies were listed through fixed price method. Remaining 94 IPOs were listed through Anchor backed book building and 68 IPOs were listed book building without Anchor backed. Eventually, total 162 sample IPOs issued through book building method (both Anchor and non Anchor backed) were considered for the study.

VI. FINANCIAL TECHNIQUES USED TO MEASURE PRICE PERFORMANCE

To determine the magnitude and degree of the deviations of market price of the stock from its offer price, returns have been computed for both Anchor backed and non-Anchor backed IPOs. Positive returns on listing day indicated under pricing while negative returns on listing indicated overpricing.

6.1 Listing day (first day) price performance

The listing day price performance has been calculated as the difference between the closing price on the first day trading and offer price (Anchor backed and non Anchor backed IPOs) and has been divided by the offer price. The result figure has been multiply by 100 to set the figure in percentage.

$$R\,\mathrm{Re}t = \frac{p_1 - p_0}{p_0} \times 100 \qquad \text{........}(i) \text{................ (i)}$$

where, R Ret. = Represents raw return or initial return for stock.

P1 = Represents closing price on the first day of trading (on listing date).

Po = Offer price.

Further, adjusted market returns have been calculated to adjust substantial change and time gap between the offering and listing of the stock. Using the following formula-

$$MAER = \frac{p_1 - p_0}{p_0} - \frac{m_1 - m_0}{m_0} \times 100 \qquad ii \qquad \text{................ (ii)}$$

where, MAER represents Market adjusted excess return.

M_1represents closing value of Market Index on the (listing day) first trading day.

M_0 represents closing value of Market Index on the offer closing date (offer of stock).

6.2 Six months and one year after listing day price performance

The returns for various time periods have been calculated by taking closing prices of the given stock after the specified time gap from the listing date. (Six months and one year for both Anchor backed and non-Anchor backed IPOs). Following formula has been used to find out the same.

$$R\,\mathrm{Re}t_t = \frac{p_t - p_0}{p_0} \times 100 \qquad \text{..........}(iv) \qquad \text{................ (iv)}$$

where, R Ret t. represents raw return at time *t* after listing day for stock

Pt represents closing price at time t

Po represents closing price on listing date.

Likewise, the market adjusted excess returns are calculated for the given time periods by using the formula:

$$MEARt. = \frac{p_t - p_0}{p_0} - \frac{m_1 - m_0}{m_0} \times 100 \qquad \text{...............}(v) \text{.............. (v)}$$

where, MAER = Represents market adjusted excess return at the end of time period t (from listing day)

M_1 represents closing value of Market Index at time period t

M_0 represents closing value of Market Index on the listing day

Further, mean, standard deviation and standard error of both the groups of IPOs have been calculated for different time periods.

VII. STATISTICAL TECHNIQUES AND TOOLS

7.1 Mann Whitney U-test

With a view to find out the statistical significance of price performance of two groups (anchor backed and non-anchor backed) of IPOs, it was deemed fit to use Mann Whitney U-test. This test is a non-parametric test alternative to the independent–sample t –test, which is rank based and can be used to determine if there is difference between two independent groups (i.e. unrelated), when data fail the assumption (non-normally distributed data) of the independent-sample t –test. As per statistical analysis, the data of the present study are not normally distributed. Further, when the data fulfill the critical assumption of the Mann-Whitney U-test (Distributions of the two groups of the independent variable were similarly shaped) the study used a Mann-Whitney U test to determine if there was a statistically significant median difference in price performance between anchor backed and non-anchor backed IPOs. When the data failed the critical assumption, the study used the Mann Whitney U test to determine if there was statistically significant difference in the mean ranks of the dependent variable in terms of the two groups. Return on price is the dependent variable of the study and IPO is independent variable, which is split into two groups, namely, anchor backed IPOs and non-anchor backed IPOs.

7.2 Level of significance and use of software

The analysis of the data have been done and tested with 5% level of significance. The data analysis is done using software SPSS (Statistical Package for the Social Sciences).

VIII. RESULTS AND DISCUSSION

8.1 Price Performance of IPOs on listing date, six months after listing date and one year after listing date.

TABLE 1

Mean, Standard Deviation & Standard Error of Anchor Backed and non-Anchor Backed Investors Stocks on listing date, six months after listing date and one year after listing date (Figures are in percentage)

	Group Statistics				
	Anchor Investment / Non Anchor Investment	Number of IPOs	Mean	Standard Deviation	Standard Error
Return on listing date (Raw Return)	1.00	94	9.3355	22.29043	2.29908
	2.00	68	7.8071	37.51657	4.54955
Return on listing date (Marked Adjusted Return)	1.00	94	9.5023	22.18214	2.28791
	2.00	68	6.8791	37.55693	4.55445

	Group Statistics				
	Anchor Investment / Non Anchor Investment	Number of IPOs	Mean	Standard Deviation	Standard Error
Return in six months after listing date (Raw Return)	1.00	94	8.9845	35.43208	3.65454
	2.00	68	-12.8713	53.78321	6.52217
Return in six months after listing date (Marked Adjusted Return)	1.00	94	5.7641	33.82455	3.48874
	2.00	68	-14.9185	52.68904	6.38948
Return in 1 year after listing date (Raw Return)	1.00	94	8.6771	48.56731	5.00934
	2.00	68	-11.8819	81.74621	9.91318
Return in 1 year after listing date (Marked Adjusted Return)	1.00	94	2.2054	43.75265	4.51274
	2.00	68	-13.6990	79.40299	9.62903
	Notes: 1=IPOs wth Anchor Investment, 2 =IPOs without Anchor Investment.				

Source: www.primedatabase.com and www.nseindia.com and analyzed using SPSS.

Table 1 indicates that the IPOs with anchor investment on listing day shown a mean raw return of 9.3355 percent (with standard deviation of 22.29043 percent), while IPOs without anchor investment provide a little lower mean absolute initial return of 7.8071 percent (with standard deviation of 37.51657 percent). Similarly, it is also seen that on listing date mean market adjusted return of 9.5023 percent (with standard deviation of 22.18214 percent) of IPOs with anchor investment brought little higher return than mean market adjusted return of 6.8791 percent (with standard deviation of 37.55693 Percent) of IPOs without anchor investment. Study found that after six months of listing although returns from anchor backed IPOs underperformed a bit but still remained positive for both mean raw return of 8.9845 percent (with standard deviation of 35.43208 percent) and mean market adjusted return of 5.7641 percent (with standard deviation of 33.82455 percent). However, returns from non anchor backed IPOs came out negative for both mean raw return of -12.8713 percent (With standard deviation of 53.78321 percent) and mean market adjusted return of -14.9185 percent (with standard deviation of 52.68904 percent).Returns in one year for anchor backed IPOs continued positive for both mean raw return and mean market adjusted return (mean raw return in one year after listing is 8.6771 percent) (with standard deviation of 48.56731 percent) and (mean market adjusted return in one year of listing is 2.2054 percent) (with standard deviation of 43.75265 percent). Similarly, returns for non anchor backed IPOs continued negative in one year after listing for both mean return and market adjusted returns , (mean raw return in one year after listing is -11.8819 percent (with standard deviation of 81.74621 percent) and (mean market adjusted return in one year of listing is -13.6990 percent (with standard deviation of 79.40299 percent).

FIGURE 1.1

Using SPSS statistics, evaluation of the distribution return scores of anchor backed and non anchor IPOs on listing date, Six months after listing day and one year after listing day:

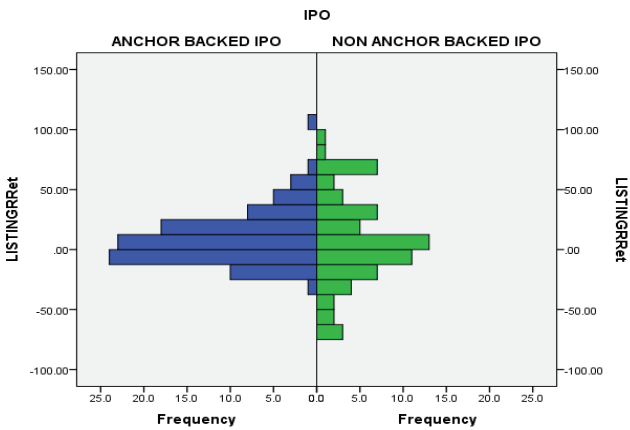


FIGURE 1.2

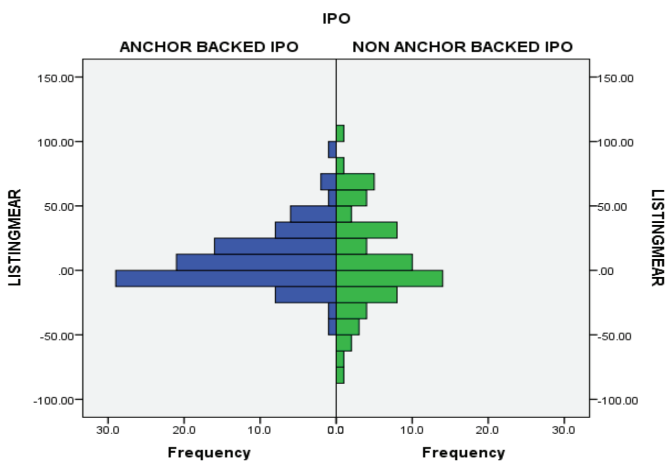


FIGURE 1.3

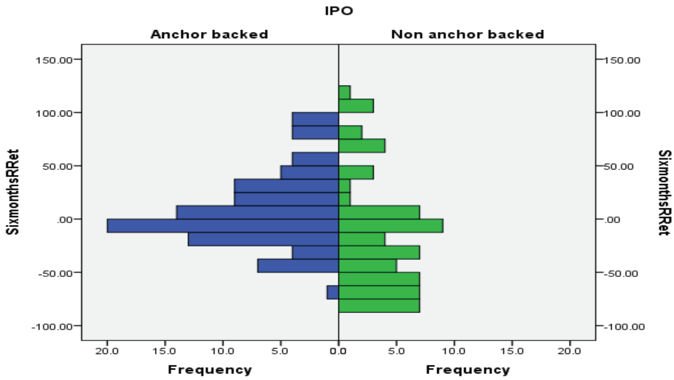


FIGURE 1.4

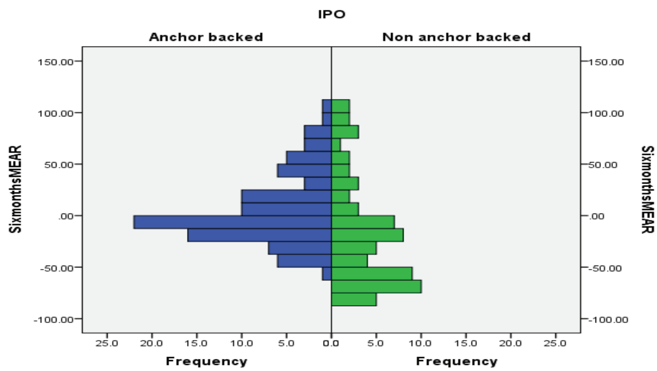


FIGURE 1.5

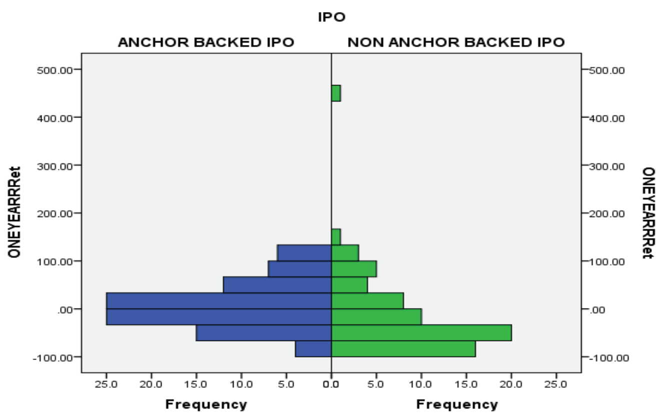
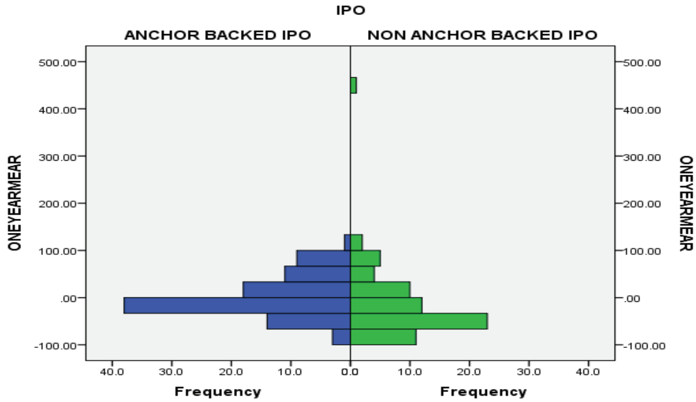


FIGURE 1.6



In the light of the above pyramids in Figures: 1.1, Figures: 1.2, Figures: 1.3, and Figures: 1.4, the study made judgment about distribution of scores of IPO return scores, which are not fairly similar shape in both cases (i.e., raw returns and market adjusted returns). So, Mann Whitney U-test was used to determine whether there is difference in the distribution of two groups. However, as assessed by visual observation of the above pyramids in Figures: 1.5 and 1.6, study made judgment that distributions of the return scores for anchor backed IPOs and non anchor backed IPOs are similar (i.e., in both raw returns and market adjusted returns). So, here Mann Whitney U-test was used to test to determine whether there are differences in the medians of anchor backed IPOs and non-anchor backed IPOs in one year after listing.

Hypotheses

H_0: The distribution returns scores for the anchor backed and non-Anchor backed IPOs are equal on the day of listing.

H_A: The mean return ranks of the Anchor backed and non anchor backed IPOs are not equal on the date of listing.

$H_0 1$: The distribution returns scores for the anchor backed and non anchor backed IPOs six months after listing date are equal.

$H_A 2$: The mean return ranks of the anchor backed and non anchor backed IPOs six months after listing date are not equal.

$H_0 2$: The distribution returns scores of the anchor backed IPOs and non anchor backed IPOs are equal one year after listing date.

$H_A 2$: The median returns of the anchor backed IPOs and non anchor backed IPOs are not equal one year after listing date.

Mann Whitney Test

Ranks

	IPO	N	Mean Rank	Sum of Ranks	Median
Return on listing date (Raw Return)	Anchor Backed IPOs	94	82.94	7796.50	6.4250
	Non Anchor backed IPOs	68	79.51	5406.50	2.3550
	Total	162			
Return on listing date (Marked Adjusted Return)	Anchor Backed IPOs	94	84.31	7925.00	5.9650
	Non Anchor backed IPOs	68	77.62	5278.00	1.0500
	Total	162			
Returns in six months after listing date (Raw Return)	Anchor Backed IPOs	94	93.10	8751.00	2.4250
	Non Anchor backed IPOs	68	65.47	4452.00	-21.8450
	Total	162			
Returns in six months after listing date (Marked Adjusted Return)	Anchor Backed IPOs	94	92.95	8737.50	-1.9500
	Non Anchor backed IPOs	68	65.67	4465.50	-24.0250
	Total	162			
Returns in one year after listing date (Raw Return)	Anchor Backed IPOs	94	92.70	8713.50	4.0900
	Non Anchor backed IPOs	68	66.02	4489.50	-35.3250
	Total	162			
Returns in one year after listing date (Marked Adjusted Return)	Anchor Backed IPOs	94	92.32	8678.50	-7.6500
	Non Anchor backed IPOs	68	66.54	4524.50	-33.7700
	Total	162			

Source: from www.primedatabase.com and www.nseindia.com and analyzed using SPSS.

Test Statistics

	Raw Return on the Date of Listing	Market Adjusted Return on the Date of Listing	Raw Return in six months after listing day	Market Adjusted Return in six months after listing day	Raw Return in one year after listing	Market Adjusted Return in one year after listing
Mann-Whitney U	3060.500	2932.000	2106.000	2119.500	2143.500	2178.500
Wilcoxon W	5406.500	5278.000	4452.000	4465.500	4489.500	4524.500
Z	-.460	-.896	-3.699	-3.653	-3.572	-3.453
Asymp. Sig. (2-tailed)	.646	.370	.000	.000	.000	.001

Grouping Variable: IPO
Significance level is 0.05

Comparison and analysis (raw and market adjusted) returns scores between Anchor Backed IPOs and non-Anchor backed IPOs.

The shapes of distribution seen in the above pyramid (Fig 1.1) of first date (listing day), raw return scores for two groups of IPOs were not similar. In (first day) listing day raw returns comparison, the study found that return scores for anchor backed IPOs (mean rank = 82.94) and return scores for non-anchor backed IPOs (mean rank= 79.51) were not statistically significantly different, U= 3060.500, Z= -.460, p= .646 (>0.05). Asymp. Sig,, (2-tailed). Likewise, shapes of distribution as seen in the above pyramid (Fig 1.2) of listing date (first day) market adjusted return scores for two groups were also not similar. In marked adjusted listing date returns comparison also, authors found that return scores for anchor backed IPOs (mean rank =84.31) and return scores for non-anchor backed IPOs (mean rank=77.62) were not statistically significantly different, U=2932.000, Z= -.896. p= .370 (>0.05). Asymp. Sig, (2-tailed). Study also examined that, raw returns and market adjusted returns of both groups of IPOs showed positive returns on the day of (first day) listing which shows that the investors who buy shares on the offer date earned excessive returns from holding the shares of the IPOs on the first day of trading of the shares and there still exist under pricing of shares after introduction of concept anchor investment. Further, by visually examination of Fig 1.3 it is seen that, distributions of the raw return scores of six months after listing were not found similar and mean rank for anchor backed IPOs (93.10) and non-anchor backed IPOs (65.47) was statistically significantly different, U= 2106.000, Z= -3.699, p= <.0005. Similarly, Distributions of the market adjusted return scores of six month after (fist day) listing for both the groups were found similar as judged by visual inspection in Fig 1.4 and mean rank of market adjusted return scores for anchor backed IPOs (92.95) and non-anchor backed IPOs (65.67) was also statistically significantly different, U=2119.500, Z=-3.653, p<.0005. Moreover, by visual examination of Fig 1.5 it is seen that, distributions of the raw return scores of one year after listing (first day) were found similar and median return scores for anchor backed IPOs (4.0900) and non-anchor backed IPOs (-35.3250) was statistically significantly different, U= 2143.500, Z= -3.572, p= <.0005. Likewise, distributions of the market adjusted return scores of one year after listing (fist day) for both the groups were found similar as judged by visual inspection in Fig 1.6 and median market adjusted return scores for anchor backed IPOs (-7.6500) and non-anchor backed IPOs (-33.7700) was also statistically significantly different, U=2178.500, Z= -3.453, p .001 <.0005.

IX. FINDINGS

The findings of the study are listed below :

- During the study period, July 2009 to December 2016, total 171 IPOs were offered to public which were listed in National Stock Exchange. Out of 171 IPOs, 94 IPOs were issued through anchor backed book building and 68 IPOs were issued through book building without anchor backed. 9 companies were not considered for the study as they were either issued through fixed price method or these companies spilt shares within one year. From this information, it is understood that, more book building IPOs were issued with anchor backed as compared to book building IPOs without anchor backed during the study period. Despite anchor investment being a newly introduced concept (in the year 2009) by market regulator SEBI, the data show, there is a shift in the issue mechanism from simple book building issue to anchor backed issue mechanism.

- Price performance of anchor backed IPOs and non-anchor backed IPOs on listing day were compared by calculating average raw return and average market adjusted excess return of both groups of IPO, for different time periods. On listing day, average raw return of anchor backed IPOs was 9.3355 percent while IPOs without anchor investment provide a little lower average absolute initial return of 7.8071 percent. Similarly, market adjusted excess return of IPOs backed by anchor investment was 9.5023 percent which is also a bit higher than average market adjusted excess return of 6.8791 percent of IPOs without anchor investment. Further, with a view to finding out the statistical significance of price performance of two groups (anchor backed and non-anchor backed) of IPOs on listing day, the study used Mann Whitney U-test. From the analysis, it is found that price performance, two groups of IPOs were not statistically significantly different on listing day (for both average raw returns and average market adjusted excess return) .
- The study also examined that, raw returns and market adjusted returns of both groups of IPOs provided positive returns on the day of (first day) listing which shows that, the investors who buy shares on the offer date earned excessive returns from holding the shares of the IPOs on the first day of trading of the shares and there still exists under pricing of shares even after introduction of concept of anchor investment.
- The study further found that, in six months after listing day although returns from anchor backed IPOs underperformed a bit but still remained positive for both average raw return of 8.9845 percent and average market adjusted excess return of 5.7641 percent. However, returns from non-anchor backed IPOs came out negative for both average raw return of -12.8713 percent and average market adjusted excess return of -14.9185 percent. In order to find that whether, anchor backed IPOs return is significantly higher than non-anchor backed IPOs return in six months, Mann Whitney U-test was run. Test result of Mann Whitney U-test revealed statistically significant higher return of anchor backed IPOs over non-anchor backed IPOs return.
- In one year after listing, anchor backed IPOs continued giving positive returns for both average raw return of 8.6771 percent and average market adjusted excess return of 2.2054 percent. Similarly, returns for non-anchor backed IPOs continued giving negative returns in one year after listing, average raw return of -11.8819 percent and average market adjusted excess return of -13.6990 percent. Test result of Mann Whitney U-test disclosed statistically significantly higher return

of anchor backed IPOs over non-anchor backed IPOs return in one year as well.

- The study further showed that, returns from anchor backed IPOs were constantly stable throughout the study period unlike the returns from non anchor backed IPOs which were very volatile and had diminishing trend. This finding is indicative of the fact that, the launching of anchor investment has really been able to achieve price stability and price discovery objective.

X. CONCLUSION

The present study is intended to examine the impact of anchor investment on IPOs price performance at various time periods. The study finds that anchor investment has no effect on the price of share on listing date. However, in six months and in one year after listing date, there is a significant effect of anchor investment on IPO price performance. The study also examined that raw return and market adjusted return of both groups exhibited positive returns on the day of listing. It showed that the investors who buy shares on the offer date earn good profit for holding the shares up to listing day. There is evidence of underpricing in Indian capital market even after the introduction of anchor investment mechanism. Analyzing the results using Mann Whitney U-test, the study finds significant impact of anchor investment on IPOs price performance in six months and also one year after listing day. From the discussion, it is evident that introduction of the concept of anchor investment in primary capital market is a welcome decision of SEBI. It is a win-win situation for both companies and investors.

However, extensive research with extended empirical evidence is the necessity to validate the findings of this study.

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Impact of Foreign Fund Flows on Sensex: Evidence from India

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ABSTRACT

This study examines the impact of foreign funds flows on Sensex. It is based on yearly time series data for the period, 1991-92 to 2020-21 using descriptive statistics, correlation analysis, ADF unit root test, cointegration and Granger causality test. There is a positive relationship of Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) with Sensex. The Johansen cointegration test results indicate that all the variables have a long-run relationship in the same order. Granger test based on error correction model test results demonstrates that there exist bidirectional causality in the short-run between (i) foreign funds and Sensex and (ii) foreign funds and exchange rates. These findings corroborate that there are significant openings for international investors to diversify their portfolios in the Indian stock market. However, in view of some limitations, a pointer to the future research is also indicated.

Key words: Foreign fund flows, Sensex, correlation analysis, cointegration test, Granger causality test

I. INTRODUCTION

The decade of the 1990s brought a sharp increase in the flow of international capital flows in developing countries (Guillermo *et al.* 1996). The developing countries are able to reap the benefits of foreign capital flows in the best possible ways. The monetary policy of the home country gives the freedom to the foreign investors to invest their money as per their liking (Das, 1998). International capital flows have increased dramatically after the liberalization. During the 1990s gross capital flows between industrial countries rose by 300 percent, while trade flows increased by 63 percent (Sethi, 2007). The increase in capital flows is due to trade in equity and debt markets, which result in the change in the international pattern of asset ownership. The capital inflow which is invested from one country to another country is known as a foreign investment (Narsale,

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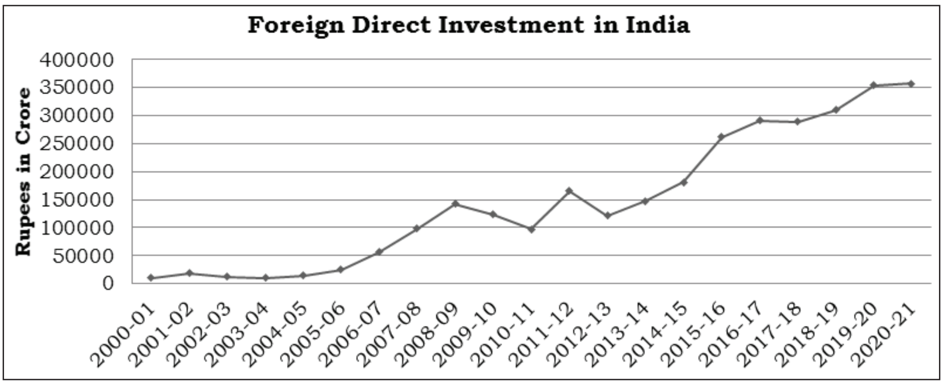
2016). The inflow of foreign investment is normally encouraged in developing nations because it complements and stimulates domestic investment in capital-scarce economies (Joo & Mir, 2014). In India, foreign investment was allowed in 1991 either through stock market investment in listed companies referred to as foreign portfolio investors investment or directly in listed and unlisted companies referred to as a foreign direct investment. The government on the fronts of foreign direct investment policy reforms, investment facilitation, and ease of doing business has resulted in increased FDI inflows into the country. India has attracted the highest ever total FDI inflow of US$ 81.72 billion during the financial year 2020-21 and it is 10% higher as compared to the last financial year 2019-20 (74.39 billion US dollar). FDI equity inflow grew by 19% in the F.Y. 2020-21 (59.64 billion US dollar) compared to the previous year F.Y. 2019-20 (49.98 billion US dollar). In terms of top investor countries, Singapore is at the apex with 29%, followed by the U.S.A (23%) and Mauritius (9%) for the F.Y. 2020-21.

GRAPH 1

FDI flows in India from 2000-01 to 2020-21



Portfolio investors think about the exchange rate where they will invest together with the interest rate. Depreciation of the currency inspires foreign persons to invest because of higher returns (Waqas *et al.* 2015). Generally, a higher exchange rate enhances the national currency profits. Simultaneously, high volatility in the exchange rate increases the volatility in the national currency returns and the wider is the scope of exchange rates wherein neither entry nor exit takes place. This expects a positive influence of exchange rate and a negative influence of exchange rate volatility on foreign direct investment (Alba *et al.* 2009). Again, Agarwal (1997) found that FPI inflows had a negative relationship with the exchange rate as depreciation in a currency and limitations in the markets would in due course avoid prospective FPI investors. Kumar (2018) confirmed that exchange rates had a depressing shock on inward FPI flows to India in the long-run; therefore, a depreciation of the Indian rupee will considerably decrease FPI flows to India. Foreign fund flows are moved through foreign credits, a decrease of foreign reserves, foreign direct investment, foreign portfolio investment, etc. Foreign direct investment works as a medium for technology transfer and generates employment. Foreign portfolio investment could produce the development of the capital market by getting better its extent and size as well as gives a path for portfolio risk diversification (Omorokunw, 2018). The unique expansion practised in the Indian stock market is a straight upshot of the arrival of foreign capital into the economy. There are a fairly large number of studies on the association between foreign fund flows and economic performance in developing economies.

II. LITERATURE REVIEW

There are lots of relevant research papers on Foreign Direct Investment pertaining to FDI impact on the domestic stock market, different routes of FDI, patterns of FDI inflows and its impact on the Indian stock market, government regulation impact, causality link with stock returns, and FDI flows.

Fang *et al.* (2021) studied the challenges faced in cross-border foreign direct investment due to the COVID-19 pandemic. They also focused on China's inward FDI (IFDI) and outward FDI (OFDI), its risks, and challenges. The researchers concluded with the fact that China should continue with the dual circulation to sustain economic growth. Merajothu (2020) focused on the impact of foreign direct investment on the gross domestic product of India during 2000-01 to 2018-19. The author found that there lays a strong relation between FDI and the GDP of the Indian economy. Moghadam *et al.* (2019) analysed the extent to which determinants, such as, market size, exchange rate, and market openness in six selected ASEAN countries (ASEAN-6) influence the options of one entry mode of foreign direct investments over the other alternatives. The relationship between market size and exchange rate with Greenfield inflows rather than mergers and acquisitions sales was found and an increase in market openness, foreign firms prefers mergers and acquisitions to Greenfield investments. The authors confirmed the fire-sale foreign direct investments phenomenon during financial crises. Burange *et al.* (2017) emphasised the post-liberalization period which resulted in a significant increase in the contribution of foreign direct investment inflows and intra-industry trade of India. It was found that at the industry level it varies across different industries, majority of the industries found that FDI inflows have led to an increase in intra-industry trade for the manufacturing sector of India. Hashimoto and Wacker (2016) investigated how the macroeconomic environment of an economy has a positive impact on its capital inflows, namely, portfolio and foreign direct investment. The study found that the effect runs from FDI and not vice versa, introduces a test for endogeneity bias due to omitted variables, and tests for spatial correlation in the residuals. Rehman (2016) tried to examine both economic and social determinants of foreign direct investment (FDI) in Pakistan for the period 1984–2015. The author concluded that both economic as well as social factors have a long-run impact on the flow of FDI in Pakistan. It was also found that social factors are more important than economic factors in attracting FDI in Pakistan. Thomas (2016) analysed the impact of FDI on the Indian Economy. The impact was studied by analysing the correlation between the country's GDP and stock market indices where Nifty and Sensex were considered as representatives of the stock market. The study concluded that the flow of FDI had a dominant role in deciding the stock market movements. Aziz *et al.* (2015) examined the impact of determinants of foreign portfolio investment in Pakistan during the period, 2005-2014. The result shows that trade degree of openness, the growth rate of real GDP, and market capitalization have a positive and significant relationship with foreign portfolio investment in Pakistan, whereas, the inflation rate has a negative and significant relationship with foreign portfolio investment. The variable of the foreign exchange rate has a positive but insignificant relationship with foreign portfolio investment. Eregha (2015) focused on the effect of foreign direct investment inflow and its volatility on domestic investment in the ECOWAS region. The result revealed that direct investment inflow substituted domestic investment in the West African region. FDI volatility affects the domestic investment in the West African region. Chaudhry *et al.* (2014) tried to establish the factors that affect the portfolio investment in Pakistan. The study found that FDI has a negative impact on NPI while all other variables are positively related to NPI. Sultana and Pardhasaradhi (2012) examined the impact of FDI and FII on the Indian stock market and concluded that the flow of FDI and FII indeed decides the trends of the Indian stock market, taking Nifty and Sensex as the representatives of the Indian stock market as they are the most popular stock market indices. Vasudevan (2006) examined the foreign institutional investor inflows released in November 2005. It was found that the spiral nature of the co-movement of inflows and stock prices warrants testing of the hypothesis surge the inflows based only on economic fundamentals or the strength of traded companies and it quietly ignores the perception that sub-accounts and participatory notes provide the avenues through which some speculative flows could have occurred.

The studies conducted by the researcher are mostly for a short period of time, specifically focusing on the post-liberalization period or post-global crisis period. The literature fails to suggest that despite the slowdown and marginal growth in GDP how the Indian stock market is achieving new heights. There is small number of research on the impact of foreign fund flows on the Indian stock market. This research looks to resolve the question and fill the gap.

Accordingly, the main objective of the study is to examine the impact of foreign fund flows on the Indian stock market. More particularly, it seeks to elucidate mostly the following matters.

(a) To examine the association of foreign fund flows with Sensex;

(b) To examine the causal relationship of foreign fund flows with Sensex.

The remainder of the paper is organised as follows. Section III deals with data and methodology. This is followed by empirical results and analysis in section IV. Section V gives concluding observations including limitations and points to future research.

III. DATA AND METHODOLOGY

This study is conducted based on yearly time series data collected from the IndStat database and EPWRF India Time series. The yearly time series data of ER, FDI, FPI**,** and Sensex have been collected for the year from 1991-92 to 2020-21 with 30 observations. Here, the exchange rates have been considered as a control variable. To analyse the data, descriptive statistics, correlation analysis, ADF unit root test, Johansen cointegration test and Granger causality-Wald test have been used.

3.1 ADF unit root test

ADF unit root test is used to validate the stationarity of a time series data series. For this, the ADF Test has used in which a null hypothesis is assumed since the survival of a unit root.

H_0 = There exists a unit root

$\Delta y_t = \propto_0 + \theta y_{t-1} + \sum \propto \Delta y_t + e_t$

Where y signifies the time series, t is the time period, n is the optimum number of lags, α_0 is a constant and e is the error term.

3.2 Johansen cointegration test

Johansen recommends two different likelihood ratio tests of the significance of these canonical correlations and thus the reduced rank of the Π matrix: the trace test and maximum eigenvalue test.

$J_{trace} = -T\sum \ln(1-\lambda\hat{}_i)$

$J_{max} = -T\ln(1-\lambda\hat{}_{r+1})$

Here T is the sample size and λi ˆ is the i: th largest canonical correlation. The trace test tests the null hypothesis of r cointegrating vectors against the alternative hypothesis of n cointegrating vectors. The maximum eigenvalue test, conversely, tests the null hypothesis of r cointegrating vectors against the alternative hypothesis of r +1 cointegrating vectors. Neither of these test statistics follows a chi-square distribution in general; asymptotic critical values can be found. Since the critical values used for the maximum eigenvalue and trace test statistics are based on a pure unit-root assumption, they will no longer be correct when the variables in the system are near-unit-root processes. Thus, the real question is how sensitive Johansen's procedures are to deviations from the pure-unit root assumption.

3.3 Granger causality test

Granger causality based on vector error correction model test is helpful to check whether lagged information on a variable Y is helpful to predict a variable *X* in the incidence of lagged X. There should be a causal relationship if two series are cointegrated in I(1). In that conditions, to study the causal relationship based on the error correction model, Engel-Granger (1987) is useful. Suppose Y_1 and Y_2 are two cointegrating variables, the equations of VECMs are:

$\Delta Y_{1t} = \alpha_{10} + \gamma_1 z_{1,t-1} + \sum \alpha_{1,aj} \Delta Y_{1,\, t-j} + \sum \alpha_{1,bj} \Delta Y_{2,\, t-j} + \varepsilon_{1t}$

$\Delta Y_{2t} = \alpha_{20} + \gamma_2 z_{2,t-1} + \sum \alpha_{2,aj} \Delta Y_{2,\, t-j} + \sum \alpha_{2,bj} \Delta Y_{2,\, t-j} + \varepsilon_{2t}$

Where, $z_{1,t-1}$ and $z_{2,t-1}$ are error correction terms based on the cointegrating equation in the vector error correction model of the Johansen cointegration technique. The direction of causality might be unidirectional or bidirectional. For the short-run causal impact, x2 -statistic on the lagged explanatory variables of the error correction model has been employed.

IV. EMPIRICAL RESULTS & ANALYSIS

4.1 Descriptive statistics

Table 1 reveals the descriptive statistics of the Indian stock markets, foreign funds, and exchange rates. It has been observed that the coefficient of variations of ER, FGDI, FPI and Sensex are 27.58%, 113.54%, 161.83%, and 84.92% respectively. This indicates that the level of growth is more stable in the case of exchange rates, followed by Sensex, FDI and FPI. The Jarque-Bera statistics illustrate that all the variables are normally distributed.

TABLE 1

Descriptive Statistics

	ER	FDI	FPI	SENSEX
Mean	49.42	105016.6	49149.27	15640.06
Maximum	75.47	357448.0	277461.0	49509.15
Minimum	25.92	409.00	-45811.00	2615.37
Std. Dev.	13.63	119235.0	79538.46	13281.96
C.V. (%)	27.58	113.54	161.83	84.92
Skewness	0.39	0.91	1.38	0.83
Kurtosis	2.23	2.45	2.22	2.73
Jarque-Bera	1.52	4.58	3.51	3.60
Probability	0.46	0.10	0.13	0.16
Observations	30	30	30	30

4.2 Correlation analysis

Correlation analysis is performed to find out the strength and direction of association among exchange rates, foreign fund flows, and Sensex. A coefficient of more than 60% is considered as strongly correlated whereas the sign decides the direction of the association. The level of significance is measured by the probability value of the coefficient; a p-value of less than 5% advocates a statistically significant association at the 5% level. Table 2 shows that Sensex is strongly and positively associated with exchange rates and FDI but Sensex is moderately associated with FPI that is significant at a 5% level. Again, FPI is weakly and positively associated with exchange rates and FDI that are also significant at the 5% level. Yet again, FDI is strongly and positively associated with exchange rates, which is significant at 5% levels.

TABLE 2

Correlation Analysis

	ER	FDI	FPI	SENSEX
ER	1.00			
FDI	0.71*	1.00		
FPI	0.36*	0.32*	1.00	
SENSEX	0.68*	0.74*	0.45*	1.00

*Statistically significant at 5% level.

4.3 ADF unit root test results

Stationary variables when estimated in a time series regression model have a tendency to create logical results because of the reality that the outputs are not time-variant. This research checks the unit root properties of the variables under study using the Augmented Dickey-Fuller (ADF) unit root test. The ADF unit root test results, as presented in table 3, demonstrate that the variables are not stationary at the level because of the fact the t-statistic of the test accepts the null hypothesis of the existence of unit root in each case.

TABLE 3

ADF Unit Root Test Results

Variables	Trend & Intercept at level			Trend & Intercept at 1st differenced		
	t-statistic	C.V. at 5%	Decision	t-statistic	C.V. at 5%	Decision
ER	-0.30	-2.97	Non Stationary	-5.62	-2.97	Stationary
FDI	-1.12	-2.97	Non Stationary	-5.14	-2.97	Stationary
FPI	-0.71	-2.97	Non Stationary	-8.48	-2.97	Stationary
SENSEX	-2.34	-2.97	Non Stationary	-8.74	-2.97	Stationary

A non-stationary variable while differenced could remove the unit root factor in the variables; therefore**,** the variables after the first difference turned out to be stationary. The t-statistic of the ADF unit root test at first difference caused the rejection of the hypothesis of the unit root in selected variables at a 5% level of significance. It can be said that selected variables are I(1) series, specifically, ER, FDI, FPI, and Sensex are integrated of order 1.

4.4 Johansen cointegration test results

Since ADF unit root test results highlight the truth that selected variables are stationary at 1st difference, there is a chance of cointegration in the long run. Johansen's cointegration has been carried out in the study where linear deterministic trends are allowed. The lag length of the VAR is computed in keeping with the minimum value of the Schwartz Information Criterion, which are 2. The cointegration test decides the rank of the coefficient matrix on the basis of the VAR model, where the rank designates the reality of any cointegration and the number of co-integrating vectors. Two likelihood ratio tests, the Trace Test (TT) and the Maximum Eigen Value test (MEV), have been performed.

TABLE 4

Johansen Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.89	112.87	69.81	0.00
At most 1	0.56	39.77	47.85	0.07
At most 2	0.45	26.75	29.79	0.10
At most 3	0.17	9.58	15.49	0.31
At most 4	0.14	3.24	3.84	0.06
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.89	63.10	33.87	0.00
At most 1	0.56	23.02	27.58	0.17
At most 2	0.45	17.16	21.13	0.16
At most 3	0.17	5.34	14.26	0.69
At most 4	0.14	3.24	3.84	0.06
Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level				
*Denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table 4 portrays Johansen's cointegration test results. Both trace test and maximum eigenvalue test show the existence of one cointegrating equation at 5% level of significance because the probability is less than 0.05. Therefore, the selected variables have a long-run association.

4.5 Granger causality test results

As Johansen cointegration test results indicate that there exists a cointegration among selected variables, the Granger Causality-Wald test based on vector error correction model can be performed with the reason of identifying whether there exists any causal relationship among selected variables that are shown in table 5 along with the optimum lag length of Akaike Information Criterion 2. This test is additionally executed in determining the way of causation among selected variables.

It has been observed that exchange rates have a significant bi-directional causality with FDI, FPI, and Sensex in the short run. Again, foreign direct investment has a significant bi-directional causality with ER, FPI, and Sensex in the short run, and foreign portfolio investment has a significant bi-directional causality with ER, FDI, and Sensex in the short run. Finally, Sensex has also a significant bi-directional causality with ER, FDI, and FPI in the short run.

TABLE 5

Granger Causality Tests based on the Error Correction Model

Independent Variables	Dependent Variables (x2 Statistics)			
	ER	FDI	FPI	SENSEX
ER	-	11.51 (0.01)	15.92 (0.00)	13.92 (0.00)
FDI	13.79 (0.00)	-	21.80 (0.00)	15.35 (0.00)
FPI	15.14 (0.00)	6.90 (0.04)	-	10.65 (0.02)
SENSEX	14.60 (0.00)	4.95 (0.00)	17.15 (0.00)	-

V. CONCLUSIONS

The aim of this research is to examine the impact of foreign fund flows on the Indian stock market (Sensex). Correlation analysis shows that Sensex is associated positively with foreign fund flows and exchange rates. The selected variables are stationary at first difference. Johansen cointegration test results indicate that foreign fund flows, exchange rates, and Sensex are associated in the long run in the same order. Granger test based on error correction model test results demonstrates that there exists a bidirectional causality running between (i) foreign funds and Sensex and (ii) foreign funds and exchange rates. These findings corroborate that there are significant openings for international investors to diversify their portfolios in the Indian stock market.

The study is not free from some *limitations*. We have not considered the market capitalization, Nifty, various crisis periods, and stock market returns. If these variables are considered in a future research, there may be more interesting results in this context.

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An Insight into the Behavioural Perspectives of Credit Card Holders - A Case Study Based in Kolkata

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ABSTRACT

Advancement in technology and stronger inclination towards convenient and better services justify the voluminous growth of the market for credit cards. While, the associated benefits a credit card provides perfectly reason out its increasing popularity, the fact that an improper usage can lead to overspending, revolving liability as also a debt trap, cannot be absolutely ignored. Again, sometimes, individuals have an impression that credit card symbolizes prestige and power; to some credit card it is important as it is believed to be able to confer social status. To some having a credit card can also be a cause of anxiety. The motivation behind holding a credit card and the fears associated with it is strongly guided by the behavioural perspectives (understanding the psychology of credit card holders and its implications) of respective individuals. This paper highlights the underlying factors why an individual possesses a credit card and what are the reasons for which they are fearful or stressed out in having the credit card. It has been observed that an individual selects a particular type of credit card depending upon the additional benefits and status associated with the card. Moreover, ATM accessibility, behaviour of banking personnel and the priority services offered to respondents significantly impact the choice of bank.

Key words : Money attitude, social status, power and prestige, anxiety, additional benefit

I. INTRODUCTION

A financial product, issued by a bank or any financial services company, in the form of plastic or metal card is how a credit card is defined. A credit card entitles its holders to borrow money and make payment for goods and services to those merchants who accept credit cards for payment. Such entitlement though, comes with an imposition that such borrowed money be paid back by the borrower along with the applicable interest and any additional charges within the billing date or over a stipulated time as agreed upon.

During the early 1970s, when consumerism had set its foot in creating high-income consumers, when several new consumer products and services were being available and when commercial activities were at the peak, it was then that the base for potential credit cards was created in India, especially in the metropolitan cities. Finally in the year 1981 credit cards were first introduced by Andhra Bank in India. Tracing back its origin right since 1981 till date, the trend of having a credit card is on an upward swing and the credit card industry is witnessing stronger foothold with the passing years. There are four major credit card networks in India, namely American Express (Amex), Discover, Mastercard and Visa. Each network has various categories of cards such as standard, classic, and so on ranked according to the benefits they provide, the annual charges each of them carry, their repayment procedures and the rate of interest on the borrowed amount.

This increasing popularity of credit cards is because of the several benefits these cards provide to the holders, but again, an improper and irresponsible usage of credit cards can end up in huge debt. Credit cards immensely help in building credit score (track record of paying back borrowed amount along with interest). Such credit score enables smooth grant of loan or any form of credit but on the other hand it also impacts the cost of borrowing in the form of high interest on borrowed funds, service charges and penalties for late payments. Credit cards come with baggage full of lucrative condiments such as cashback offers, reward points, discount opportunities, etc. but such benefits can only be enjoyed by those holders who are responsible enough to pay the entire monthly bill on or before the due date and by those logical and rational holders who manage to keep spending within affordable limits.

Since credit cards assure holders an uninterrupted access to extra funds beyond the account balance, credit cards often attract spendthrift individuals who have a tendency of buying more out of choice and wish fulfilment than out of necessity. Thus, having a credit card strongly influences the self-esteem, social status and sense of belongingness of an individual; but, as we know, there are exceptions everywhere. So, always associating possession of credit card with social status might not be wise. Often, we find individuals holding credit cards for the associated benefits which having a credit card provides.

The motivation behind holding a credit card and the fears associated with it is strongly guided by the behavioural perspectives (understanding the psychology of credit card holders and its implications) of respective individuals. In this paper, attempt has been taken to focus on the money attitude of individual credit card holders. Money, often, is associated with achievement, success, power and prestige (Furnham et al., 2012) and can also be viewed as a source of anxiety in anticipation of retention capability and several such reasons (Gresham & Fontenot, 1989). The amount of money an individual has at any point of time is often perceived as a powerful indicator of success, achievement and self-worth. In a materialistic economy of the present day world, respect and wealth have almost become complimentary to each other. Society tends to look up to individuals with reverence who is in possession of reasonable amount of wealth. Thus, in a way, money symbolizes power and prestige. Again, on the other hand, money is also viewed as a source of anxiety and stress. This behaviour is primarily out of the concern for savings, i.e., the retention capability of individuals. Those who lack self control and are spendthrift will always have the inhibitions of running out of money because of the lack of savings. This paper highlights the underlying reasons why an individual possesses a credit card and what are the reasons for which they are fearful or stressed out in having the credit card.

The remainder of the paper progresses section-wise. Section 2 provides for review of literature. The objectives of the paper have been discussed in Section 3. The research methodology part is covered in Section 4. This part deals with details of data and sample as also the statistical tools adopted to reach to conclusions based on the framed objectives. In Section 5, data analysis part, the tools as mentioned has been applied on the data so collected followed by discussions on the findings obtained. The last Section 6 provides for the summary of the work along with its limitations followed by recommendations.

II. LITERATURE REVIEW

Friedman (1957), through his survey has pointed out that the usage of credit card depends largely upon the anticipation of future hike in income besides the permanent present income of the card holder. Individuals are particularly fond of credit cards, as concluded by *Mandell (1972)*, because credit card provides its users a platform to purchase goods and services despite the fact that they are not in possession of enough bank balance at the moment in order to finance such purchase. This benefit associated with credit card usage is in fact a curse in disguise, which has led *Hafalir & Loewenstein, (2009)* to conclude that in the absence of proper spending record, the credit card holder can invite a pretty difficult situation for himself or herself. *Kinsey (1981)*, through his study concluded that age and occupation have a strong correlation with the probability of having credit cards. Later, the correlation factor of occupation and utilization of credit cards was supported by a survey conducted by *Nataranjan and Manohar (1993)*. Their survey was to understand the factors influencing the utilization of credit cards. Using Chi-square test as the statistical tool for analysis, it was concluded that factors like the nature of occupation, income level, employment status of spouse and the mode of getting the credit card influenced the utilization of credit card; whereas, gender, age and educational qualification did not impact the utilization of credit card. It has been concluded by *Vora and Gidwani (1993)* that credit cards can prove to be extremely beneficial for those holders who have a concrete knowledge regarding the exact and proper usage of credit cards. It is essential that individuals change their spending habit so as to enable themselves to upgrade and become platinum card holders from lower category credit card holders. An empirical research conducted by *Kaynak et al. (1995)* has resulted in an interesting conclusion - that the age of the head of the family and the life cycle stage he or she is in, have istrongly nfluenced the usage of credit card. He has concluded in his paper that middle and upper age people, having flexible income have tended to be avid users of credit cards. According to *Yang, James and Lester (2005)*, there are several psychographic reasons why the attitude of each customer is different regarding the usage and acceptability of credit cards. According to *Penman and Mc.Neil (2008)*, card holders tend to purchase on impulse, most of which are almost often non-essential purchases, just to exhibit self-image. This finding has been contradicted by *Ahmed et al. (2010)* and *Nga et al. (2011)*, both of which surveys have been based on Malaysia. Their surveys have concluded that usage of credit card is nowhere linked to self-esteem or materialism but is purely used for the benefits it provides. On the other hand, studies conducted by *Conner and Armitage (1998)* have revealed that usage of credit card is strongly influenced by lifestyle of the card holder as well as other people's expectations of the card holders' consumption pattern. This conclusion has been further validated by *Kim and DeVaney (2001)* who have concluded that credit card usage largely depends upon general attitude of card holders and social norms. *Rutherford and DeVaney (2009)* have highlighted in their paper that individuals desirous of holding a similar standard of living with the peer groups are inclined to increased usage of credit cards just to fit into the expectations of their peer groups.

III. OBJECTIVES OF STUDY

- To understand which attributes of a type of credit card attract an individual while selecting it.
- To analyze the money attitude of individual credit card holders.
- To understand the relationship between reasons associated with and holding of that particular type of credit card.
- To understand which factors have the highest influence while taking decision regarding selection of bank for applying for credit cards.

IV. METHODOLOGY

4.1 Data collection and sample size

The research involves study of the various factors guiding credit card selection and also the reasons why having a credit card is considered essential by an individual. Thus, the paper mainly focuses on the behavioural perspectives of an individual card holder. To understand behavioural aspects, primary survey has been conducted with the help of questionnaire and snowball sampling technique has been used in circulating the questionnaire. The questionnaire had been prepared using google forms and circulated among 100 participants, through respective mail ids. The participants were from various fields, which include academicians, business persons, corporate personalities, government and non-government employees and also housewives. Out of 100 participants, only 75 filled-in questionnaires were collected and thus analysis has been based on 75 respondents. To understand the behavioural perspectives, the questions have been set using 5-point Likert Scale.

The questionnaire was constructed containing 15 questions altogether. The first seven questions were set so as to understand certain demographic features of the respondents concerning their age, gender, marital status, educational qualification and their profession. Then, the respondents were asked whether they used a credit card and the type of card used. Question No. 10 had been set to understand the relationship between reasons associated with and holding of that particular type of credit card (Objective No. 3). The questions 11 and 12 aimed at analyzing Objective No. 4, i.e. to understand which factors had the highest influence while taking decision regarding selection of bank for applying for credit cards. Question No. 13 explained Objective No. 1 which was set to understand the attributes of the card which attracted the individual respondents. Question No. 14 (a, b & c) had been set specifically to analyse the primary objective of the paper. Objective No. 2 aimed at studying the money attitude of the respondents behind holding a credit card. Money attitude comprises of 3 principal components -

- Power Prestige
  Power prestige is studied based on 3 characteristics which are self-esteem, social status and impressing peer group. To analyse these components, 3 different questions were asked to the respondents.
- Retention
  Retention is basically the propensity of an individual credit card holder for careful financial planning. To understand this factor, 4 different questions were asked.
- Anxiety
  Lastly, money attitude is guided by the factor, anxiety which refers to the distrust, i.e., being suspicious and hesitant in matters involving money and the anxiety where money is viewed by some as a source of anxiety. To understand anxiety, 6 different questions were asked.

4.2 Statistical Tools used

Principal Component Analysis, being a technique for reducing the dimensionality of datasets, increasing interpretability but at the same time minimizing loss of information, has been used as a technique of extracting factors affecting choice of credit card selection based on the attributes conferred upon it. The same technique has been applied to find out the factors guiding money attitude of individual respondents towards having a credit card. Regression analysis has been used to understand the relationship between the dependent variable "Bank type" and reasons why such type is chosen. The paper also attempts to find out what influences a card holder to select a particular type of credit card, for which as well, a regression analysis has been run taking "Card type" as the dependent variable. Based on the results obtained from the statistical tests, interpretations have been made and inferences drawn. Normality tests have been conducted to ensure that the data set follows normal distribution. The data, so collected, is cross-sectional, and therefore the test of heteroscedasticity has not been conducted.

V. ANALYSIS & FINDINGS

5.1 Attributes influencing selection of credit card

Principal component analysis was conducted to understand which attributes of credit card influence selection of credit card by an individual credit card holder.

TABLE 1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.622
Bartlett's Test of Sphericity	Approx. Chi-Square	71.719
	Df	10
	Sig.	.000

As a result of this analysis, it has been clear from table 1 that the sample size is adequate as is exhibited by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.622). Since the value is greater than 0.6, the analysis has strong degree of common variance. Moreover, the Bartlett's Test of Spherecity is less than 0.05 (0.000), indicating the conclusion that the correlation between variables is sufficient.

TABLE 2

Total Variance Explained

Component Total	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	% of Variance	Cumula-tive %	Total	% of Variance	Cumula-tive %	Total	% of Variance	Cumula-tive %	Total
1	2.259	45.178	45.178	2.259	45.178	45.178	1.703	34.069	34.069
2	1.033	20.654	65.833	1.033	20.654	65.833	1.588	31.763	65.833
3	.906	18.127	83.960						
4	.529	10.571	94.531						
5	.273	5.469	100.000						

Extraction Method: Principal Component Analysis

From table 2, it can be inferred that the choice of credit cards has 2 main factors, which having been extracted together account for 65.833% of the total variance, i.e., the information contained in the original 5 variables. Hence, the analysis has reduced the number of variables from 5 to 2 underlying factors.

TABLE 3

Rotated Component Matrix[a]

	Component	
	1	**2**
Design of the Credit Card is what attacts me the most		
I am selective of the colour I choose for my Credit Card	.926	-.119
I particularly check for Cashback offers associated with the particular Credit Card	-.200	.808
The Discount offer is what attracts me for makin choice of Credit Card	-.043	.823
I choose Credit Card depending upon the Bonus amount it provides	-.181	.423
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization		

Anlyzing table 3, it is seen that the variables - colour of the credit card and its design - have loadings of 0.926 and 0.878 respectively on factor 1. This suggests that factor 1 is a combination of these two variables. This factor can be interpreted as "**Impression**".

For factor 2, it is seen that discount offers and cashback facilities of the card have loadings of 0.823 and 0.808 respectively, indicating that this factor is a combination of these two variables. This factor can be interpreted as "**Monetary benefits**".

5.2 Understanding money attitude of individuals

Principal component analysis is conducted to understand the money attitude of individual credit card holders.

TABLE 4

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.639
Bartlett's Test of Sphericity	Approx. Chi-Square	220.461
	df	78
	Sig.	.000

Results obtained from table 4 exhibits that the Kaiser-Meyer-Olkin measure of sampling adequacy is measured at 0.639 which is greater than 0.6 and hence ensures further analysis. The Bartlett's test of sphericity being 0.000 which is less than 0.05 indicates sufficient correlation.

TABLE 5

Total Variance Explained

Component Total	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	2.760	21.229	21.229	2.760	21.229	21.229	2.511	19.314	19.314
2	2.218	17.062	38.291	2.218	17.062	38.291	1.972	15.166	34.480
3	1.483	11.409	49.700	1.483	11.409	49.700	1.537	11.826	46.306
4	1.264	9.726	59.426	1.264	9.726	59.426	1.472	11.320	57.626
5	1.164	8.952	68.378	1.164	8.952	68.378	1.398	10.752	68.378
6	.946	7.279	75.657						
7	.862	6.633	82.290						
8	.606	4.658	86.948						
9	.514	3.956	90.904						
10	.431	3.316	94.221						
11	.309	2.374	96.594						
12	.230	1.766	98.360						
13	.213	1.640	100.000						

The money attitude of the credit card holders has been studied based on three parameters, namely, power prestige (3 questions have been set to understand self-esteem, need to exhibit social status and the desire to impress peer group), retention (4 questions were asked to understand the ability of financial planning of respondents) and anxiety (6 questions were directed towards understanding the distrust and fear concerning money matters). There were total 13 factors guiding the money attitude of credit card holders towards holding credit cards out of which 6 factors have been extracted to clearly explain the money attitude. From Table 5 above, it is seen that the 5 factors extracted explains 68.378% of the total variance because eigen values of all these 6 factors are greater than 1.

TABLE 6

Rotated Component Matrixa

	Component				
	1	2	3	4	5
HAVING A CREDIT CARD&MAKING PAYMENT BY IT MAKES ME FEEL COOL, COMFORTABLE, IMPORTANT & WEALTHY	.693	.250	-.160	.038	-.111
I USE CREDIT CARD TO EXHIBIT MY SOCIAL STATUS AND IT INCREASES MY WORTH	-.197	.287	.678	.243	.364

	Component				
	1	2	3	4	5
I USE CREDIT CARD TO IMPRESS MY PEER GROUP AND IT HELPS ME INFLUENCE PEOPLE EASILY	.023	.093	.833	.016	-.081
I USE CREDIT CARD EXCLUSIVELY TO BUY LUXURY GOODS IRRESPECTIVE OF AVAILABLE BANK BALANCE	.095	.243	.082	-.108	.769
I USE CREDIT CARD TO BUY NECESSITY ITEMS ONLY WHEN MY ACCOUNT BALANCE IS NOT SUFFICIENT	.392	.027	-.071	.406	-.313
I ESTIMATE MY MONTHLY EXPENDITURE AND PRE-DECIDE HOW MUCH I WOULD SPEND USING CREDIT CARD	.630	-.113	.351	-.396	.232
I SET ASIDE A PART OF MY INCOME AND ENSURE TIMELY PAYMENT OF CREDIT CARD BILLS	.412	.035	.348	-.503	-.366
I OFTEN TEND TO BUY THINGS BEYOND MY BUDGET USING CREDIT CARD	.142	.887	.068	-.022	.194
I DO NOT HAVE SELF CONTROL WHEN IT COMES TO SPENDING MONEY	.085	.906	.186	.064	.004
I FACE DIFFICULTY IN UNDERSTANDING THE INTEREST CALCULATION ASSOCIATED WITH DELAYED PAYMENT ON CREDIT CARD BILLS	.037	.064	.209	.744	-.154
I MIGHT NOT BE ABLE TO PAY CREDIT CARD BILLS WITHIN DUE DATE	.633	-.316	.062	.500	.249
IN THE PROCESS OF SPENDING, I MIGHT EXCEED THE STIPULATED CREDIT LIMIT	.724	.093	-.044	-.011	.012
I MIGHT LOWER MY CREDIT SCORE CHANCE AND REDUCE CHANCES OF AVAILING LOANS WHEN REQUIRED	.555	.154	.122	.127	-.496

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

The Rotated Component Matrix, Table 6, exhibits that Factor 1 comprises of 2 variables - Fear of exceeding stipulated credit limit having a loading of 0.724 and another variable highlighting the fact that having credit card makes one feel cool, comfortable, important and wealthy, having a loading of 0.693 can be classified under the head "**Apprehensive status concern**". Thus, despite being apprehensive of exceeding the credit limit, the respondent is still concerned about exhibiting his or her status which aptly justifies the factor name.

Factor 2 comprises of 2 variables - Lack of self control having a loading of 0.906 and tendency to buy beyond budget having a loading of 0.887. Thus, this factor can be named "**Self-Confidence**".

The 3rd factor is composed of 2 variables namely, using credit card to impress and influence peer group and also to exhibit social status with factor loadings of 0.833 and 0.678 respectively. This factor can be named "**Social Prestige**" because the respondent is using credit card to put up a status so as to use such influence and impress his or her peer groups.

Factor 4 can be rightly named "**Anxious Financial Literacy**" because this factor has a variable which determines that an individual credit card holder is anxious about the interest calculation procedure associated with delayed payment of credit card bills with a loading of 0.744, whereas, on the other hand it also comprises of another variable with a loading of 0.500 where the respondent is anxious and fearful regarding failure in payment of credit card bills within due date. Thus, the credit card holder is worried about failing the payment due date mostly because they are not confident about the calculation of interest procedure.

The last factor extracted, factor 5 is named "**Irrational Misuse**" because it has a variable with a loading of 0.769, which suggests that a credit card holder, irrespective of the bank balance, uses the credit card in buying only luxurious items, which justifies the factor name because the credit card holder is not making proper use of the credit card and exhibiting lack of rationality.

5.3 Type of credit card selected and reasons for such selection

Regression analysis is conducted to study how the type of credit card (dependent variable) is affected by the additional benefits associated with each type of card and the status quotient of that particular category of card (independent variables) held by respective respondents. So, it is defined by the multiple linear regression equation as:

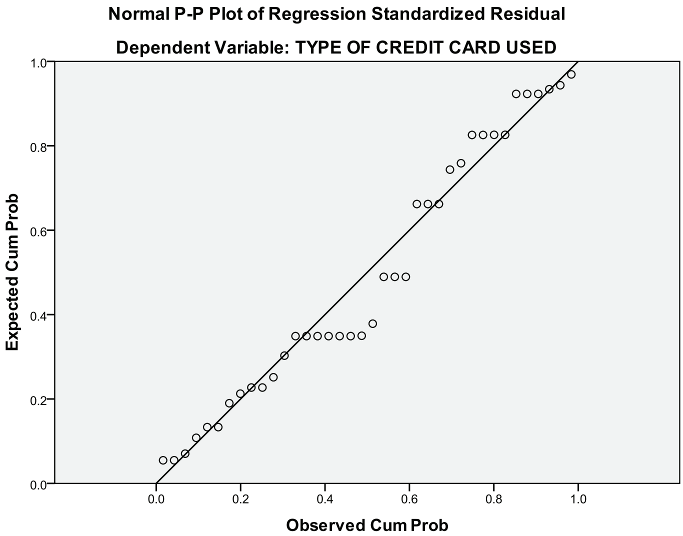
$$\mathbf{Y = a + b_1x_1 + b_2x_2} \text{ where,}$$

Y (dependent variable)	:	Type of credit card
$\mathbf{x_1}$ (independent variable)	:	Additional benefits associated with each specific type of credit card
$\mathbf{x_2}$ (independent variable)	:	The status show off quotient associated with a particular type of credit card.
a	:	Constant
$\mathbf{b_1,b_2}$	:	Coefficients of respective independent variables

The results on conducting a regression analysis are shown in Figure 1.

FIGURE 1

NORMALITY TEST



The Figure 1 shows that the Probability Plot (P-P Plot) is a straight and diagonal line with points lying close to the straight line which implies that the data set follows normal distribution.

TABLE 7

Model Summary

Model	R	R Square	Adjusted R Squate	Std. Error of the Estimate
1	.614[a]	.377	.341	2.758

The table (Table 7) shows R value of 0.614 signifying a positive correlation between independent variables which are capable of explaining 37.7% (R square: 0.377) of variation in the dependent variable and an adjusted R squared value of 0.341 which explains that the independent variables are significantly adding value to the model.

TABLE 8

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	161.117	2	80.558	10.590	.000a
	Residual	266.252	35	7.607		
	Total	427.368	37			

a. Predictors: (Constant), I USE THIS PARTICULAR TYPE OF CREDIT CARD TO EXHIBIT MY STATUS, I USE THIS PARTICULAR TYPE OF CREDIT CARD FOR THE ADDITIONAL BENEFITS IT PROVIDES

b. Dependent Variable: TYPE OF CREDIT CARD USED

From Table 8, the ANOVA Table, it can be seen that the value of Fisher's Test (F) = 10.590 at sig F = 0.000. The significance level of F test being less than 0.05 justifies that the regression model is significant.

TABLE 9

Coefficients[a]

Model B		Unstandardized Coefficients				
		Std. Error	Beta	Standardized Coefficients	t	Sig.
1	(Constant)	5.274	1.591		3.315	.002
	I USE THIS PARTICULAR TYPE OF CREDIT CARD FOR THE ADDITIONAL BENEFITS IT PROVIDES	-.997	.374	-.397	-2.667	.012
	I USE THIS PARTICULAR TYPE OF CREDIT CARD TO EXHIBIT MY STATUS	.784	.360	.324	2.176	.036
a. Dependent Variable: TYPE OF CREDIT CARD USED						

Table 9, the coefficient table exhibits that the "p" (sig) values for the two independent variables are 0.012 and 0.036, both being less than 0.05 are considered statistically significant in explaining the dependent variable, i.e., the type of card used.

Thus, from the results obtained through this regression model, it is inferred that,

a (constant) = 5.274

b_1 = -0.997

b_2 = 0.784

Therefore, the regression equation can be written as

Type of credit card used = 5.274 - 0.997 (I use this particular type of credit card for the additional benefits it provides) + 0.784 (I use this particular type of credit card to exhibit my status)

5.4 Type of bank selected for applying for credit cards and reasons for such selection

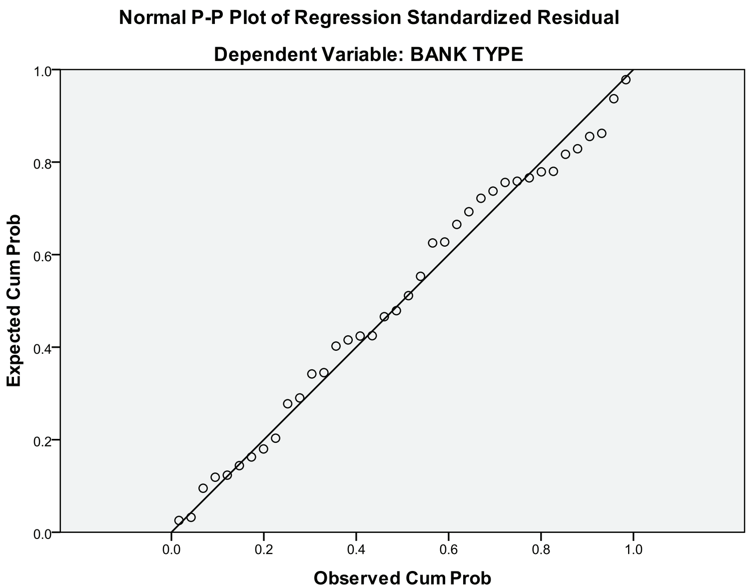
To understand how the choice of bank (dependent variable) by the credit card holder is influenced by 6 factors (independent variables) such as the priority services and behaviour offered by the bank personnel, the easy access to ATM facilities, and other financial benefits such as cash advance facility, billing system and grace period and also the applicable interest rates provided, a regression analysis has been conducted. The regression equation can be written as:

$$\mathbf{Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6} \text{ where,}$$

Y (**dependent variable**) :	Type of bank
$\mathbf{x_1}$ (independent variable) :	Priority services
$\mathbf{x_2}$ (independent variable) :	Accessibility of ATM
$\mathbf{x_3}$ (independent variable) :	Behaviour of bank personnel
$\mathbf{x_4}$ (independent variable) :	Cash Advance facility
$\mathbf{x_5}$ (independent variable) :	Billing system & Grace period
$\mathbf{x_6}$ (independent variable) :	Interest rates
a :	Constant
$\mathbf{b_1, b_2, b_3, b_4, b_5, b_6}$:	Coefficients of respective independent variables

FIGURE 2

NORMALITY TEST



The data set follows normality as is evident from the straight line probability plot (Figure 2). The points lie close to the straight line which implies that the data set follows normal distribution.

TABLE 10

Model Summary

Model	R	R Square	Adjusted R Squate	Std. Error of the Estimate
1	.931[a]	.867	.841	.267

The model summary (Table 10) displays R value of 0.931 indicating a very high positive correlation among the independent variables. The value of R square is 0.867 which clearly states that 86.7% of variation in the dependent variable can be explained by the 6 independent variables. A high adjusted R squared value (0.841) signifies a good fit of the model and explains how significant are the chosen independent variables to determine the dependent variable.

TABLE 11

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.348	6	2.391	33.627	.000a
	Residual	2.205	31	.071		
	Total	16.553	37			

The regression model is statistically significant as is justified by the results shown in Table 11, the ANOVA table. The F value is 33.627 at significance level 0.000. Thus, the p value being less than 0.05 indicates a statistically significant regression model.

TABLE 12

Coefficients[a]

Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	3.292	.295		11.166	.000
	I SELECT THE BANK BASED ON THE PRIORITY SERVICES I GET	-.192	.045	-.433	-4.222	.000
	I SELECT THE BANK BASED ON EASY ACCESSIBILITY OF ATM NETWORK	-.184	.041	-.381	-4.460	.000

Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	I SELECT THE BANK BASED ON THE BEHAVIOUR OF BANK PERSONNEL	-.353	.043	-.809	-8.141	.000
	I SELECT THE BANK BASED ON THE FACILITY OF CASH ADVANCE	.000	.036	.001	.014	.989
	I SELECT THE BANK BASED ON THE CREDIT CARD BILLING SYSTEM&GRACE PERIOD OFFERED	.079	.058	.111	1.363	.183
	I SELECT THE BANK BASED ON THE INTEREST RATES ASSOCIATED WITH PAYMENT OF CREDIT CARDS	.019	.031	.045	.596	.555
a. Dependent Variable: BANK TYPE						

The coefficient table (Table 12) explains the significance of each independent variables on the dependent variable. Any variable having a p-value (sig) of less than 0.05 is supposed to be considered significant in explaining the dependent variable. As is seen from the table, the three independent variables, i.e., cash advance facility, billing system and grace period, and the prevailing applicable interest rates have a high significance value which is greater than 0.05. This explains that these three variables do not affect the nature of bank chosen by respondents while applying for credit cards. Respondents do not look for these facilities instead, are influenced by availability and easy accessibility of ATM networks ($p = 0.000 < 0.05$) so as to ensure uninterrupted banking transactions, the priority services ($p = 0.000 < 0.05$) provided by the banks in which they hold credit cards as also the behaviour of the bank personnel ($p = 0.000 < 0.05$).

Therefore, the regression equation of the dependent variable based on the 3 significant independent variables, can be written as :

Choice of bank = 3.292 - 0.192 (Priority Services) - 0.184 (Easy accessibility of ATM networks) - 0.353 (Behaviour of bank personnel)

VI. CONCLUSION

The psychological insight into the behavioural aspects of respondents included in the sample provides an inference wherein it can be concluded that respondents, though concerned about self-esteem and social prestige, yet are also rational individuals with a logical thinking skill. The justification behind this can be enumerated as follows:

- As inferred by the results of factor analysis (section 5.1), is that individuals are not only concerned about how the credit card looks like but are also influenced by the monetary benefits associated with the credit cards chosen by them.
- Also, as exhibited in the analysis in section 5.2, the money attitude of individuals validates that respondents are obviously biased towards maintaining social status and protecting their esteem, but at the same time are also rational, apprehensive and anxious regarding estimation and financial planning. They are also doubtful about their confidence and literacy in terms of financial matters.
- Regression result (section 5.4) shows that while choosing the bank, respondents do not exhibit ample rationality by ignoring the aspects of interest rates and grace period offered by the banks, by not being influenced by the cash advance provided by the bank, instead, are bothered more about how they are being treated by the bank personnel and whether they would be provided with priority services by those banks if they hold a credit card with that bank. Ensuring easy accessibility of ATM networks of the bank is, however, an indication that respondents have exhibited at least minimum logical insight here.
- Section 5.3 which draws a conclusion based on regression analysis runs between the type of credit card chosen and reasons behind that, clearly shows that individuals are not only concerned about exhibiting their status but are also selective of the type of credit card based on the additional benefits provided.

Thus, the insight into the behavioural perspectives of credit card holders in the selected sample concludes that they have perfectly balanced out among individualism, rationality, self-dignity and social status. They are apprehensive yet wise planners, dignified yet fearful and less confident despite being extremely concerned about self-esteem and social status.

As no study is free from limitations, there are certain *limitations* in this study too, such as the small sample size of the study comprising of only 75 respondents. Owing to the pandemic situation, it has not been possible to reach out to a larger section of the people. The study is based on the location in and around the regions of Kolkata. The findings might have been different if people from various regions having varied cultures would have been included in the sample. Moreover, the study primarily revolves around understanding the behavioural perspective of credit card holders and the questions have been set accordingly. Conclusions have been drawn based upon response given by individual respondents. Since the answers are guided by their psychological insights, answers might vary depending upon the mental condition and situation of credit card holders

While summarizing the findings of the study based on responses received by the respondents, it can be recommended that the credit card holder should be careful and must not indulge in impulsive buying, thereby propagating consumerism. Instead, credit cards should be prudently used for buying items of necessity. Keeping in mind the exorbitant interest rate charged on the outstanding amount of credit card, it would be wise for credit card holders to complete repayment within a month or two to avoid unnecessary accumulation of funds creating a debt trap for individuals. The credit card issuing authority should ensure that credit cards should be issued to those with regular income and to those who are responsible enough to take care of their own finance. Those with no regular income can impose financial stress on the family and those who are incapable of retaining self control while using credit card can invite debt crisis for themselves.

Further research studies may consider other psychological reasoning and logic as parameters of guiding the money attitude of individuals, only a few have been included as parameters in this study. Moreover, future research on this area may examine the impact of influence of several other factors on the choice of credit cards and the preference of banks which have not been considered within the ambit of this study.

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