

IDEAL JOURNAL OF MANAGEMENT & IT



ISSN 2277-8489 | AUGUST 2017 | VOLUME VIII

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आईडियल प्रबंधन और प्रौद्योगिकी संस्थान

VISIONARY



Late Sh. Rakesh Aggarwal ji
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Message from Editor –in – Chief

IF IT BURNS, YOU ARE GETTING CLOSER

Dear Readers,

The happiness comes from within and not from outside. Happiness is intrinsic and extrinsic. The VIII Volume of Ideal Journal Of Management & IT is in your hands after a strenuous entrepreneurship of months and weeks.

Incompleted tasks give strength on their completion yet always seems impossible until its finished and achieved. The world breaks everyone and afterward some are strong at the broken places. Strength is a matter of time. You don't get it by winning always. Most of the time, your failures, frustrations struggles develop your strength. when you decide not to surrender instead fight out of this.

People love the man who can smile in trouble, that can gather strength out of distress and grow brave and beautiful by reflection. This Reflection takes you to the path of success and achievements. This path may be tough but one should never forget one thing that tough times never last, but tough people do. Difficulties are meant to rouse, not discourage.

Anything which doesn't kill us makes us strong. Sometimes you don't realize your strength until you come face to face with your greatest weakness life is very interesting in the end. Some of your greatest pains become your greatest strengths.

Success is a great mystery. It comes to be known to those who believe. He who believes is stronger. He who doubts is week. Strong convictions precede great actions.

What world would have thought of you today is honesty, sincerity, openness, love, patience, caring attitude, problem solving ideas and good decision making. Good decision making power comes when you tread through the untrodden path and remember it requires lot of feet burning, **BUT IF IT BURNS, YOU ARE GETTING CLOSER.**

Wishing you all an excellent success in all your endeavours and congratulations to the management, faculty, students, staff, editorial board for their consistent support, understanding and cooperation.

With Best compliments

In the service of the nation.

Always Yours



Prof. (Dr.) Anil Parkash Sharma
Director cum Editor-in-Chief

Message from Secretary General

DO IT 'NOW', SOMETIMES 'LATER' BECOMES 'NEVER'

Dear Readers,

It gives me immense pleasure in knowing that VIII volume of Ideal Journal of Management & IT is being published. At the same time it also gives me an opportunity to congratulate the editorial team, Management Faculty & Staff on their hard earned success at a stretch for the last VII volumes.

Whatever you do, do it with your utmost hard work and smart work. Look in the mirror.....that's your competition. Life has no remote, get up and change it before someone else changes it or it gets changed due to the Tsunamic force of the environment. Stop Wishing. Start acting. Act, you must, but you must act fast. Time is slipping away every moment, every single moment is a moment of change, a moment of amazing surprises, astonishing movements, and stunning creations. Don't watch the clock; do what it does, keep going. Rest is Rust. Stagnated water spreads foul smell. Flowing rivers give birth to newness. Old order goes. New order comes.

Success is not for the lazy. It is for the braves, stalwarts, amazons. Be strong enough to stand alone, smart enough to know when you need help and brave enough to ask for it. Only you can change your life, no one can change it. You are here not to be average rather you are here to be awesome. Push yourself because no one else is going to do it for you. Strength doesn't come from what you can do; it comes from overcoming the things you once thought you couldn't.

Research is an arena which always clubs new and old in one string, to create something undiscovered, unresearched, unexplained.

Therefore, it is expected that this VIII volume of IJM will help all the research scholars and readers to unearth something creative out of this.

In the end just a few words of thoughtfulness – **DO IT NOW. SOMETIMES 'LATER' BECOMES 'NEVER'**.

With Best Wishes.



Vineet Aggarwal
Secretary General

From the Editor's Desk

Management is efficiency in climbing the ladder of success; Leadership determines whether the ladder is leaning against the right wall.

Stephen Covey

In the recent past the management have undergone radical changes in order to keep pace with challenges on international level. As the changes got internationalized so the research in these areas of study needs to be highlighted among the academicians and practitioners at appropriate levels.

2016 was another great year for Ideal Journal of Management & Technology. The highlight of 2016 was that we have made our journal online and indexed ourselves in Google Scholar and registered in Copernicus. The website have loads of new features, format, and content for easy navigation. Our new, revamped websites offer a more streamlined user experience. The websites come with added features of Advanced Search, side panels with links for authors, added content that provides critical information for submitting a paper, requesting a Sample Copy, accessing information related to subscribing to our journals, and display information regarding the archives and current issue of or titles. We will continue to add many new features and functionalities to our websites in 2017. Our consistent efforts are aimed towards increasing the visibility, impact, editorial cycle time, citations, and the overall quality of our journal. I hope our readers and patrons share a similar vision, and we look forward to a productive, challenging, and a successful 2017 ahead. In the spirit of continuous improvement, any constructive input on streamlining our processes is very much welcome.

We fervently hope our esteemed readers, be it members of academia, students or members of the corporate world will greatly benefit from the content of the journals. We look forward to the illuminating critique and feedback that will help us enhance this journal and allow us to make it increasingly valuable for our readers.

We request all interested academicians and research scholars to keep on sending their papers for publication in our journals.

With Best Wishes and Season's Greetings.



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Entrepreneurship: In Context of Indian Economy During Recession

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Abstract

If succeeding as an entrepreneur in the U.S. is difficult then doing so in India is next to impossible. That is the message of report issued by an advertising firm Saatchi and Saatchi. It leads to a pep talk for a global economy that is still in the swoon of recession and facing looming shortages of water and power and specter of climate change. Despite the claim that recessions are a time of opportunity for entrepreneurs, the Great Recessions had a negative impact on US entrepreneurship. In the post liberalized world of economic restructuring and the present threat of recession in many parts of the small sector of business led to make strategic thinking an vital prerequisite, if business survival is to remain on the prime factor for many 'ventures' or owned business managers.

The report also notes that "the world's sustainability challenges are arriving first and fastest in India." The report highlights Indian companies that have applied some universal principles that other countries may have forgotten. Those principles include self reliance, looking to people instead of machines for solutions, thinking whole systems and embracing the Indian spirit of "Jugaad" means overcoming limited resources by improvising like crazy.

This paper is an endeavour to emphasize on the methods and measures adopted by government and inculcating entrepreneurial qualities for individual and industrial growth in overcoming recession.

Key words: Recession, Entrepreneurship, Strategic thinking, Venture etc.

Introduction

Most of the countries all over the world are going through the phase of economic recession. Many old and big companies have already been brought down on their knees to bite the dust. Many companies as well as countries have become bankrupt or are on the verge of it. Millions and

millions of people have lost their jobs. People in general are scared and fearsome. In this hard time SME's and entrepreneurs play a significant role in all economies and are the key generators of employment and income and drivers of innovation of growth. Given their importance in all economies, they are essential for the economic recovery. Even in 'normal' economic conditions governments have recognized that, to survive and grow, SMEs need specific policies and programmes – hence the comprehensive range of SME measures currently in place.

However, at the present time, SMEs have also been especially hard hit by the global crisis.

It is important to stress that SMEs are generally more vulnerable in times of crisis for many reasons among which are:

- it is more difficult for them to downsize as they are already small;
- they are individually less diversified in their economic activities;
- they have a weaker financial structure (i.e. lower capitalization);
- they have a lower or no credit rating;
- they are heavily dependent on credit and
- they have fewer financing options.

Objectives Of The Study

- To explore the impact of global economic crisis on entrepreneurship.
- To understand the use of entrepreneurship as a tool for economic crisis in Indian Economy
- To know about the methods and measures adopted by government for developing entrepreneurship
- To understand about the techniques for inculcating entrepreneurial qualities for individual and industrial growth.

Impact of the global crisis on SME and entrepreneurship financing

Although there is no internationally agreed definition of small and medium sized enterprises (SMEs), the evidence suggests that these firms are being affected by the financial and economic crisis across economies. There is evidence that SMEs in most countries are confronted with a clear downturn in demand for goods and services if not a demand slump in the fourth quarter of 2008. Many expect a further worsening to come. For SMEs there are two related stress factors:

- a) increased payment delays on receivables which added - together with an increase in inventories- result in an endemic shortage of working capital and a decrease in liquidity and
- b) an increase in reported defaults, insolvencies and bankruptcies.

Extended payment delays on receivables, especially in times of reduced sales, are leading rapidly to a depletion of working capital in many countries. For example, in Belgium 43 % of surveyed SMEs recently experienced extended delays in their receivables and in the Netherlands 50 % of SMEs have to deal with longer payment terms from their customers. In New Zealand, the share of enterprises waiting over 60 days for payment has risen dramatically from 4.8 % to 29.5 % between February 2007 and 2008. In Denmark, Italy, Ireland, Norway and Spain the surge in corporate insolvencies was higher than 25 %. In Finland, while short-term solvency problems among SMEs normally involve 6-8 % of these firms, in January 2009 more than 17 % of small firms with less than 50 employees declared insolvency problems. In Sweden, according to ALMI (the Swedish state owned Development Bank), bankruptcies increased over 50% in the first two months of 2009 compared to the same period in 2008. Increased insolvency rates appear to confirm SMEs' increased inability to obtain short-term financing. In all countries using the Bankers' Lending Survey method, the tightening of credit conditions by banks was clearly evident for all the banks' clients. The European Central Bank (ECB) data also confirmed the tightening. The ECB attributes the tightening to the banks' ability (or inability) to access capital, the banks' liquidity positions, and expectations regarding the recession and higher risk on collateral. Interest rate spreads have risen to unprecedented levels, thereby partially offsetting the effects of the easing of monetary policy. The main factors exacerbating the banks' attitude towards lending to SMEs are: a) the poor SME economic prospects already discussed; b) stagnation in inter-bank lending and increased cost

of capital; and c) the desire to rebuild bank balance sheets. In all reporting countries, banks are under pressure and are trying to preserve or strengthen their capital base. As a result, they are seeking fully collateralized transactions. In consequence, by choosing to keep only the strongest clients, banks and other financial institutions are contributing to a polarization process. For example, Korea reported that lending to blue-chip SMEs has increased whereas lending to SMEs with poorer credit ratings has deteriorated. For many banks this may be a sensible survival strategy and their survival is vital. In some countries it is also a case of returning to "normal" lending practices after a number of years of excessive flexibility and generosity in lending.

□ *The stagnation in lending is true even of banks in countries where governments have deliberately strengthened banks' balance sheets to allow them to grant additional credit to SMEs and/or where credit guarantee schemes exist.* As it will be seen later in the summary, most countries have not only recapitalized their banks, but also extended the funds and guarantees available for SME financing. But the effects of the incentives to lend to SMEs put in place by governments in some countries (such as the provision of additional capital) have not yet yielded the desired results. Some governments are closely monitoring this situation or have put in place "credit mediators" to ease the flow of credit to SMEs or have enacted binding codes of conduct for SME lending.

□ Loan conditions encompass many aspects among which the most important are the spread between banks cost of funds and their interest rate, their commissions and fees, the difference between the amounts granted and those demanded by enterprises; the level of collateral required, and the duration of loans. During the Round Table there was much discussion about the fact that large banks have evolved into very complex institutions where loan decision making is centralized and based on automated credit assessment systems. Thus, SMEs often lack face-to-face contact with bank managers who understand their specificities. Inappropriate and indiscriminate use of credit scoring mechanisms can lead even deserving SMEs to be denied credit. To some extent, a proper use of individual assessment through "relationship banking" can counteract this, and it has survived in some countries because the banking sector is composed of many "local" or "regional" banks which have been less affected by the crisis, are liquid, and continue to lend to SMEs (Switzerland and the United States, for example). There are also some large banks that are preserving "relationship banking" at the local level (in Italy, IntesaSanpaolo is one of them and in Indonesia, the Bank Rakyat).

□ *Confronted with worsening access to credit, SMEs are exploring alternative sources of finance such as the mobilization of reserves, self-financing and factoring.* Access to venture capital and private equity also appears to be constrained but there are no official statistical data available covering the fourth quarter of 2008. The financial crisis has had a three-fold impact on venture capital and private equity markets. *First*, exit opportunities are reduced. *Second*, fundraising activities seem to be shrinking. *And thirdly*, invested capital has stagnated or even slowly started to decline, especially investments in new projects.

□ *Global venture capital fundraising slowed down between 2007 and 2008.* The current economic recession and the global downward pressure on prices are expected to influence the future prospects for fundraising in the markets in the long run. Institutional investors providing funding will simply be less willing to supply new funds with fresh capital. Figures from Canada confirm the global trend as fundraising has decreased by roughly 25 % in 2007 and 2 % in 2008. Similar declines have been registered in Australia and the UK.

□ Under the influence of these trends, public funds (both direct and indirect investment funds) will be impacted as much as the private funds. In markets with public or semi-public investment funds, which provide capital to funds-of-funds activities, such public funds are likely to witness a more limited possibility for co-investment with private funds, simply because the private funds increasingly reduce their investment activities. As a result, public funds cannot be expected to provide the same leverage effect as before the crisis, unless supplied with more capital.

Indian Economy, Recession and Entrepreneurship

The global recession has thrown several challenges to world economy. With the collapse of Lehman Brothers, an investment banker, there is jittery across the world to overcome the challenges of slowdown. Is it an opportunity or a threat for entrepreneurship? Let us find out. Every economy is like a cycle where there will be peaks and troughs. The present situation is a reflection where we are heading for trough. It is a matter of time to recover the scenario to set for peak. Whenever any economy is overheated it needs cooling off. Like a human body needs a breathing space after a long marathon, the economy also needs fresh oxygen to set into motion further. It all depends on the mindset of the people how they view the present scenario. The situation is not as bleak as depicted by media. No doubt, there are challenges for changes in the present economy

trends and policies. When we recall the Great depression started in America, it comes to our notice that many companies evolved during such tough times. Sam Walton grew in America during the great depression. He sold newspapers to support his family. He developed the right attitude to handle customers. He learnt the psyche and pulse of the customers. Subsequently he started his retail venture Wal-Mart. Financial hardships toughened and taught him many lessons. It paid him off in his later life evolving as a retail giant. Similarly the Second World War brought massive destruction to mankind but led to several inventions and innovations resulting into comforts and luxuries to mankind. The current global meltdown has not adversely affected India as of now but the pinch of it will be felt shortly. But it provides several opportunities to set up enterprises at this time and a few them evolving as entrepreneurial giants like the Sam Walton.

In the past also, the dotcom bust of 2000 led to setting up several internet companies resulting into huge success as on today. Companies like Hyatt, FedEx, GE, Hewlett-Packard in overseas and companies like Wipro BPO and Mind tree in India were born in a slowdown. Besides, Spectra mind was born during the peak of dotcom bust in 2000. Current meltdown is an opportunity for entrepreneurship. Management guru CK Prahalad says, "The poor represent an opportunity, a source for innovation". Majority of Indians live in villages and there are 6, 00,000 villages where huge potential is lying untapped. Indian rural market is like a sleeping giant and if woken up and tapped properly it opens the floodgates for consumer demand. Hitherto, companies focused on urban market buoyed by the swing of IT, ITeS and knowledge sectors. It is time to shift the focus and tap rural Indian market by providing tailor made products and services. Besides, there are several other sectors which were neglected and untapped till now due to the quick gains from Knowledge sectors. According to Prathap C Reddy Chairman, Apollo Hospitals, "3Ps – purity of purpose, patience and persistence – are needed to succeed in India." And he adds that "Entrepreneurs must aim for ideas that impact the lives of others, and are accessible to all."

If you want to control your destiny and are a brave hearted then entrepreneurship is the right answer. Recession is an excellent opportunity for the laid off people who hitherto had been in their comfort zones. They need to reinvent themselves, explore and experiment entrepreneurship and evolve as entrepreneurs. Since laid off people took a spin in the orbit as employees their experience and expertise can be utilized up to the hilt for reinventing themselves as successful entrepreneurs.

Talent is cheaper and the opportunity costs are

relatively lower during recession. Look at the existing gaps in products and services through extensive research and then proceed setting up the business plan for execution. Recession will change consumer preferences. The startups should smell the changing preferences and evolve business plans accordingly for viability and feasibility. In this process, they can approach the experts in the domain for their comments and feedback on the business plan. They may also take a mentor who charges nominally who guides and glides to smooth entrepreneurship. The mentors are experienced and will tell the intricacies and issues involved in setting up business. They will tell the nuances of entrepreneurship.

“Mentoring is not about popularity. The mentor’s crucial role is to question, to push back, and to open the recipient’s mind to alternate possibilities.” Says Nandan Nilekani, Co-chairman, Infosys.

Mentors are directors, angels are producers and entrepreneurs are actors. And consumers are the people who take benefits of entertainment out of this entire entrepreneurship. For the success of any enterprise, it is necessary to have a mentor who is experienced and who shares his practical experience and knowledge with budding entrepreneurs and who shows the right path for successful ventures. A right mentor builds skills, abilities and moulds the right attitudes for entrepreneurial success. Whenever the entrepreneur faces problems the mentor comes out with solutions based on his experience and expertise. You can not become crack shot unless you lose ammunition. Here is the mentor who has become a crack shot by losing lot of ammunition.

Government Support

An entrepreneur requires a continuous flow of funds not only for setting up of his/ her business, but also for successful operation as well as regular up gradation/ modernization of the industrial unit. To meet this requirement, the Government (both at the Central and State level) has been undertaking several steps like setting up of banks and financial institutions; formulating various policies and schemes, etc. All such measures are specifically focused towards the promotion and development of small and medium enterprises.

The government of India has been taking active steps to promote entrepreneurship in various industry & service sectors. It has declared several policy measures and is implementing schemes and programmes to enhance the global competitiveness of small enterprises across the country.

Some of the other governmental measures for small and medium enterprises include:-

□ The Ministry of Micro, Small and Medium Enterprises has been implementing the

'Scheme of Surveys, Studies and Policy Research a view to regularly/periodically collect, from primary, secondary and other sources, relevant and reliable data on various aspects and features of micro, small and medium enterprises (MSMEs) engaged in manufacturing and services (whether in the category of tiny/small scale industries, khadi, village industries or coir) as a composite group or specific segments thereof. It aims to study and analyze, on the basis of empirical data or otherwise, the constraints and challenges faced by the MSMEs as well as the opportunities available to them, in the context of liberalization and globalization of the economy. It further aims to use the results of these surveys and analytical studies for policy research and designing appropriate strategies and measures of intervention by the Government, by itself or in public private partnership mode, to assist and enable these enterprises in facing the challenges and availing of the opportunities with a view to enhancing their efficiency and competitiveness as well as expanding generation of sustainable employment by them.

□ Micro, Small and Medium Enterprises Development Act, 2006 has been enacted to facilitate the promotion and development as well as enhance the competitiveness of micro, small and medium enterprises and for matters connected therewith or incidental thereto. For this, it included the establishment of specific funds, notification of particular schemes/programmes, progressive credit policies and practices, preference in Government procurements to products and services of these enterprises, following more effective mechanisms for mitigating their problems, etc. It provides the first-ever legal framework for recognition of the concept of 'enterprise' which comprises both manufacturing (those engaged in the manufacture/production of goods pertaining to any industry) and service ((those engaged in providing/rendering of services) entities. Under the Act, three tiers of enterprises, namely 'micro, small, and medium' have been defined for the first time. The Act also provides statutory consultative mechanism at the national level with balanced representation of all sections of stakeholders, particularly, these enterprises, and with a wide range of advisory functions.

□ Dereservation of the progressive dereservation of products in the MSMEs aimed at providing opportunities for technological up gradation, promotion of exports and economies of scale, with a view to encourage modernization and enhance competitiveness in the sector. As on 13 [h](#)' with March 2007, 125 items were dereserved. As on 8th February, 2008, 79 items more were dereserved. At present, the total number of items reserved for exclusive manufacture in the micro and small scale sector is 35.

□ The National Manufacturing Competitiveness Programme (NMCP) has been launched to provide support to the manufacturing sector, particularly small and medium enterprises sector, in their endeavor to become competitive. It consists of 10 components and programmes as the initiatives for development and promotion of MSMEs.

□ Credit is one of the critical inputs for the promotion of small and medium enterprises. It is a part of the priority sector lending policy of the banks. Accordingly, several schemes and policies have been undertaken to provide adequate credit to such enterprises. One of such scheme is the Credit Linked Capital Subsidy Scheme (CLCSS) which was launched to facilitate technology up gradation by upfront capital subsidy to small, micro and medium enterprises, including tiny, khadi, village and coir industrial units, on institutional finance (credit) availed by them for modernization of their production equipment (plant and machinery) and techniques in specified sub-sectors/ products approved under the Scheme.

Besides, the State and Union Territories (UTs) Governments are executing several promotional and developmental projects/schemes as well as providing a number of supporting incentives for development and promotion of MSME sector in their respective States/UTs. These schemes/ projects are executed through State Directorate of Industries, who have District Industries Centers (DICs) under them to implement Central/State level schemes. Around 30 MSME-DIs and 28 Branch MSME-DIs have been set up in State capitals and other industrial cities all over the country, with a view to provide assistance/consultancy to prospective entrepreneurs as well as to existing units; conduct EDPs, Management Development Programmes, Skill Development Programmes, etc. Also, the State Industrial Development and Financial Institutions and State Financial Corporations look after the needs of the MSME.

Supporting Innovation and Intrapreneurship

Perhaps a more productive use of resources would be to concentrate on alleviating bottlenecks to innovation, possibly directly related to two of the three factors outlined above, excluding the dearth of VC funding if one believes the argument that with innovation comes funding.

There is a strong trend for governments globally to support innovation in large corporations through tax breaks and R&D incentives, again as a tool to combat recession. In fact, the recession itself is forcing these businesses to consider entrepreneurship in their own way. Corporate entrepreneurship, also known as 'intrapreneurship', is increasingly being encouraged in large

businesses as a strategy for development of competitive advantage and promotion of innovation and growth. Some organizations have a long history of successfully harnessing intrapreneurship. Google, for example, encourages engineers to take advantage of its Innovation Time Off programme, where they are given 20% of their time to pursue approved intra preneurial activities. This has led to development of highly successful services such as Gmail and Google News. 3M, the other commonly cited example, allows employees to use up to 15% of their time to pursue entrepreneurial endeavors, a policy that helped lead to the development of the ubiquitous sticky note. Sir Richard Branson openly advocates that encouraging intrapreneurship was and still is one of the keys to the success of his Virgin empire. The BVCA's paper highlights studies which suggest that direct job creation (and elimination) occurs at equal rates both in large established businesses as well as start-ups. The ability to foster intrapreneurship not only yields the advantages of innovation, growth and competitive advantage but also simultaneously harnesses otherwise unused intangible tools such as employee creativity and ensures employee satisfaction by providing flexibility to pursue innovative solutions to problems which may otherwise never be solved or come to light.

As such, a two-pronged approach to encouraging both entrepreneurship and intrapreneurship could produce the desired effect with regards to reversing current European economic woes. However, whilst the recession in itself is acting as a driver to foster intrapreneurship, encouraging European entrepreneurship requires broader changes to cultural, legal and framework factors that are hindering innovation.

To understand about the techniques for inculcating entrepreneurial qualities for individual and industrial growth.

Recognizing the importance of small and medium enterprises in the growth of Indian economy in terms of their contribution to country's industrial production, exports, employment and creation of entrepreneurial base, the Central and State Governments are undertaking several policy measures and incentives as well as implementing schemes and programmes for promotion and development of these enterprises. For this, entrepreneurship development and training is one of the key steps, particularly, for the first generation entrepreneurs. Entrepreneurship Development Programmes (EDPs) of various durations are being organized on regular basis by a number of organizations, such as, National and State level Entrepreneurship Development

Institutes (EDIs):Micro, Small and Medium Enterprises Development Institutes (MSMEDIs) - formerly called Small Industries Service Institutes (SISIs); National and State level Industrial Development Corporations, Banks and other training institutions/agencies in private and public sector; etc. These EDPs aims to create new entrepreneurs by cultivating their latent qualities of entrepreneurship and enlightening them on various aspects necessary for setting up micro and small enterprises. Besides, skill development programmes (SDPs) and entrepreneurship-cum-skill development programmes (ESDPs) are also being organized by various public as well as private training institutions.

At the **national level** the following institutions are associated with the entrepreneurship development programmes:

- Small industries development corporation(SIDC)
- Industrial finance corporation of India(IFCI)
- National small scale industrial development corporation(NSSIDC)
- Khadi and village industries commission (KVIC)
- National bank of agriculture and rural development(NABARD)
- National institute of small industry extension training (NISIET) etc.

At the **state level** the following institutions are associated with the entrepreneurship development programmes:

- Small industries service institutes(SISI)
- State finance corporations(SFC)
- State small industries corporations (SSIC) etc.

EDP experience in India has shown that various training programmes of these institutions are aimed at training people to take up self –employment and or to get gainful employment .EDPs should be conducted at the places where necessary infrastructure for training is available and support agencies are willing to cooperate. Further they provide the following benefits: ---

- Entrepreneurial education.
- Identification of potential entrepreneurs through scientific method
- Motivational training to new entrepreneurs.
- Help and guide in selecting products and preparing project reports.
- Making available techno-economic information and product profits.
- Evolving locally suitable new products and processes.
- Availability of local agencies with trained personnel for entrepreneurial counseling

Limitations of EDP's

However, there are still wide spread variations in the success rate, in terms of actual setting up and successful running of enterprises, by the EDP/SDP/ESDP trained entrepreneurs. Also, new entrepreneurs generally face difficulties in availing full benefits under available schemes of the Governments / financial institutions, completing and complying with various formalities and legal requirements under various laws/regulations, in selection of appropriate technology, etc.

'Rajiv Gandhi UdyamiMitraYojana (RGUMY): A step ahead of EDP's

In order to bridge the gap between the aspirations of the potential entrepreneurs and the realities, there is a need to support and nurture the potential first generation entrepreneurs by giving them handholding support during the initial stages of setting up and managing their enterprises. Accordingly, the scheme called '**Rajiv Gandhi Udyami Mitra Yojana (RGUMY)**' has been launched to provide handholding support and assistance to the potential first generation entrepreneurs, who have already successfully completed EDP/SDP/ESDP or vocational training from ITIs, through the selected lead agencies, like 'Udyami Mitras'. This helps such entrepreneurs in the establishment and management of the new enterprise, in dealing with various procedural and legal hurdles as well as in completion of various formalities required for setting up and running of the enterprise, etc. The work profile of Udyami Mitras include networking, coordinating and follow up with various Government departments/ agencies/ organizations and regulatory agencies for channelizing the benefits available under various schemes to the first generation entrepreneurs and help them in setting up their enterprise.

Conclusion

Entrepreneurship is the process of providing profitable solutions to the prevailing problems. Finding out the need and filling the same is the most challenging aspect of entrepreneurship. Identify the triggers for the projects, check for feasibility, look for availability of all resources, think out of the box and proceed. Start in a small way and test your waters. But dream big and have firm convictions that you will succeed as an entrepreneur. Build a strong team. Look at the big picture and keep your safety net ready. Be passionate, persevere and persistent till the end. It is very unfortunate that India with a billion plus population could not produce proportionate number of entrepreneurs. Whereas small countries like Finland, Germany Britain have produced entrepreneurial giants. It is time Indian government took serious note of the scenario to make the Indian

economic environment entrepreneurial friendly to reap benefits out of recession.

Suggestions

1. Have an innovation strategy that will be specifically targeted towards small scale micro-enterprise sector particularly in the rural and semi-rural economy.
2. Create skill development programs and training designed to foster this.
3. Provide proper infrastructure in terms of credit, marketing and storage. And in this context the need to evolve financial innovation models, based on micro-finance that can effectively deliver capital to those enterprises with innovative potential in the rural economy and semi-rural economy.
4. Look at the risks and returns of innovation that lies outside technologically advanced sectors.
5. Social innovation and micro enterprise financial innovation should work together.

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Educational Data Mining for Student Support in Interactive Learning Environment

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Abstract—Educational Data Mining is an emerging interdisciplinary research area that deals with the development of methods to explore data originating in an educational context. EDM uses computational approaches to analyze educational data in order to study educational questions. Firstly, it introduces EDM and describes and why we Need of EDM then, how EDM support Students in Interactive Learning, Applications of EDM, then goes on to list the most typical/common tasks in the educational environment that have been resolved through data mining techniques, LMS Environment, Software used in EDM (MOODLE), Advantages of DM in Education System and what Challenges we are facing in the Field of EDM and finally some of the most promising future lines of research are discussed.

Keywords: EDM, LMS, DM Techniques, Educational Systems.

Introduction

Educational Data Mining (EDM) is the application of Data Mining (DM) techniques to educational data, and so, its objective is to analyze these types of data in order to resolve educational research issues. DM can be defined as the process involved in extracting interesting, interpretable, useful and novel information from data. It has been used for many years by businesses, scientists and governments to sift through volumes of data like airline passenger records and the supermarket scanner data that produces market research reports. EDM is concerned with developing methods to explore the unique types of data in educational settings and, using these methods, to better understand students and the settings in which they learn. On one hand, the increase in both instrumental educational software as well as state databases of student information has created large repositories of data reflecting how students learn. On the other hand, the use of Internet in education has created a new context known as e-learning or web-based education in which large amounts of information about teaching-learning interaction are endlessly generated and ubiquitously available. All this information provides a gold mine of

educational data. EDM seeks to use these data repositories to better understand learners and learning, and to develop computational approaches that combine data and theory to transform practice to benefit learners.

Overview of Data Mining and its Techniques

Data mining refers to "Extracting" or "Mining" knowledge from large amounts of data.

1. The process that finds a small set of precious nuggets from a great deal of raw material.
2. It allows users to analyze data from many different dimensions by applying various data mining techniques.
3. Data mining as a synonym for another popularly used term, Knowledge Discovery from Data, or KDD.
4. It is a Knowledge Discovery process which helps in determining relationship between different objects and help to analyze the pattern.

Knowledge Discovery Process

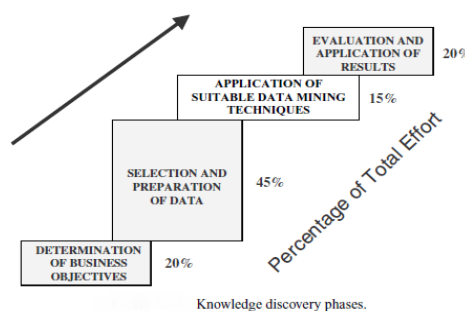


Figure 1: Phases of Knowledge Discovery Process & Effort Distribution

Educational Data Mining

The EDM process converts raw data coming from educational systems into useful information. The data can be collected from historical and operational data reside in the databases of educational institutes. Educational data mining can

be applied to discover patterns in non trusted datasets to automate the decision making process of learners, students and administrators. EDM consists of these phases:

- Data Selection
- Pre-processing
- Transformation
- Data mining
- Interpretation/Evaluation

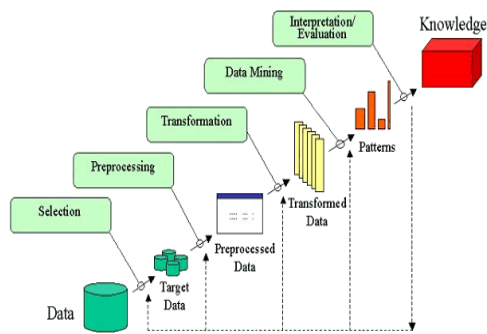


Figure2: Phases of Educational Data Mining

Researchers have used various data mining methodologies in different ways to understand or identify the learning models and learning patterns of the students. Various learning management systems can be used for providing the study programs for the students who can be connected in open distance mode or in a much more hybrid manner. But applying the same teaching principle on all the students in the same way will not cope with the ultimate goal of any learning management systems available, which is to help the students to learn rather helping them to pass. But understanding the nature of the learning in each of the students requires a huge effort such that the researching of educational information need to be followed by a stepwise process to reach the final discoveries. Like in any data mining research, some steps can be given as the basic steps that need to be followed in the knowledge discovery process which is shown in above figure. The same principles can also be applied in the learning analytics processes where the data collecting step will be applied to different educational data sources to aggregate necessary data for the analysis and data pre-processing steps will be applied to arrange the data into a proper arrangement which can be

applied on the mining algorithms to discover the hidden information and patterns.

EDM Stakeholders

There are four main users and stakeholders involved with educational data mining.

1. **Learners** - Learners are interested in learning methods to improve the learner’s experience and performance.
2. **Educators** - Educators attempt to understand the learning process and the methods they can use to improve their teaching methods.
3. **Researchers** - Researchers focus on the development and the evaluation of data mining techniques for effectiveness.
4. **Administrators** - Administrators are responsible for allocating the resources for implementation in institutions.

Why we need educational Data Mining

Educational data mining provides large amount of knowledge which is diverse and distributed globally. It includes sharing and manipulation of knowledge with distance interactive in real time. It is easy to manage diverse educational materials for teachers by virtual platform. It helps to view and analyze the outline performance of each student in the given activity on the course. Special needs- Students often drop out of education because they require specific attention to a certain need, such as dyslexia or other learning disabilities.

EDM support students in Interactive Learning

1. It deals with the assessment of student’s learning performance.
2. It provides course adaptation and learning recommendations based on student’s learning behavior.
3. In dealing with the evaluation of learning material and educational web-based courses.
4. It involves feedback to both teachers and students in e-learning courses.
5. Development for detection of a typical student’s learning behaviors.

Applying DM in education System

There are increasing research interests in using data mining in education. This new emerging field

EDM, concerns with developing methods that discover knowledge from data originating from educational environments. The data can be collected from various educational institutes that reside in their databases. The data can be personal or academic which can be used to understand students' behavior, to assist instructors, to improve teaching, to evaluate and improve e-learning systems, to improve curriculums and many other benefits.

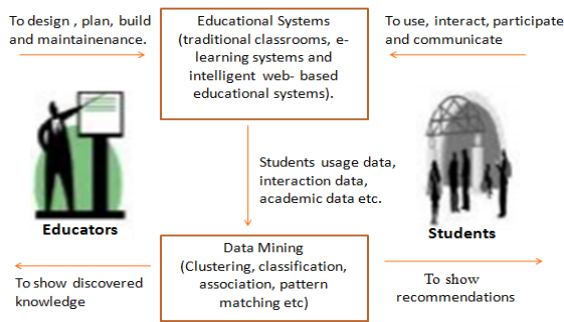


Figure 3 : Illustrating Data Mining Application in Education System

The above figure illustrates how the data from the traditional classrooms and web based educational systems can be used to extract knowledge by applying data mining techniques which further helps the educators and students to make decisions.

DM technique applied in EDM

In this study, data gathered from college students was analyzed using a data mining technique namely k-means clustering.

Example using Clustering Technique:

In this we are using clustering technique that can be used to distinguished intelligent student from dull student according to their performance in exam.

1. **Preparation :** In this step data stored in different tables was joined in a single table after joining process errors were removed. Here we are considering various cases.
 - Case 1 – If mid-term grade = Low, Internal Exam Grade = Low, Practical work = poor, Final Term = Average, then final grade = Low.
 - Case 2 – If mid-term grade = Average, Internal Exam Grade = Average, Practical work = Good, Final Term =Average, then final grade = Average.
 - Case 3 – If mid-term grade = High, Internal Exam Grade = Good, Practical work = High, Final Term = High, then final grade = Good.

2. **Implementation of mining model:** In this steps k-means clustering algorithm was applied to the proposed data and get valuable information, k- means is an old and most widely used clustering algorithm by Mac Queen in 1967.

Algorithm Basic K-means Algorithm

1. Select K points as the initial centroids.
2. Repeat.
3. From K- cluster by assigning all points to the closest centroids.
4. Recomputed the centroid of each cluster.
5. Until the centroid don't change.

3. **Results:** We grouped the students regarding their final grades in three ways:

- i. Assign possible labels that are the same as number of possible grades
- ii. Group the students in three classes “High”, “Medium”, “Low”.
- iii. Categorized the students with one of two class labels “Passed” for marks greater than or equal to 40 and “Failed” for marks less than 40.

| Class | Marks | No. of Students | Percentage |
|------------------------------|-------------------|-----------------|------------|
| Fail | > 40 | 6 | 5 |
| Pass Class | 40<-percentage<50 | 14 | 11.67 |
| Second Class | 50<-percentage<55 | 23 | 19.17 |
| Higher Second Class | 55<-percentage<60 | 17 | 14.17 |
| First class | 60<-percentage<70 | 47 | 39.16 |
| First class with distinction | 70 <= | 13 | 10.83 |

Table 1: Showing Grades for Students

| Class | No. of Students |
|--------|-----------------|
| High | 13 |
| Medium | 87 |
| Low | 20 |

Table 2: Student Classification Summary

| Class | Marks | No. of Students | Percentage |
|--------|-------|-----------------|------------|
| Passed | >= 40 | 114 | 95 |
| Failed | < 40 | 6 | 5 |

Table 3: Student Categorization Scheme

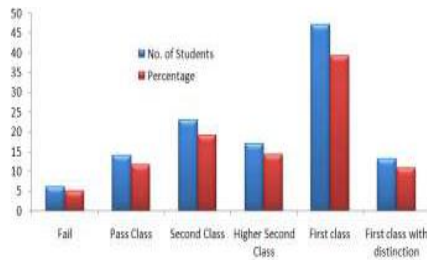


Figure 4: Student Performance Chart

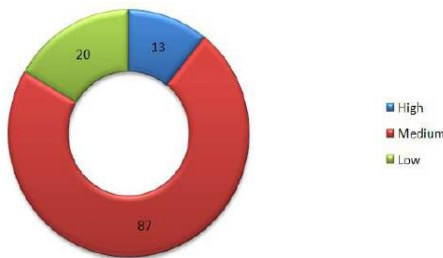


Figure 5: Student Performance Report Analysis

Applications of EDM

- 1. Providing feedback for supporting instructors:** The objective is to provide feedback to support course authors/teachers/administrators in decision making (about how to improve students' learning, organize instructional resources more efficiently, etc) and enable them to take appropriate proactive and/or remedial action. It is important to point out that this task is different than data analyzing and visualizing tasks, which only provide basic information directly from data (reports, statistics, etc.). Moreover, providing feedback divulges completely new, hidden and interesting information found in data.
- 2. Predicting student performance:** The objective of prediction is to estimate the unknown value of a variable that describes the student. In education the values normally predicted are performance, knowledge, score or mark. This value can be numerical/continuous value (regression task) or categorical/discrete value (classification task). Regression analysis finds the relationship between a dependent variable and one or more independent variables. Prediction of a student's performance is one of the oldest and most popular applications of DM in education, and different techniques and models have been applied.
- 3. Detecting undesirable student behaviors:** The objective of detecting undesirable student behavior is to discover/detect those students who have some type of problem or unusual behavior such as: erroneous actions, low

motivation, playing games, misuse, cheating, dropping out, academic failure, etc. Several DM techniques (mainly, classification and clustering) have been used to reveal these types of students in order to provide them with appropriate help in plenty of time.

- 4. Grouping students:** The objective is to create groups of students according to their customized features, personal characteristics, etc that can be used by the instructor/developer to build a personalized learning system, to promote effective group learning, to provide adaptive contents.
- 5. Constructing courseware:** Constructing courseware is to help instructors and developers to carry out the construction/development process of courseware and learning contents automatically.
- 6. Planning and scheduling:** The objective of planning and scheduling is to enhance the traditional educational process by planning future courses, helping with student course scheduling, planning resource allocation, helping in the admission and counseling processes, developing curriculum.

LMS (Learning Management System)

A learning management system (LMS) is a software application or Web-based technology used to plan, implement, and assess a specific learning process. LMS provides an instructor, a way to create and deliver content, monitor student participation, and assess student performance. LMS provides students with the ability to use interactive features such as video conferencing and discussion forums. Examples: MOODLE, Edmode, SkillSoft, Sakai, Dokeos etc.



Figure 6: Overview of MOODLE

MOODLE

MOODLE is the acronym for “*Modular Object-Oriented Dynamic Learning Environment*”, It is a free online learning management system. It enables educators to create their own private website. It is used all over the world by universities, schools, companies and independent teachers. Users can create dynamic courses using different features that

extend learning anytime and anywhere.

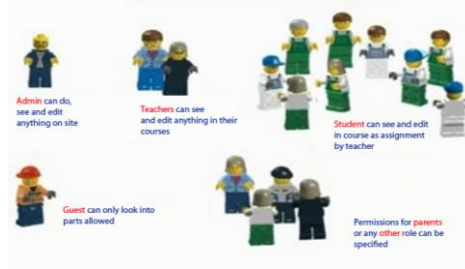


Figure 7: Various Roles of MOODLE

Moodle Activities

Some of the MOODLE activities are as follows:

- CHAT
- Database
- Glossary
- Quiz
- Forum
- Choice
- Assignment

Conclusion

EDM has been introduced as an up and coming research area related to several well-established areas of research including e-learning, web mining, data mining, etc. The purpose of this research was to determine if DM technique will help us group students. Evaluating performance in the e-learning systems becomes a massive challenge because of the different factors which affect the learning models. Applying data mining methodologies on the educational data has brought a new research discipline where the existing methodologies have been used to model the learning behaviors of the learners. Therefore models for evaluating the student performance with acceptable accuracy levels and quality predications still need to be researched more and existing learning analytics should be implemented in such a manner in which they can be used by the knowledge producers with more user friendliness effective manner. Recommendation for future research is the development of a Module for MOODLE dynamic and a real time Data collection, and also a recommendation system for student. The goal is to help student learn better, and prevent behavior which leads to poor student.

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Factors Influencing Digital Marketing in Technical Education

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Abstract

Digital activities are required to be included in institutions providing technical education. The educational institutes and universities lack digital strategy and skills to plan the responses of customer queries. Digital activities are an increasingly important part of any marketing and sales strategy. The strong inclination of digital platforms for delivering courses online can not be denied. The organization has to be focused on simple act of providing digital course and innovative strategies through which they interact with students and create learning environment. The marketing via digital media is significant for delivery of technical education. We need to be updated in area of technical education and for the same digital marketing is critical.

Keywords: Digital, Online, Skill, Strategy

Introduction

Digital Marketing is meant to increase the customers by means of digital media. There are different techniques like SEO, PPC, Content Marketing, Social Media Marketing are popularly used by marketers to increase the traffic. The competition in the market is encouraging the marketers to use digital marketing for promoting their business. The technical education providers are emphasizing use of digital media for imparting their courses to students. Online education IT enable us excel the constraints of a physical campus. Tens of thousands of outstanding students can be reached who live far from the city of technical education institutes. The students can choose to combine study with work and family responsibilities. By expanding access this way we should attract a far more diverse student body. The education system need to achieve the attention to admission standards, test integrity, academic honesty, identity security, and intellectual property rights. All issues are equally important. The experience of Stanford's Massively Open Online Courses (MOOC) confirms that online education from top institutions can attract huge numbers of students from countries around the

world. This shows that technical education provider if use digital media effectively it can attract huge students as well as brand image tend to change.

Literature Review

Carey (2012) feels that the future of higher education may change because of MOOCs (Massive Open Online Courses). MIT, Harvard, and Berkeley are offering free MOOCs via edX, a not-for-profit venture.

According to the Babson Survey Research Group 2011 study, approximately 31% of college students were taking at least one online course (Allen & Seaman, 2011).

Williams and Jacobs (2004) consider blogs and academic discourse to be "natural allies." Online learning is still communication – on a technology platform.

The three skills students must have in order to succeed in the knowledge economy are: "the ability to do critical thinking and problem solving; the ability to communicate effectively; and the ability to collaborate" (Friedman, 2010).

The best way to bring courses to life and make them more exciting, energetic, and enjoyable is by using social media. Selingo (2012) feels that "despite resistance to the idea from academics," the evidence is there that online education has the ability to lower costs and improve the quality of education

Objectives

To explore the impact of digital media on technical education

To know the association between digital media used for technical education and customer satisfaction

Hypotheses

H1- Digital Marketing platforms have impact on online education

H2- There is association between digital media used for online education and customer satisfaction.

Methodology

100 data has been collected from the company engaged in technical education. The data related to these institutions students have been taken through the primary data collection instrument i.e. questionnaire. The quantitative research is employed to collect the data as the design of research is descriptive.

Data Analysis

The following tables are derived. The online education is impacted by the digital marketing platforms used.

Table 1- Analysis of Digital Marketing Platforms on Online Education

ANOVA

Opinion on digital learning platform

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | 12.566 | 1 | 12.566 | 26.077 | .000 |
| Within Groups | 47.224 | 98 | .482 | | |
| Total | 59.790 | 99 | | | |

The null hypothesis is rejected, so there is impact of digital marketing on technical education for customers.

Further the table indicates the association between digital media offered by technical education and customer satisfaction.

The association between customer satisfaction and online platforms offered by technical education does not exist from the above significant value derived from the table.

Correlations

| | | customer satisfaction | Online platforms offered by technical education |
|---|---------------------|-----------------------|---|
| customer satisfaction | Pearson Correlation | 1 | -.037 |
| | Sig. (2-tailed) | | .714 |
| | N | 100 | 100 |
| Online platforms offered by technical education | Pearson Correlation | -.037 | 1 |
| | Sig. (2-tailed) | .714 | |
| | N | 100 | 100 |

Findings

The digital media is essential for technical education providers and strong association has been found after analysis between them. The strong focus on study of factors may lead to increase in its impact on technical education.

Conclusion

The research has indicated the impact of technologies indicate changes in a number of key areas, including teachers' and learners' perceptions, learner motivation, teaching and learning activities, learning outcomes, access and infrastructure, technology uptake and professional development. The studies undertaken will give some insight into the ways in which technology integration is influencing teaching and learning as a result of which skill is not being developed. Without a substantial inter-connected body of rigorous research a full picture could not be drawn. This is indicative of the investigation yet to be undertaken in this emerging field.

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Human Cloning : Concept of Good Governance and Human Rights

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Abstract

The term cloning refers to a number of diverse methods that can be used to create genetically indistinguishable copies of a biological creature. The imitative substance, which has the same genetic composition as the original, is known as a clone. Human cloning is the formation of a genetically identical copy of a human being. It is one of the rapidly developing areas of biotechnology which involve the production of specific tissues or organs from embryonic or bone marrow stem cells to repair damaged tissue.

Experts say that human cloning is a probable biologically possibility. The amount of resources required to do so are a considerable barrier. Since the 1950s researchers have successfully cloned many animals which include a cloned frog, mice, cats, sheep, pigs and cows. Even though researchers claim to have successfully cloned human beings, human cloning still seems to be a fiction. Currently there is no concrete scientific evidence that anyone has successfully cloned human embryos till date.

Human Cloning would not be a threat to society if used ethically for the welfare of the human community. But human cloning itself revolves around the technical issues like right to survival, privacy, accountability to use new technology, problems of over-specialization, imbalance of male and female ratio, etc.

Considering the validity or authenticity of Human Cloning, we as human beings, are further obliged to think, that are we trying to act as God or are we trying to prove that we the humans have replaced God. Or are we on an equal footing when it comes to reproduction of human beings.

The concept of good governance refers to efficient governance that can live up to the expectations of the people. It bears several aspects within its fold. The implementation of good governance has become a per-requisite for the growth and protection of human rights all over the world.

The research paper focuses on the grey areas of the legal facets of human cloning. It further highlights the situations where violation of human rights shall take place in case human cloning is legalized. The research paper further highlights legislations enacted both national and

international level in order to safeguard the rights of the human beings whose clones are being made. It further aims to discuss the rights of the cloned human beings in comparison to the human beings.

Keywords: Human Cloning, biotechnology, embryonic

Introduction

The word “clone” has been derived from the Greek word “klon”, meaning a twig or slip. It means clone is used to describe the creation of an identical replica by the process of asexual reproduction.¹ Cloning is a revolutionary invention of science. Every human individual has its own identity due to their identical genome. The beginning of cloning of mammals is an event that alters our very notion of what it means to human.

Human cloning is the formation of a genetically identical copy of a human being. It is asexual form of reproduction, in which the contribution of two gametes namely sperm and ovum is not required.

Natural Occurances of Clones

Clones do occur naturally in some plants and single-celled organisms such as bacteria. The identical offspring is genetically produced through a process called asexual reproduction. In asexual reproduction, a new organism is created from a copy of a single cell from the parent organism.

Natural clones also known as identical twins which also occur in humans and other mammals. These twins are formed when a fertilized egg splits, creating two or more embryos that carry identical DNA.

Artificial Cloning and Its Types

There are three different types of artificial cloning:

- i) **Therapeutic Cloning:** It is to refer to research into cloning and methods involving cloned embryos, which do not have as their ultimate goal the birth of a human clone and would help in tissue transplantation.
- ii) **Reproductive Cloning or Replicative Cloning:** It means where a human clone is allowed

¹ dictionary.reference.com/browse/cloning

to be born. The reproduction of an individual is generally identical to one already born.

iii) **DNA Cloning:** It is known as Recombinant DNA Technology and also called as Molecular Cloning or Gene Cloning. In this type of cloning, only the DNA of a cell is replicated. A DNA from an organism is transferred to a self-replicating genetic form such as a bacterial plasmid. In simple words, a small piece of the DNA strand is removed and united with a plasmid which reproduces itself to create multiple copies of the same DNA code. The plasmid is also known as a Vector. The copied DNA is then propagated in a foreign host cell. After its introduction into a suitable host cell, the recombinant vector can then reproduce along with the host cell DNA.²

Arguments in favour Cloning

The cloning would not be a threat to society, rather cloning would fulfill twofold purposes i.e. the first one is the people's right to utilize science and another is that the valuable benefits of cloning can improve their lives.

The United States Supreme Court in the case of *Eisenstadt v. Baird*, enunciated that the right to privacy means everything. It is the right of the individual whether married or single, to be free from unnecessary governmental interference into matters influencing a person's decision to bear or beget a child.

i) Cloning perhaps may turn out to be an unusual but successful treatment for infertility. It can also be sought by couples, who have high risks of genetic disease or other factors due to which couples cannot conceive a child.

ii) Researchers consider stem cells to have a great potential to treat degenerative diseases like as Alzheimer's, Parkinson's, spinal cord damages, diabetes, etc.

iii) Cloning can also be used to generate tissues and organs for transplants. The cloned tissues or organs which match the genetic makeup of the recipient eliminate the risks of tissue or organ rejection.

iv) Cloning can be helpful in conservation and preservation of the endangered species.

v) It may become possible to clone a dead or dying person.

vi) Cloning can also help the researchers in their basic research.³

Arguments against Cloning

There are following arguments, which are against the cloning as:

² Types of cloning, http://cloning-for-dummies.tripod.com/types_of_cloning.html

³ Multifaceted Aspects of Human Cloning, Tanuj Kanchan, T. S. Mohan Kumar, Ashish Kumar, Sanjoy Das,

<http://www.jkscience.org/archive/Volume83/multific.pdf>

a. Non-medical aspects like uncertain rights of clone individuals, genetic donors, expansion of wrongful birth doctrine as well as the emergence of the new crime and possible tort of "Genetic Identity Theft".

b. These considerations will require legislators and experts in the areas of constitutional law, criminal laws, family law and tort law to re-examine and update their fields.

c. Cloning robs children of their rights to personal identity individually and uniqueness.

d. The cloning violates the child's right to open future.

e. Cloning-to-produce-children could create serious problems of identity and individuality.

f. The cloned child may be constantly compared to the original one.

g. The clone is a manufactured creature without any definable family relationships.

h. Cloning-to-produce-children may also lead to the exploitation of women.

Outlawing human cloning sends the undesirable message that social and political pressure conquest over logic and law. If it is accepted by the masses that clones are people, too, we can face this new world more confidently as our laws are adequately apt and capable of taking us safely, into the 21st century.⁴

Cloning and Human Dignity

The idea of Human Cloning is often correlated with human dignity. The reproductive human cloning infringes the idea of human dignity. Of lately the protection of human dignity has emerged as the central decisive factor for the review of controversial technologies, like cloning and embryonic stem cells.⁵

In June 1997, a report issued by the National Bioethics Advisory Commission stated that human cloning is morally unacceptable and recommended for enactment of Laws banning such practices.⁶ In January 1998, physicist Richard Seed announced his intention to seek private financial support to create the first human clone by the new millennium. He also believed that such an achievement would be mankind's first serious step in becoming God. The momentum against human cloning gained even more ground after these

⁴ Foley, Elizabeth Price, The Constitutional Implications of Human Cloning (November 9, 2009). Arizona Law Review, Vol. 42, No. 3, 2000; Florida International University Legal Studies Research Paper No. 10-15. <http://dx.doi.org/10.2139/ssrn.1503098>

⁵ Chapman, Audrey R., Human Dignity, Bioethics and Human Rights (February 2, 2011). Amsterdam Law Forum, Vol. 3, 2011. <http://ssrn.com/abstract=1762549>

⁶ Cloning Human Beings: Report and Recommendations of the National Bioethics Advisory Commission 108-09 (1997)

assertions made by physicist Richard Seed.⁷ Denunciation of Seed's intentions was swift.

A 2002 report by the United States President's Council on Bioethics on the subject of human dignity and human cloning fails to give the concept of human dignity. It further fails to address the specific ways in which human cloning may invade human dignity. The reference to human dignity emerges to convey a sense of general social unease, but with little explanation of how, cloning threatens human dignity.

World Human Cloning Policies

World policies on human or reproductive cloning vary from complete prohibition to no policies at all. Thirty-one countries, including France, Germany, and Russia, have banned human cloning altogether. Fifteen countries consisting of Japan, UK, Israel etc have banned human reproductive cloning, but these countries permit therapeutic cloning. A set of countries including Hungary, Poland etc. do not unequivocally prohibit embryonic stem cell research or therapeutic cloning, partly because their legislation was drafted before embryonic stem cells were first produced (1998). Many countries, similar to the United States, are yet to pass an official legislation pertaining to human cloning. Thus they allow all types of stem cell and cloning research in their country.

The United Nations is currently working on two different draft resolutions for controlling human cloning. One resolution is from Costa Rica and is from Belgium. The Costa Rican suggests for creating an international convention to prohibit both therapeutic and reproductive cloning. The Belgian draft suggests banning of reproductive cloning only. It further permits each country to make independent decision on therapeutic cloning. Most countries agree on a ban of reproductive cloning. Some countries prefer the Costa Rican draft because they believe that therapeutic cloning disrespects human dignity and have potential for abuse. The UN, on October 22, 2004, postponed its decision on the resolutions for one year leaving the matter unanswered.⁸

⁷ Human Cloning within Two Years? Chicago Scientist Talks of "Becoming One with God," S.F. EXAMINER, Jan. 7, 1998, at A1 (reporting that Seed told NPR, "God made man in his own image. God intended for man to become one with God... Cloning and the reprogramming of DNA is the first serious step in becoming one with God."). Seed has reported that he intends to raise \$2 million to begin a for-profit human cloning center to assist infertile couples in their quest to have a child.

⁸ World Human Cloning Policies, Kathryn Wheat and Kirstin Matthews, Ph.D., <http://www.ruf.rice.edu/~neal/stemcell/World.pdf>

Rights affected and Concerning Laws

a) Constitution of India

According to the Constitution of India, cloning said to affect dignity and health, the protection as under Article 21 as the right to protection and personal liberty,⁹ also includes right to privacy, to live with dignity and health.

Article 47 of the Indian constitution discusses about the duty of State to improve health.¹⁰

b) Universal Declaration on Human Rights

Article 1 of UDHR explained that all human beings are born free and equal in dignity and rights.

Article 5 of UDHR provides as no one shall be subjected to cruel, inhuman or degrading treatment.

c) International Covenant On Civil And Political Rights

Article 7 of ICCPR identifies the importance of the free consent to medical or scientific experimentation.

Article 26 of ICCPR explains the concept of equality before law and the right not to be discriminated against and it will clearly have implications when human cloning arguments.

d) International Covenant On Economic, Social And Cultural Rights

It recognizes the right of individuals for the enjoyment of the highest achievable standard of physical and mental health.

Article 15 (1) (b) of ICESCR discusses about that every one's right to enjoy the benefits of scientific progress and its applications.

Article 8 of ICESCR explains that State shall undertake to respect the rights of child to preserve his or her identity.

e) European Conventions as UNESCO's Universal Declaration On The Human Genome And Human Rights

UNDHGR advised a ban on human cloning i.e. even the reproductive cloning practice is harmful for the interest of society.

f) The World Health Organization, 1998

Cloning for replication of human body is unethical, unacceptable and against the human dignity and for public integrity.

g) The United Nation Convention

The United Nation Convention on the rights of the child emphasizes a child's right to the highest

⁹ Article 21 of the Constitution of India, 1950 provides protection of life and personal liberty.

¹⁰ Article 47 of the Constitution of India, 1950 reads as: Duty of the State to raise the level of nutrition and the standard of living and to improve public health.

attainable standard of health care, including access to readily available technology to combat ailments and malnutrition. Cloning also violates the convention on the rights of children.

h) Medical Termination of Pregnancy Act, 1971

India allows stem cell research. Here medical termination of pregnancy is permitted under the MTP Act of 1971. The fetal tissues which are unreservedly available from the hospitals and clinics can be easily utilized for research purposes. The main sources of embryonic cells are the ART and IVF clinics dealing with infertility treatments. Here spare embryos are available for the research purposes. However, no embryos can be created for the sole intention of obtaining stem cells.

Institutional ethics committee should keep in view the ethical, legal and social issues and should adhere to the "Ethical Guidelines for biomedical research on human subjects" issued by the Indian Council of Medical Research (ICMR) (October 2000). In India, only the research programmes and not the therapeutic transplantations are permitted at present.

Human Cloning Policies in India

In India, India Council for Medical Research (ICMR) and Department of Biotechnology (2013) issued various guidelines related to cloning and discussed about the commoditization of human cells and tissues. Some are as:

- a. Embryonic stem cell research is permitted, but all forms of cloning (reproductive and therapeutic) are banned.
- b. There are specific principles for human genetics research, while all research on cloning is prohibited.
- c. The Indian Council of Medical Research released the Consultative Document on Ethical Guidelines for Biomedical Research on Human Subjects (2000), which cover the guidelines.

Human Cloning and Good Governance

In order to curb the evil effects of cloning, societies have begun to recognize the importance of protection of human rights at the domestic level. This is possible only when good governance prevails in the society.

Good governance and human rights are mutually supportive. Human rights principles provide framework which guides the social, political and governmental set-ups. They also provide a set of narrative standards against which social, political and governmental institutions can be held accountable. However, without good governance, human rights cannot be cherished and protected in a sustainable manner. The implementation of

human rights relies on a constructive and facilitating environment, which includes appropriate legal frameworks, institutions as well as administrative processes responsible for protecting and preserving the rights and needs of the population.

Conclusion and Suggestions

Despite years of intense academic and public debate, there is little clarity about human dignity. The philosophy of "human dignity" is commonly used to justify cloning laws. The basis for this justification is that reproductive human cloning necessarily infringes the very belief of human dignity. Human reproductive cloning may be beneficial especially for fertility treatment.

Some of the groups support cloning to the extent of calling the ban on cloning as irrational because cloning presents potentially valid medical uses while the moral and ethical implications are clearly unlikely in the modern society.

Efforts are being made at national and international levels to ensure good governance in order to ensure absolute protection of human rights. But due to various reasons, it still remains a distant dream. Its achievement is only possible when there is concurrence between good governance and human rights.

Impact of NPAs on the Profitability of Commercial Banks - A Case from SBI

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Abstract

Through credit creation, Indian banking sector plays an essential role in the socio economic development of the country. But this credit creation process leads to credit risk which will lead nonperforming assets (NPAs). NPA account not only reduces profitability of banks by provisioning in the profit and loss account, but their carrying cost is also increased which results in excess & avoidable management attention. And in the present scenario it has become necessary to take steps forward for the assessment and management of NPA. The objective of present study is to assess how the NPAs affect the profitability and financial soundness of commercial banks with the case study of SBI. Further the paper will try to find out the type of relationship between total advances & Deposits, Net Profits, GROSS & NET NPA. It will also attempt to highlight the ways to enhance the benefits of high credit creation by controlling the mounting of NPA. The study uses the annual reports of SBI for the period of 12 years from 2002-03 to 2014-2015..

Keywords : Banking sector, financial sector, Gross NPA & net NPA, Profitability and liquidity, Total advances

Introduction

To start with, performance in terms of profitability is a benchmark for any business enterprise including the banking industry. However, increasing NPAs have a direct impact on profitability of banks as legally banks are not allowed to book income on such accounts and at the same time banks are forced to make provision on such assets as per the Reserve Bank of India

(RBI) guidelines on Performing Asset means an asset or account of borrower, which has been classified by a bank or financial institution as sub-standard, doubtful or loss asset, in accordance with the directions or guidelines relating to asset classification issued by RBI. An amount due under any credit facility is treated as "past due" when it has not been paid within 30 days from the due date. Due to the improvement in the payment and settlement systems, recovery climate, up gradation of technology in the banking system, etc., it was decided to dispense with 'past due' concept, with effect from March 31, 2001 Subsequent guidelines issued by RBI in line with international best practices in accordance with Basel standards, the prudential norms for income recognition, asset classification, capital adequacy and provisioning in commercial banks has been introduced. These guidelines lay emphasis on regulatory and supervisory control of banks by RBI and enhancing the overall financial stability in the economy. It also expects the banks and financial institutions to be following capital adequacy norms, maintain capital provisioning on a risk –weighted assets basis along with operating on income recognition, asset classification and liquidity management. Further, all the commercial banks are subject to regulatory and supervisory frame work by RBI in accordance with switch over to Risk Based Supervision (RBS) in 2003-04 which has concurrently ushered in CAMELS(Capital adequacy, Asset quality, Management, Earnings, Liquidity, Systems and Controls) approach and Basel II norms.

With a view to moving towards international best practices and to ensure greater transparency, it had been decided to adopt the '90 days' overdue' norm for identification of NPA, from the year ending March 31, 2004. Accordingly, with effect from March 31, 2004, a non-performing asset (NPA) is a loan or an advance where;

- Interest and/or installment of principal remain overdue for a period of more than 90 days in respect of a term loan,
- The account remains 'out of order' for a period of more than 90 days, in respect of an Overdraft/Cash Credit (OD/CC),
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
- Interest and/or installment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purposes, and
- Any amount to be received remains overdue for a period of more than 90 days in respect of other accounts.
- Non submission of Stock Statements for 3 Continuous Quarters in case of Cash Credit Facility.
- No active transactions in the account (Cash Credit/Over Draft/EPC/PCFC) for more than 91 days.

Non-performing asset (NPA) is one of the major concerns and problem for banks in India. NPAs reflect the degree of risk and quality of assets of bank and profitability of a bank. A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset. The NPA growth involves reduced income from assets and the necessity of provisions, which reduces the overall profits and shareholders' value. The level of nonperforming assets is at the alarming rate in Indian banking comparatively to other countries. This level is much higher in case of public sector banks due to their directional credit to priority sector projects and social development projects. The commercial banks play an immense role in the development and growth from the very inception. The public sector banks which were operating on social model by mobilizing the huge resources and directing them to social and priority sectors for social and economic development of the country. Due to their socio economic role, there was high level of NPAs in their asset portfolio. After the liberalization in 1991, they faced high level competition from private and foreign banks. Due to this fierce competition and challenge on their survival, they were forced to improve the performance and weakness. The biggest weakness and problem they faced was huge NPAs in their portfolio. The present paper aims to showcase the position and level of nonperforming assets of commercial banks particularly public sector banks with the help of a case study of SBI. Further it will highlight the relationship between NPAs and profitability of banks.

Objective

The main objectives of present paper are:

- To examine the Gross NPA & Net NPA of SBI
- To assess how the NPAs affect the profitability and financial soundness of commercial banks with the case study of SBI.
- It will also attempt to highlight the ways to enhance the benefits of high credit creation by controlling the mounting of NPA.

Research Methodology: It includes research design, sampling framework, methods of data collection, framework of analysis and limitations.

Literature Review:

A large number of researchers have been studied to the issue of nonperforming asset (NPA) in banking industry. A review of the relevant literature has been described as under: -

The Reserve Bank of India has also conducted a study to ascertain the contributing factors for the high level of NPAs in the banks covering 800 top NPA accounts in 33 banks (RBI Bulletin, July 1999). The study has found that the proportion of problem loans in case of Indian banking sector always been very high. The problem loans of these banks, in fact, formed 17.91 percent of their gross advances as on March 31, 1989. This proportion did not include the amounts locked up in sick industrial units. Hence, the proportion of problem loans indeed was higher. However, the NPAs of Indian Banks declined to 17.44 percent as on March 31, 1997 after introduction of prudential norms. In case of many of the banks, the decline in ratio of NPAs was mainly due to proportionately much higher rise in advances and a lower level of NPAs accretion after 1992. The study also revealed that the major factors contributing to loans becoming NPAs include diversion of funds for expansion, diversification, modernization, undertaking new projects and for helping associate concerns. This is coupled with recessionary trend and failure to tap funds in the capital and debt markets, business failure (product, marketing, etc.), inefficient management, strained labour relations, inappropriate technology/technical problems, product obsolescence, recession input/power shortage, price escalation, accidents, natural calamities, Government policies like changes in excise duties, pollution control orders, etc. The RBI report concluded that reduction of NPAs in banking sector should be treated as a national priority issue to make the Indian banking system stronger, resilient and geared to meet the challenges of globalization (M. Rajan, 2014).

It is also called as Non Performing Loans. It is made by a bank or finance company on which repayments or interest payments are not being

made on time. A loan is an asset for a bank as the interest payments and the repayment of the principal create a stream of cash flows. It is from the interest payments that a bank makes its profits. Banks usually treat assets as non-performing if they are not serviced for some time. If payments are late for a short time, a loan is classified as past due and once a payment becomes really late (usually 90 days), the loan is classified as non-performing (B.Selvarajan & G. Vadivalagan, 2013).

NPA usually refers to nonperforming assets and the lenders consider it as those assets that are not fetching benefits to them. The word is not new to the bankers. It is regular but disguised loan asset.. An asset becomes nonperforming when it ceases to generate income for the bank. Prior to 31st March, 2004 a nonperforming asset was defined as a credit facility in respect of which the interest or instalment of principal has remained past due for a specified period of time which was four quarters. Due to the improvements in payment and settlementsystem, recovery climate, up gradation of technology in the banking system, etc., it has been decided to dispense with past due concept, with effect from March 31st 2004(Chandan Kumar Tiwari & Ravindra Sontakke, 2013).

Non Performing Assets engender negative impact on banking stability and growth. Issue of NPA and its impact on erosion of profit and quality of asset was not seriously considered in Indian banking prior to 1991. There are many reasons cited for the alarming level of NPA in Indian banking sector. Asset quality was not prime concern in Indian banking sector till 1991, but was mainly focused on performance objectives such as opening wide networks/branches, development of rural areas, priority sector lending, higher employment generation, etc. The accounting treatment also failed to project the problem of NPA, as interest on loan accounts were accounted on accrual basis (Siraj K.K. and P. Sudarsanan Pillai, 2012).

The main cause of mounting NPAs in public sector banks is malfunctioning of the banks.Narasimham Committee e identified the NPAs as one of the possible effects of malfunctioning of public sector banks (Ramu, N., 2009).

Collection of Data:

The secondary data are used in the present study. The secondary data to non-performing assets and the micro variable from 2002-03 to 2013-2014 were collected from various issues of SBI Annual Reports and RBI Bulletins.

Types of NPA

Gross NPA:

Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI guidelines as on Balance Sheet date. Gross NPA reflects the quality

of the loans made by banks. It consists of all the nonstandard assets like as sub-standard, doubtful, and loss assets. It can be calculated with the help of following ratio:

$$\text{Gross NPAs Ratio} = \text{Gross NPAs} / \text{Gross Advances}$$

Net NPA:

Net NPAs are those type of NPAs in which the bank has deducted the provision regarding NPAs. Net NPA shows the actual burden of banks. Since in India, bank balance sheets contain a huge amount of NPAs and the process of recovery and write off of loans is very time consuming, the provisions the banks have to make against the NPAs according to the central bank guidelines, are quite significant. That is why the difference between gross and net NPA is quite high. It can be calculated by following:

$$\text{Net NPAs} = \text{Gross NPAs} - \text{Provisions} / \text{Gross Advances} - \text{Provisions}$$

Asset Classification:

Assets are classified into following four categories:

- Standard Assets
- Sub standard Assets
- Doubtful Assets
- Loss Assets

Standard Assets: Standard assets are the ones in which the bank is receiving interest as well as the principal amount of the loan regularly from the customer. Here it is also very important that in this case the arrears of interest and the principal amount of loan do not exceed 90 days at the end of financial year. If asset fails to be in category of standard asset that is amount due more than 90 days then it is NPA and NPAs are further need to classify in sub categories.

Provisioning Norms:

From the year ending 31.03.2000, the banks should make a general provision of a minimum of 0.40 percent on standard assets on global loan portfolio basis. The provisions on standard assets should not be reckoned for arriving at net NPAs. The provisions towards Standard Assets need not be netted from gross advances but shown separately as 'Contingent Provisions against Standard Assets' under 'Other Liabilities and Provisions - Others' in Schedule 5 of the balance sheet.

Banks are required to classify non-performing assets further into the following three categories based on the period for which the asset has remained *non-performing* and the *reasonability* of the dues:

- Sub Standard Assets
- Doubtful Assets
- Loss Assets

Sub Standard Assets: With effect from 31 March 2005, a substandard asset would be one, which has

remained NPA for a period less than or equal to 12 month. The following features are exhibited by substandard assets: the current net worth of the borrowers / guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the banks in full; and the asset has well-defined credit weaknesses that jeopardize the liquidation of the debt and are characterized by the distinct possibility that the banks will sustain some loss, if deficiencies are not corrected.

Provisioning Norms:

A general provision of 10 percent on total outstanding should be made without making any allowance for DICGC/ECGC guarantee cover and securities available.

Doubtful Assets: A loan classified as doubtful has all the weaknesses inherent in assets that were classified as sub-standard, with the added characteristic that the weaknesses make collection or liquidation in full, on the basis of currently known facts, conditions and values – highly questionable and improbable. With effect from March 31, 2005, an asset would be classified as doubtful if it remained in the sub-standard category for 12 months.

Loss Assets: A loss asset is one which considered uncollectible and of such little value that its continuance as a bankable asset is not warranted-although there may be some salvage or recovery value. Also, these assets would have been identified as” loss assets “by the bank or internal or external auditors or the RBI inspection but the amount would not have been written-off wholly.

Provisioning Norms:

The entire asset should be written off. If the assets are permitted to remain in the books for any reason, 100 percent of the outstanding should be provided for.

Analysis of Deposits & Advances, Gross NPA Ratio and Net NPA Ratio:

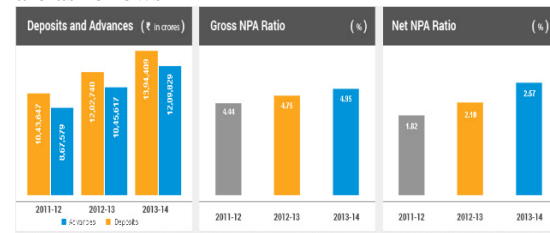
| Year | Gross NPA | | Net NPA | |
|---------|-----------|------------------------------|----------|----------------------------|
| | Rs. | Percentage to Gross Advances | Rs. | Percentage to Net Advances |
| 2002-03 | 13506.07 | 9.34 | 6183.00 | 4.49 |
| 2003-04 | 12667.21 | 7.75 | 5441.73 | 3.45 |
| 2004-05 | 12455.73 | 5.96 | 5348.89 | 2.64 |
| 2005-06 | 9628.14 | 3.60 | 4911.41 | 1.88 |
| 2006-07 | 9998.22 | 2.92 | 5257.72 | 1.56 |
| 2007-08 | 12837.36 | 3.04 | 7424.33 | 1.78 |
| 2008-09 | 15588.66 | 2.84 | 9552.02 | 1.76 |
| 2009-10 | 19534.89 | 3.09 | 10870.17 | 1.72 |
| 2010-11 | 25326.29 | 3.34 | 12346.90 | 1.63 |
| 2011-12 | 39676.46 | 4.57 | 15818.85 | 1.82 |

Source: Compiled from SBI Annual Reports

| Year | NPA as Percentage to Total and Advances | |
|---------|---|--------------------------------------|
| | NPAs as percentage of Total Assets | NPAs as percentage of Total Advances |
| 2002-03 | 3.59 | 9.34 |
| 2003-04 | 3.11 | 7.75 |
| 2004-05 | 2.71 | 5.96 |
| 2005-06 | 1.95 | 3.60 |
| 2006-07 | 1.76 | 2.92 |
| 2007-08 | 1.78 | 3.04 |
| 2008-09 | 1.62 | 2.84 |
| 2009-10 | 1.85 | 3.09 |
| 2010-11 | 2.07 | 3.34 |
| 2011-12 | 2.97 | 4.57 |

Source: Compiled from annual report of the SBI

The deposits & advances, Gross NPA Ratio and Net NPA Ratios for the year 2012-2013, 2013-2014 are as follows –



Causes responsible for mounting NPAs:

There are several reasons for an account becoming NPA.

- * Internal factors
- * External factors

Internal factors:

1. Funds borrowed for a particular purpose but not use for the said purpose.
2. Project not completed in time.
3. Poor recovery of receivables.
4. Excess capacities created on non-economic costs.
5. In-ability of the corporate to raise capital through the issue of equity or other debt instrument from capital markets.
6. Business failures.
7. Diversion of funds for expansion/modernization/setting up new projects/ helping or promoting sister concerns.
8. Willful defaults, siphoning of funds, fraud, disputes, management disputes, mis-appropriation etc.
9. Deficiencies on the part of the banks viz. in credit appraisal, monitoring and follow-ups, delay in settlement of payments/ subsidiaries by government bodies etc.,

External factors:

1. Sluggish legal system – Long legal tangles
 - o Changes that had taken place in labour laws
 - o Lack of sincere effort.
2. Scarcity of raw material, power and other resources.
3. Industrial recession.
4. Shortage of raw material, raw material/input price escalation, power shortage, industrial recession, excess capacity, natural calamities like floods, accidents.
5. Failures, nonpayment/ over dues in other countries, recession in other countries, externalization problems, adverse exchange rates etc.
6. Government policies like excise duty changes, Import duty changes etc.

Impact of NPAs on the operations of banks:

Profitability:

NPA means booking of money in terms of bad asset, which occurred due to wrong choice of client. Because of the money getting blocked the prodigality of bank decreases not only by the amount of NPA but NPA lead to opportunity cost also as that much of profit invested in some return earning project/asset. So NPA does not affect current profit but also future stream of profit, which may lead to loss of some long-term beneficial opportunity. Another impact of reduction in profitability is low ROI (return on investment), which adversely affect the current earnings of bank.

Liquidity:

Money is getting blocked, decreased profit lead to lack of enough cash at hand which lead to borrowing money for shortest period of time which lead to additional cost to the company. Difficulty in operating the functions of bank is another cause of NPA due to lack of money.

Involvement of Management:

Time and efforts of management is another indirect cost which bank has to bear due to NPA. Time and efforts of management in handling and managing NPA would have diverted to some fruitful activities, which would have given good returns. Now days, banks have special employees to deal and handle NPAs, which is additional cost to the bank.

Credit Loss:

If a bank is facing problem of NPA, then it adversely affects the value of bank in terms of market for credit. It will lose its goodwill and brand image and credit which have negative impact to the people who are putting in their money in the banks.

Management/Resolution of NPAs:

A reduction in the total gross and net NPAs in the Indian financial system indicates a significant improvement in management of NPAs. This is also on account of various resolution mechanisms introduced in the recent past which include the SRFAESI (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest) Act, one time settlement schemes, setting up of the Corporate Debt Restructuring (CDR) mechanism, strengthening of Debt Recovery Tribunals (DRTs). From the data available of Public Sector Banks as on March 31, 2003, there were 1,522 numbers of NPAs as on March 31, 2003 which had gross value greater than Rs. 50 million in all the public sector banks in India. The total gross value of these NPAs amounted to Rs. 215 billion. The total number of resolution approaches (including cases where action is to be

initiated) is greater than the number of NPAs, indicating some double counting. As can be seen, suit filed and Bureau of Industrial Finance & Reconstruction (BIFR) are the two most common approaches to resolution of NPAs in public sector banks. Rehabilitation has been considered/ adopted in only about 13% of the cases. Settlement has been considered only in 9% of the cases. It is likely to have been adopted in even fewer cases. Data available on resolution strategies adopted by public sector banks suggest that Compromise settlement schemes with borrowers are found to be more effective than legal measures. Many banks have come out with their own restructuring schemes for settlement of NPA accounts. State Bank of India, HDFC Bank Limited, M/s. Dun and Bradstreet Information Services (India) Pvt. Ltd. and M/s. Trans Union to serve as a mechanism for exchange of information between banks and FIs for curbing the growth of NPAs incorporated credit Information Bureau (India) Limited (CIBIL) in January 2001. Pending the enactment of CIB Regulation Bill, the RBI constituted a working group to examine the role of CIBs. As per the recommendations of the working group, Banks and FIs are now required to submit the list of suit-filed cases of Rs. 10 million and above and suit filed cases of willful defaulters of Rs. 2.5 million and above to RBI as well as CIBIL. CIBIL will share this information with commercial banks and FIs so as to help them minimize adverse selection at appraisal stage.

CDR is a non statutory mechanism based on debtor-creditor agreement and inter-creditor agreement. Restructuring helps in aligning repayment obligations for bankers with the cash flow projections as reassessed at the time of restructuring. Therefore, it is critical to prepare a restructuring plan on the lines of the expected business plan along with projected cash flows. The CDR process is being stabilized. Certain revisions are envisaged with respect to the eligibility criteria (amount of borrowings) and time frame for restructuring. Foreign banks are not members of the CDR forum, and it is expected that they would be signing the agreements shortly. However they attend meetings. The first ARC to be operational in India- Asset Reconstruction Company of India (ARCIL) is a member of the CDR forum. Lenders in India prefer to resort to CDR mechanism to avoid unnecessary delays in multiple lender arrangements and to increase transparency in the process. While in the RBI guidelines it has been recommended to involve independent consultants, banks are so far resorting to their internal teams for recommending restructuring programs.

Conclusions

As observed from the above analysis, the level of Gross NPAs and Net NPAs were initially high but, it started coming down from the year 2004-05 and the bank would be expected to bring down their NPA even further. This can be achieved by good credit appraisal procedures, effective internal control systems along with their efforts to improve asset quality in their balance sheets. Further there is a significant growth in the Deposits & Advances of SBI especially in the year 2011-12, 2012-13, and 2013-14. But the NPAs result a bit decline in profitability in terms of opportunity costs especially. It also affects the liquid position of bank due to the blockage of funds. This attracts the involvement of management in the operation making them strict.

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Knowledge Discovery Using Web Content Mining Optimization Techniques to Recapture the Performance

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Abstract

The concept of Data Mining has emerged to meet the requirement of quick and accurate information support for decision making process. The idea is to extract the data from the database for the operational use. Data Mining is analysis of data to identify relationship between different data elements or entities. The process of data mining can also involve correlation or association between two or more data elements, entities or events. They allow organizations to make proactive, knowledge-driven decisions and answer questions that were previously too time-consuming to resolve.

Data Mining software use mathematical and statistical techniques to analyze data to reveal hidden pattern and trends. Data Mining is a collaborative tool which comprises of database systems, machine learning, statistic, visualization information science and other discipline. The Data Mining tools include a neural network component that facilitates classification, prediction and profiling. Data Mining can often help in making prediction about future events. Data Mining can make use of the valuable historical data and provide valuable input.

Keywords : Data Mining, Knowledge driven, Statistical Technique, Neural Network, Classification.

Introduction

Latest advances in the area of computer technology have made need of data mining more and more simple and reasonable. However, this has highly had an impact on accessibility of tools to deal with, and as such, freely available tools has grown quickly. As a result of this, it has become difficult for an untrained user to choose the best tool. My motivation to write this Paper, was to create an introduction to data mining, that would not only introduce basic Knowledge , but also provide the reader with the knowledge of pros and cons of the

most widespread of freely available software tools with their comparative study.

Data Preprocessing

Data preprocessing is a key ingredient to increase the accuracy of data mining algorithms [7]. Not every data that are collected and analyzed for the purposes of data mining are necessarily suited for the work. Erroneous selection of data may impact on results of data mining, and therefore certain treatments need to be forced on the data before they are implied to the algorithms.

Data cleaning

This method of data preprocessing deals with elimination of unsatisfactory data and replacing the missing data records. [8]

Feature selection and feature reduction

Feature selection and feature reduction are data preprocessing methods that focus to develop the learning model by advancing the performance eliminating unnecessary features. The increase in dimensionality of an object results in major increase in it's volume, that causes the available data to become sparse.

This sparsity is challenging for any method that requires statistical implication, for the data that needs to be used in order for that significance to be improved each dimension of the data. By removal of unwanted features, dimensionality is decreased and performance of the model is further augmented in enhancing it's generalisation capability, speeding up of the learning process, improval of the model's interpretability and helping the user in acquiring a better understanding of their data by highlighting the important features and their relations.

Data Transformation

Some data may need normalization [8] to be utilizable by data mining algorithms. Normalization is a process that is applied on quantitative attributes, in order to eliminate the effect of having different scale measures. Discretization is used to change quantitative

attributes to qualitative ones. Additionally, data transformation might assign weights to attributes in order to highlight significant ones.

Research Issues

Many issues still need to be addressed to reap quality knowledge from the sophisticated algorithms available for data mining. For example:

- How good is the quality of discovered knowledge?
- Does the same method always produce the same results?
- Are different tools required for different application domains?
- What factors affect tool performance?
- How do human cognitive factors affect the results?

Data is an important issue: Dealing with unstructured and incomplete raw data or erroneous input is not a trivial task. The size of the data set needed to apply an algorithm, duplicate data, and temporal data as well as multimedia representation of data are concerns. How a data mining technique can learn to improve itself through experience is another interesting issue to consider?

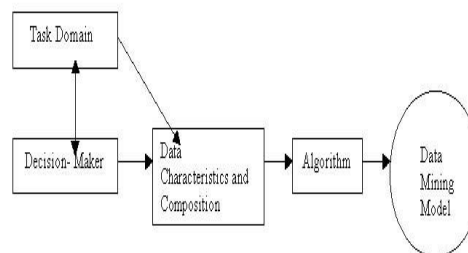
Algorithms differ in the ways the models are generated: How the quality of an algorithm is assessed, its robustness, scalability, preprocessing, generalizability, and reliability are some of the critical issues. The way model performance is measured is an important consideration. The same model performs differently in different domains due to the quality of the data, normative criteria, and the decision-maker factors involved. Noise tolerance and sensitivity analysis are also of interest.

Scalability is particularly significant: Scalability refers to the ability to maintain performance as the size of the data base being mined increases. Scalable mining tools take advantage of parallel computing.

When human decision-makers are involved, decision-making modeling as well as the database often have to consider cognitive factors. In addition, domain task characteristics affect model performance. Non-linearity and non monotonicity issues can be addressed by data visualization.

In generating a data mining model and in selecting the appropriate model assessment method, data mining research needs to incorporate the characteristics of a given task domain, quality and composition of a data set that represents a domain, the decision-making environment, the human factors, and potential interaction among them. Figure 1 is a simple framework that incorporates these ideas.

Figure 1: Data Mining Research Framework



It is clear that data mining still in its infancy and therefore offers great research opportunities. It is a multidisciplinary field, using inputs from statisticians who deal with data, computer scientists and operations researchers creating new algorithms, and information systems people looking at how to cope with the systemic and human limitations that exist.

WEKA

Weka is a fully functional data mining software package that enables a high level of functionality for users. For example, the software provides API support to users that allows for the ability of various components of the software to communicate with each other.

API In fact, it has been noted that the API functionality of Weka provides users with the ability to realize increased functionality because of the various freely available programming codes that are available online . Even more, the software has a ability to perform various data mining methods, including Bayesian methods, rule-based methods, and statistical analysis. As so many different types of data mining methods in Weka that makes the software useful for a range of data mining methods and in various industries.

Database System Support

Another strength of Weka is that the software supports the ability to read files from different database formats . For Internet user, a specific strength of Weka is the ability to acquire data from both SQL databases and from actual webpages. So that user can easily input the data.

Visualization Capabilities

While Weka has a great support for the use of APIs, a variety of data mining methods, and supported various database systems. one of the biggest weaknesses of the software is its visual support. Visualization of data, results, and processes is not highly colorful or as detailed as other data mining software packages. However, the visualization that is provided is certainly sufficient for being able to view the data on which the

analyses are being performed and the results of the data analyses.

Weka is fully able to interface with the R statistical package in order to not only increase its statistical analysis functions and increased visualization of statistical analyses and results.

PMML Support

Weka allows users to import PMML files that are developed in both propriety and open-source data mining and statistical software packages. This software also allows for cluster analysis to be performed. It has the ability to interact directly with the R statistical package. This makes it possible to improve the statistical functionality, as

Other relevant functions Overall, the functionality built into to Weka and available through add-ons makes the software highly robust for a variety of users. Weka gives three graphical interfaces for viewing data with its results. Internet Explorer a standard graphic interface provides an easy means to navigate data and results. The second graphical user interface, known as the Knowledge Flow, is a process-oriented interface that allows users to link with all functions together in order to perform data mining functions. The third graphical user interface, known as the Experimental, allows users to compare and contrast the results of more than one dataset or learning scheme. In this kind of interface, various tests can conduct on multiple computers or servers. So it is considered as robust nature of the software and its ability to be used by a variety of users with different levels of usage in data mining applications.

KNIME

The Knostanz Information Miner (KNIME) is develop with an open API system that allows to add new nodes in the application in a way that makes integration, but also allows to access the information and functionality to the application .

API

Open API makes the system works as robust in nature. It can be used to enhance the functionality of the software either through their own programming, or through the open APIs that are freely available on online.

Database System Support

KNIME also has a unique database port system that allows users to establish database connections with nearly any database that is JDBC compliant. It has the ability to attain data from a large volume of different types of databases. It provides the features like to acquire database rows and columns, to allow filter functionality to filter or delete entire rows and columns from the database . KNIME provides for the ability to import and filter database to those

users who are less user-friendly with SQL commands entirely through the graphical user interface.

PMML Support

Most of the standard methods and mining algorithm are included in KNIME for data mining. Users are able to perform clustering, rule induction, regressions, and bayes networks. KNIME users can perform almost all types of data mining methods and then export the models and outcome to other propriety and open source applications that operate the PMML format. Important to note that just like the database port functionality, the PMML functionality within KNIME makes it possible for users to clean up PMML files without any need of coding to execute. Users can convert PMML files within the graphical user interface and then apply the files, or export them to other software packages.

The workspace in the application, is a Workbench, that allows users to drag and drop different functions or processes so that they can be link to other workstation. Another functionality can be added to KNIME that to increase its visualization features. For example, by using with R statistical software package or JfreeChart, it is likely to improve the visualization of statistical functions and results.

Statistical Analysis Capabilities KNIME provides support for a huge variety of statistical analysis of data. Statistical functions to basic descriptive statistics to more advanced linear models and data clustering and data trees can be developed. At the End, result is that KNIME can be used for basic functions, which in many respects are much more than just basic within the software, or it can be integrated with other open-source and propriety software to increase its functionality and performance.

Actually, KNIME does provide users with the facility to write and create their own functions and processes within the software. Those users who have a keen knowledge of programming and can develop nodes and the processes that perform the data mining methods.

RapidMiner

Another open-source data mining software packages, RapidMiner has full API support, through which you can able to access a wide variety of functionality.

API

It is mentioned that the API functionality with RapidMiner is enough strong, so that users can able to interface with other applications and functions without the need to worry about the specific details that allows the interfacing to occur .

Database System Support

RapidMiner is compatible with most types of databases, which means that users can import information from a variety of database sources to be access and analyzed. As with other data mining applications, the basis for the database functions is SQL queries. RapidMiner has additional functionality that allows less skilled users to interact with application while reducing programming and coding knowledge.

Visualization

In context with RapidMiner provides a high level of visualization support. One can easily create detailed results of data analyses. The visualization of nodes and other information can be well design. In this way, RapidMiner can allow users with higher level programming and coding skills to have increased output from their efforts in terms of being able to visualize the data and results.

PMML Support

Users are able to perform clustering, regression analysis, gaussian processes, and even some more advanced processes in RapidMiner. All data mining functions, however, does require a higher level of knowledge that might be required in other data mining software packages. Interestingly, with the advanced functionality of the software, PMML support is only something that has been recently added, and then through an additional extension that must be added to the basic package. While the functionality is now present, it is interestingly to note that it almost seems as though this was viewed as an afterthought by the developers.

Statistical Analysis Capabilities RapidMiner does provide for a variety of statistical tests and analyses to be performed. However, as compared to other data mining packages, it does seem that the statistical functionality, it is used by more advanced skills.

Actually RapidMiner is a data mining package that is more useful for more advanced users, they have to write code to perform various functions related to the process of data mining. The learning curve for this software is more for less advanced users because so many of the functions require additional skills.

Orange

Orange is a data mining software packages that have been tested, in terms of the functions that can be performed. If you want to achieve full functionality from Orange, additional add-ons, known as widgets, generally have to be obtained and added to the program. Because Orange consist of a library of objects and routines written in C++.

In order to perform advanced features, the full range of libraries and routines must be obtained .

API

In order to have API functionality, additional libraries and routines must be downloaded and added to the software. Others data mining software packages have built-in API support, it might just be assumed that Orange would also have this functionality.

Database System and PMML Support

The support for other database systems may be limited in Orange. The reason for this is that PMML support within the software is Less, but possible by adding additional routines and libraries to the basic software package. Users are able use import functions on their own with little assistance from the software. With the direct PMML support, Orange also has few built-in support for other database systems. Users are able to access and work with SQL documents and statements for importing database files. It should be noted, that Orange does provide support for most data mining methods. The software has the ability to perform Bayes, decision trees, and other types of data mining methods. Once again, however, the issue is not so much the functionality that is supported but the user friendly.

Visualization

The visualization support within Orange is less. The visualization is not as good or easy, but users are able to visualize data, processes, and results to work with as other data mining packages .

Statistical Analysis Capabilities

Orange does provide statistical tests and analyses. Its statistical features are more impressive by supporting to run various types of statistical tests and analyses and create charts and graphs for the results. The key to success is to perform the processes required to obtain the results of various statistical functions.

Orange have a lower level of functionality of any of the data mining software packages that have been examined thus far. The software is not written in Java, as was the case for the other data mining software packages, but is written in C++. It totally effect on the software's functionality and its performance. It is not even relevant for the user and end user because it is actually quite basic in its performance and operation.

jhepWork

jhepWork is a data mining package that having similarities with other data mining packages. It runs in Java Programming Language, which is faster than other programming language.

API

The code completion feature of API provides support for using code into the software and for performing functionality that might otherwise be highly complicated or troublesome for users with lower level coding skills, which makes the input and output of data and results user friendly for users.

Database System and PMML Support

It focused on database formats that are neutral to any specific operating system or platform. If software does not have native PMML support, it does support XML functionality, as well as a variety of platform neutral database and file formats. The software also supports standard SQL Commands. It is more suited for those who use more open-source file. Proprietary database formats is not compatible with jHepWork.

Visualization

jHepWork is a fully functioning data mining software packages, which is best suitable for industries. From basic decision trees to more advanced clustering, jHepWork does contain the full range of data mining methods that would expected in this type of software. Visualization is even more appealing by providing the data, functions, schemas, and analysis, but it is basic in terms of the layout of graphical information. However, its statistical analyses is more advanced for user those who want to be more in control of the data mining process .

In addition, the built-in source code editor is suitable for the user interface. Users are able to program in Jython, which is highly robust programming language. Jython is actually Python in Java, which means that users who are knowledgeable about programming in Python can have this functionality in software that runs in Java. jHepWork utilize the full functionality of a variety of third party libraries written by other users, which is not useful for unskilled users.

It has a ability to expand because of the built-in Python programming features, which results in fast processing and analyzing.

Freely Available Libraries and Add-Ons

All freely available libraries and add-ons were already discussed in the analysis of each of the data mining software packages, it is useful to briefly discuss them on their own as it is these libraries and add-on features that truly increase the functionality of the software packages that have been discussed. For example, most of the software that was examined allows for additional functionality and performance to be achieved by interfacing with the R statistical software package.

Because the R statistical software package is highly robust in a nature and has the ability to work with enormous formats, which integrating the software with the data mining packages for increases their functionality. In the case of KNIME, however, the software has a variety of libraries and add-on features that can increase its functionality. JChartFree will provides add-on library which molecular chemistry software to allow for advanced visualization of molecular data.

In the case of both software RapidMiner and Orange, there are many freely available libraries to increase the statistical and data mining functions of the software. All Data mining packages are very functional so they require additional programming and coding knowledge for users for the better usage.

jHepWork has a large number of additional and add-on libraries that can be downloaded and added to the software because of its use of the Python programming language. They are similar to the libraries available in the other data mining software packages to more advanced statistical analysis techniques. jHepWork allow individual users who have taken the time to write libraries and programs to automate processes and increase overall functionality.

Overall, all five of the data mining software packages that are being analyzed have libraries that can be obtained for free and added to the basic software in order to increase performance and functionality. For most of the software packages, consist of software, such as R statistical package. Add-on libraries are available to increase the visualization and data mining functions of the software packages for users

It should also be noted that while the data mining software packages that have been examined provide easy access to some of the libraries that are available, others are available from other open-source software projects, as well as from individual users that have created programs and algorithms based on problems or issues they faced. User of internet uses function to enhance the productivity and performance.

This must be a reason for using an open-source data mining package: the capacity to hit into the collective minds of the people that use the programs and their abilities and desires to put in functionality.

Comparison of Software in context with the functionality of each of the data mining packages included in this data analysis, as well as a brief discussion about the add-on libraries and features, it seems suitable to discuss how they would be useful. By discussing the purposes for which these data mining packages could best be used, it is also

possible to note any problems that might be present from the standpoint of actual practice.

Firstly, Weka with a full range of API and PMML support which makes it easy to import files from a variety of database formats. WEKA is a general purpose data mining Package for the beginners. For example, users who are analyzing customer data or who want to examine sales and Purchase information in order to analysis the characteristics of customers related to the products that they purchase or the amount of money that they spend. The software is able to achieve high level statistical and data mining analysis, and can easily interface with the R statistical package. It is moreover useful for the users who want to perform experimental action on data, specially on the remote data and information. It is useful for Business purpose as well as for academic users. However, only one of the problem is faced by the Weka user that the visualization functions are not highly advanced. The charts and graphs that are produced in Weka would likely need to be changed and made more visually appealing, knowledgeable about data mining or statistical analysis. While Weka is probably best used by more advanced users and by those that need highly advanced features, such as the ability to work with data located across computers and servers, KNIME may be the data mining software package that is best suited for the most novice of users. KNIME's database port functionality means users can directly import the database for the use. It is useful the student who want to analyze data and create schemas with molecular data with little programming knowledge. People in chemistry and the hard sciences would find that KNIME provides the full range of functionality and performance that is needed. Even more, because this functionality is achieved through other software that is likely used to create and visualize molecular models.

For new users of data mining software, it might be appealing to attain all of the libraries that are available only to find that the learning curve would then seem overwhelming.

RapidMiner may be the data mining software package that is most suited for people who are accustomed to working with database files, such as in academic Purpose or in business purpose so that software requires the ability to manipulate SQL statements and files. For example the one who are proficient at dealing with database files in business settings, such as for retail companies, hospitals, or in factories would feel at ease in working with the SQL statements and importing database files in RapidMiner. Advanced users of the RapidMiner have the ability to achieve the higher functionality they need additional efforts. Of all of the data mining packages that have been examined, Orange is the one that would best be suited for a People

with a high level of knowledge in working with databases, as well as a high level of knowledge in programming and coding.

In scientific area, Orange would provide a strong system through which to perform such activities by download or create the libraries. As a visual limitation of orange user are only intered in result. The software is intended for people who have advanced skills and who are more interested in performance than being guided through how to import databases, how to perform data mining procedures, and obtain results in a visually appealing formats. jHepWork may be the data mining package that has the most specific position users because of its uses Python programming functionality. In fact, programming in Python, or Jython as it is called in the software because it runs on Java, is a important feature of the software package. However, because of the full functionality of jHepWork, it would be software that would be immensely useful in an academic setting in which data mining efforts with students are being performed. The use of jHepWork is like a interface between using data mining knowledge, and actually learning how to use advanced features and functions in order to increase the ability to examine a given database.

Out of five data mining packages that have been analysis, KNIME is the package that would be recommended for most uses, and for people who are highly skilled users. Based on the analysis factor, Weka would be considered next to KNIME because of its various built-in features that require no programming or coding knowledge. In further comparison, RapidMiner and Orange would be considered appropriate for advanced users, particularly those in the hard sciences, because it requires additional programming skills with the limited visualization support that is provided. While jHepWork with its strong advanced features, people from industries need this kind of software. Its also helped the students in order to perform data mining in a practical setting outside of the classroom. However, a new user would likely need assistance and help to quickly become efficient at using jHepWork because of the need to rely on Python to perform advanced functions.

Conclusion

In this research work, I have gathered knowledge about the various areas of machine learning and data mining and compiled them into understandable format. Furthermore I have done an analysis of freely available software tools, analyzing their respective functionalities, advantages and disadvantages, and compared them accordingly. The analysis took into account usage, user friendly in nature, APIs supports, import of variety of database systems, PMML support,

statistical analysis capabilities, visualization and other functionalities specific to the respective software packages and result presentation. Besides the five software packages, some interesting libraries and frameworks were introduced to the reader as well. Comparison of the analyzed tools was done with regards to suitability of their usage by a novice user.

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NON-PERFORMING ASSETS OF BANKS :ISSUES , CHALLENGES AND MODES OF RECOVERY OF NPAS

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Abstract

The Infrastructure companies require a huge financial outlay for meeting their financial requirements. They majorly depend upon debt specially the loans from banks and financial institutions to meet these demands. But the banks face a peculiar situation when the companies are unable to service the debt and then repay the loan amount. Thus these loans become the Non-performing assets(NPA) for the banks. The RBI came up with the CDR(Corporate Debt Restructuring) for banks in 2004-05. But when the CDR failed to deliver then RBI introduced the SDR(Strategic Debt Restructuring)in 2014 and then also introduced schemes like 5/25 Scheme and S4A .But will these schemes be successful in easing the pressure from the banks or is it a way of procrastinating the inevitable doom for the banks.

Keywords: NPAs, Corporate Debt Restructuring, Strategic Debt Restructuring, S4A, 5/25 scheme.

Introduction

NPAs have become the most referred to term in the financial market in recent years. The economists are concerned about the mounting stressed assets with banks, as it is affecting the effective utilisation of the funds available with the banks. The main problems caused by NPAs is that the NPAs do not just reflect badly in a bank's account books, they adversely impact the national economy.

But before analyzing the problem further it is important to first understand that when do the assets of the banks become stressed or Non-Performing Assets. **NPAs basically refer to loans which are in risk of default.**

Reserve Bank of India (RBI) explains the meaning of NPAs as: *An asset, including a leased asset, becomes non-performing when it ceases to generate income for the bank.*

As per guidelines issued by the RBI, banks classify an account as NPA only if the interest due and charged on that account during any quarter is not serviced fully within 90 days from the end of the quarter.

Banks are further required to classify NPAs into the following **3 categories** based on how long do they remain non-performing.

1. **Substandard Assets** – If an account remains as NPA for a period less than or equal to 12 months
2. **Doubtful Assets** – An asset would be classified as doubtful if it has remained in the substandard category for 12 months.
3. **Loss Asset** – A loss Asset is one where loss has been identified by the bank's internal or external auditors or upon an RBI inspection.

This classification is important because the banks are required to strictly follow the Provisioning norms with respect to these non-performing assets and since this provisioning is made out of the Operating Profits , it adds extra burden on the banks funds– Banks are required to keep aside a portion of their operating profit as provisions to cover the risk to a certain extent arising from NPAs. The general norms for maintaining the provisions are:

- **For substandard assets or loans**, a general provisioning of 15% on the total outstanding amount is made if the loan is secured, for unsecured loans the total provisioning that needs to be done is 25% on the outstanding balance;
- **For doubtful assets**, provisioning of 100% on the total outstanding amount is made if the loan is unsecured, for secured loans the total provisioning is in the range of 25% to 100 % on the outstanding balance depending upon the period for which the asset has remained doubtful;
- **Loss assets** should be completely written off. If loss assets are permitted to remain on the books for any reason, 100 % of the outstanding amount should be provisioned.

Implication of High NPAS for Banks

If the banks have a high level of NPAs they have to face the following negative impacts:

- High level of provisioning required to cover the risk attached to NPAs, means that the banks with high level of NPAs have lesser funds to advance(higher NPAs will increase the amount of provision thereby impacting the profitability as the banks will not be able to use the funds to earn income);
- Burden of maintaining capital adequacy ratio;
- Increased pressure on Net Interest Margin (NIM);
- Reduced competitive position of the banks;
- Lower return to Bank Shareholders;
- Liquidity problem because of non-payment of amount of loan or Interest by the borrowers;
- Higher bank interest on some products to compensate Non-performing loan losses;
- Loss to the economy because of failure of investments and loss of good projects(because the bank money is held up in bad projects).

Present status with respect to NPAs

As on December 31, 2016, Gross NPAs of public sector banks amounted to Rs 606,911 crore while total stressed assets (gross non-performing assets and restructured standard advances) of scheduled commercial banks were Rs 9.64 lakh crore as on December 31, 2016. As of September-end, the banks' total stressed loans were Rs 897,000 crore. This is a 7.5 percent growth in stressed loans from September to December-end.

In December, RBI's financial stability report said the gross non-performing advances (GNPAs) ratio of all banks increased to 9.1% by September 2016 from 7.8% in March 2016. The amount of stressed loans was up at 12.3% of total loan given out by banks by September 2016, up from 11.5% in March 2016.

RBI's stress test of the banking sector indicated that GNPA ratio may increase from 9.1% in September 2016 to 9.8% by March 2017, and further to 10.1% by March 2018.

PSU banks are worst hit as their GNPA may increase to 12.5% by March 2017 and then to 12.9% in March 2018, from 11.8% in September 2016.

Reasons for Occurrence of NPAs

NPAs can be termed as "Bad Loans" or defaults. It is the failure to meet financial obligations, non-payment of a loan installment. These loans can occur due to the following reasons:

- (i) Normal banking operations
- (ii) Bad lending practices

(iii) Incremental component (due to internal bank management, like credit policy, terms of credit, etc...)

(iv) Competition among banks resulting in their enormously selling unsecured loans

Normal Process for dealing with the NPAs

As a general practice, the banks normally refer to the following measures to tackle the bad loans or for recovery of bad loans or NPAs. Non Performing Assets can be reduced by taking some major steps by the banks. Some steps are as follows by which bank can reduce NPA are:

1. **LokAdalats:** LokAdalat is for the recovery of small loans. According to RBI guidelines issued in 2001, they cover NPA up to Rs. 5 lakhs, both suit filed and non-suit filed are covered.
2. **Compromise Settlement:** It is a scheme which provides a simple mechanism for recovery of NPA. It is applied to advances below Rs. 10 Crores.
3. **Credit Information Bureau:** A Credit Information Bureau help banks by maintaining a data of an individual defaulter and provides this information to all banks so that they may avoid lending to him/her.
4. **Debt recovery tribunals:** The debt recovery tribunal act was passed by Indian Parliament in 1993 with the objective of facilitating the banks and financial institutions for speedy recovery of dues in cases where the loan amount is Rs. 10 lakhs and above.
5. **SARFAESI ACT 2002: The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI)** empowers Banks / Financial Institutions to recover their non-performing assets without the intervention of the Court.

The Act provides three alternative methods for recovery of non-performing assets, namely: -

- i. Securitisation
- ii. Asset Reconstruction
- iii. Enforcement of Security without the intervention of the Court.

The provisions of this Act are applicable only for NPA loans with outstanding above Rs. 1.00 lakh. NPA loan accounts where the amount is less than 20% of the principal and interest are not eligible to be dealt with under this Act.

Non-performing assets should be backed by securities charged to the Bank by way of hypothecation or mortgage or assignment. Security Interest by way of Lien, pledge, hire purchase and lease not liable for attachment under sec.60 of CPC, are not covered under this Act.

The Act empowers the Bank:

- (i.) To issue demand notice to the defaulting borrower and guarantor, calling upon them to discharge their dues in full within 60 days from the date of the notice.
- (ii.) To give notice to any person who has acquired any of the secured assets from the borrower to surrender the same to the Bank.
- (iii.) To ask any debtor of the borrower to pay any sum due or becoming due to the borrower.
- (iv.) Any Security Interest created over Agricultural Land cannot be proceeded with.

Role of RBI in Tackling the NPAs

In the past few years, it is being observed that most of the banks especially PSU lenders, have reported a sharp fall in profits as they set aside hefty amounts for losses on account of NPAs, which put a dent on their profits. As stated earlier, the lenders are now jostling with the stressed assets mounting to about Rs.10 lakh crores or close to 7% of India's GDP, as of December-end. The problem has become too gigantic and that is the reason that RBI had to intervene to devise some measures to help the lending banks to recover their dues from the defaulting companies. RBI has come up with several drastic measures to address the problem faced by banks, namely:

1. CDR-Corporate Debt Restructuring
2. SDR- Strategic Debt Restructuring
3. 5/25 Scheme
4. S4A- Sustainable Structuring of Stressed Assets

1. Corporate Debt Restructuring--- In India, Corporate Debt Restructuring System was evolved by Reserve Bank of India (RBI), and detailed guidelines were first issued in 2001 for implementation by banks. The CDR Mechanism covers only multiple banking accounts, syndication/consortium accounts, where all banks and institutions together have an outstanding aggregate exposure of Rs. 100 million and above. It is a voluntary non-statutory system based on Debtor-Creditor Agreement and Inter-Creditor Agreement and the principle of approvals by majority of 75% creditors (by value) which makes it binding on the remaining 25% to fall in line with the majority decision.

2. Strategic Debt Restructuring--- Strategic Debt Restructuring Scheme was announced by RBI on June 8, 2015 based on the "Framework for Revitalising Distressed Assets in the Economy – Guidelines on Joint Lenders' Forum and Corrective Action Plan" dated 26 Feb 2014, wherein change of management was first envisaged as a part of restructuring of stressed assets.

The scheme allows the consortium of lenders (referred to as Joint Lenders Forum) to convert a part of their loan in an ailing company into equity, with the consortium owning at least 51% stake. The scheme has been introduced with a view to revive stressed companies and provide lenders with a way to initiate change of management in companies which fail to achieve the milestones under Corporate Debt Restructuring mechanism.

3.5/25 scheme--- The 5/25 scheme of RBI was introduced in January 2016, to allow banks to extend the re-payment schedule of loans to 25 years, with an option to re-finance them at the end of five years. It had been set up mainly with an aim to provide relief to the power and infrastructure sectors, the ones with a long gestation period. The rationale behind the scheme is that it will help companies to re-pay their loans as the economy picks up and the projects start making money instead of slipping into the bad loans category in a shorter-term period. It is believed that the 5/25 scheme will enable banks to mitigate ALM (asset liability management) risks in funding long gestation projects. In the first half of the financial year 2016, around Rs 50,000 crore of assets have been restructured via the scheme with a view to reducing the pressure of early repayment of loans from infrastructure companies. However, it is feared that some of the assets restructured under this scheme may slip into the Non-Performing Assets (NPA) category before reaching the mid-term, i.e. 12-15 years.

4. Scheme for Sustainable Structuring of Stressed Assets-S4A--- The Reserve Bank of India after due consultation with lenders, has formulated the 'Scheme for Sustainable Structuring of Stressed Assets' (S4A) in June 2011, as an optional framework for the resolution of large stressed accounts. The S4A envisages determination of the sustainable debt level for a stressed borrower, and bifurcation of the outstanding debt into sustainable debt and equity/quasi-equity instruments which are expected to provide upside to the lenders when the borrower turns around.

Under S4A guidelines, first announced in June, banks were allowed to split the funded liabilities of a stressed company into sustainable and unsustainable debt.

The sustainable debt would be left alone to perform or be restructured if necessary, while the unsustainable debt would be converted into equity or equity-like, long-dated securities and redeemed at a later date.

The revised norms say in case a non-performing asset (NPA) is restructured under S4A norms, the sustainable part of the debt can be classified as standard if banks set aside provisions equal to at least 50% of the debt classified as unsustainable or 20% of aggregate debt, whichever is higher.

RBI also said the unsustainable part of debt in any S4A—whether the account was NPA or standard at the time of restructuring—could be upgraded to standard, if the sustainable half of the debt performed satisfactorily for one year. Banks would also be allowed to reverse all provisions made when the unsustainable half of the debt is upgraded. However, in all cases, the required market-to-market provisions on instruments after conversion of unsustainable debt must be maintained at all times.

However, the S4A scheme cannot be applied to all cases of stressed exposure. The limitations of the scheme are as follows:

- It can be applied to only operational projects and not to projects under construction.
- It does not allow for any rescheduling of original tenure of repayment or repricing of debt.
- Sustainable debt under the scheme -- which needs to be at least 50% of total debt -- is derived based only on the ability of current cash flows to cover debt repayment. It cannot factor in incremental cash flows that could accrue as the external environment improves. Given the significantly low level of current cash flows of most highly leveraged companies in the vulnerable sectors such as infrastructure and iron & steel, the number of stressed corporate loan accounts which could benefit from this scheme could be very low.

Conclusion

The NPAs are putting a strain on the productive funds of the economy; the funds which could have been used for certain productive purposes is blocked because of the non-payment of the borrowed funds. The pressure increases when the amount involved runs into hundreds of thousands of crores. The recovery methods devised by the RBI since the last few years are also not proving very fruitful, at the most they are only helping the borrowing companies to procrastinate the process of repayment. A better approach would be to devise some guidelines for the banks and financial institutions to help them in deciding about

- Who should be given the loan

- How the repayment schedule should be devised
- How the financial performance of the borrowing company should be monitored
- How the lending institutes can be made a part of the management of the borrowing companies from the date the loan is disbursed
- When should the banks sound the red alert in case of default of payment
- How to assign the responsibility to the lending banks as well in utilization of public funds

These steps would help in the banks becoming more cautious in disbursement of funds and recovery of loans. Once the guidelines are made more stringent, we can expect the fall in default in repayment. Because already quite a few methods have been devised for recovery of NPAs but now we have to move towards becoming more conservative in disbursement of loans so that we can devise ways to prevent the loan accounts becoming stressedand eventually becoming Non-Performing Assets.

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PROJECTIVE MODULES AND ITS EXTENSION IN FUZZY

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Abstract: This paper initially deals with the study of Module, special types of modules, Syzygies, Resolution. And towards the end it will touch the concept of Projective Dimension and fuzzification of different Modules.

Keywords: Modules, Syzygies, Resolution, Projective Dimension and fuzzy Submodule.

Introduction

In this paper until and unless stated R be a commutative ring with unity 1 , then a module is a algebraic structure that behaves over a ring in a similar way, a vector space behaves over a field. In a more formal way we describe modules over ring as follows:-

Module- over a ring R is a set M together with a mapping $R \times M \rightarrow M$ satisfying the following properties:

- M is an abelian group under addition
- $r(a + b) = ra + rb$
- $(r + s)a = ra + sa$
- $r(sa) = (rs)a$
- If 1_R is the multiplicative identity in R then $1_{RA} = a \forall a, b \in M, r, s \in R$

And the fuzzy set theory - a theory of graded concepts, in which everything is a matter of degree and can be considered as a generalization of the classical set theory. Because of this, the fuzzy set theory has a wider scope of applicability than classical set theory in solving various problems. Applications appear in computer science, artificial intelligence, decision analysis, information science, system science, control engineering, expert systems, pattern recognition, management science, operations research and robotics. Theoretical mathematics has also been touched by the concept of fuzziness. Roughly speaking fuzzy set theory in the last three decades has developed along two lines:

- (1) As a formal theory which became developed by generalizing (fuzzifying) the original ideas and concepts in classical mathematical areas such as algebra, graph theory, topology and so on.
- (2) As a very powerful modeling language, that can cope with a large fraction of uncertainties of real life situations. Because of its generality it can be well adapted to different circumstances and contexts.

Types of Modules

Projective Modules :

Given R -Modules M, N and a R -linear onto map $\alpha : M \rightarrow N$ the canonical map from

$\text{Hom}(P, M)$ to $\text{Hom}(P, N)$ sending θ to $\alpha\theta$ is onto

Example: Let R be a commutative Noetherian Ring let $A = R \times R$. Then $P = \{0\} \times A$ is a projective R module

Free module: An R module M is called as free Module if it can be expressed as a direct sum $M = \bigoplus_{\alpha} M_{\alpha}$ where each M_{α} free cyclic R - module.

Example: R^n is free A module with basis $(1, 0, 0, \dots, 0), (0, 1, 0, \dots, 0), \dots, (0, 0, 0, \dots, 1)$

Cyclic Module: An R module M is called as cyclic Module if $M = Rx$ for some $x \in M$.

Quotient Module : Let N be a submodule of M . Consider the quotient abelian group M/N with scalar multiplication given by $a \cdot (x+N) = ax + N, a \in R, x \in M$. Then M/N acquires the structure of R Module called as quotient module M/N .

Faithful Module: An R module M is said to be faithful if $\text{Ann}(M) = (0)$ where $\text{Ann}(M) = \{a \in R / aM = 0\}$

Syzygies: let $M \subset R^m$ be the module generated by the set $F = \{f_1, f_2, \dots, f_s\}$. The syzygy module of F denoted by $\text{Syz}(F)$ [also denoted by $\text{Syz}(f_1, f_2, \dots, f_s)$] is the set

$$\{(g_1, g_2, \dots, g_s) \in R^s / f_1g_1 + f_2g_2 + \dots + f_s g_s = 0\}$$

The number of generators a_i of the syzygies is chosen minimally, they are independent of the choice of generators. These a_i are called the Betti numbers of M and the minimal length of free resolution (that is i) is projective dimension of a module M . When M is projective, then dimension of M is called projective dimension of M (denoted by $\text{pd}(M)$). A projective dimension is a measure of how far a module is from being a projective.

Projective Dimension: when M is projective then dimension of M is called as Projective Dimension of M . It is a measure of how far a module is from being Projective. Projective dimension is a main ingredient to compute the tilted algebra which now a days plays a very important role in the representation theory of algebras. We will now give a procedure and describe an algorithm to compute the projective dimension of a module which is valid over the Laurent polynomial ring.

Resolutions: Let R be a ring and M a finitely generated R -module. An exact sequence $F_{i+1} \xrightarrow{\alpha_{i+1}} F_i \xrightarrow{\alpha_i} F_{i-1} \xrightarrow{\alpha_{i-1}} \dots \xrightarrow{\alpha_1} F_0 \xrightarrow{\alpha_0} M \rightarrow 0$ with only free (resp. projective) modules $F_i (i = 0, 1, 2, \dots)$ is called a free (resp. projective) resolution of M .

Example: Let $M = R/I$, where $R = K[X, Y, Z]$ (K is a field), $I = (X, Y, Z)$. We have a natural surjection map $\epsilon : R \rightarrow R/I$. $\text{Ker}(\epsilon) = I = (X, Y, Z)$. From $\text{Ker}(\epsilon)$, we construct free module R^3 . Define a map $\phi : R^3 \rightarrow R$ by $\phi(v_1, v_2, v_3) = [v_1 \ v_2 \ v_3] \begin{pmatrix} X \\ Y \\ Z \end{pmatrix}$

$$= v_1X + v_2Y + v_3Z$$

$$\text{Ker}(\phi) = \{(v_1, v_2, v_3) \in R^3 \mid v_1X + v_2Y + v_3Z = 0\}$$

$$= \{(Y, -X, 0), (-Z, 0, X), (0, Z, -Y)\}.$$

From $\text{Ker}(\phi)$, we construct free module R^3 . Define a map $\psi : R^3 \rightarrow R^3$ by $\psi(\alpha_1, \alpha_2, \alpha_3) = [\alpha_1 \ \alpha_2 \ \alpha_3] \begin{pmatrix} Y & -Z & 0 \\ -X & 0 & Z \\ 0 & X & -Y \end{pmatrix}$

$$= \begin{pmatrix} \alpha_1 Y - \alpha_2 X \\ -\alpha_1 Z + \alpha_3 X \\ \alpha_2 Z - \alpha_3 Y \end{pmatrix}$$

$$\text{Ker}(\psi) = \{(\alpha_1, \alpha_2, \alpha_3) \in R^3 \mid \begin{matrix} \alpha_1 Y - \alpha_2 X \\ -\alpha_1 Z + \alpha_3 X \\ \alpha_2 Z - \alpha_3 Y \end{matrix} = 0\}$$

$$= \{(\alpha_1, \alpha_2, \alpha_3) \in R^3 \mid \alpha_1 = X, \alpha_2 = Y, \alpha_3 = Z\}$$

$$= \{(X, Y, Z)\}.$$

From $\text{Ker}(\psi)$, we construct free module R . Define a map $\delta : R \rightarrow R^3$ by

$$\delta(\alpha) = \alpha \begin{pmatrix} X \\ Y \\ Z \end{pmatrix}$$

$$= \begin{pmatrix} \alpha X \\ \alpha Y \\ \alpha Z \end{pmatrix}$$

$$\text{Ker}(\delta) = \{\alpha \in R \mid \begin{pmatrix} \alpha X \\ \alpha Y \\ \alpha Z \end{pmatrix} = 0\}$$

$$= 0 = \{\alpha \in R \mid \alpha X = 0, \alpha Y = 0, \alpha Z = 0\} = 0$$

Finally, we construct a free resolution $\text{Ker}(\delta) = 0 \rightarrow R \xrightarrow{\delta} R^3 \xrightarrow{\psi} R^3 \xrightarrow{\phi} R \xrightarrow{\epsilon} M = R/I \rightarrow 0$
Projective dimension = 3.

First syzygy of module M is $[X, Y, Z]$.

Second syzygy of module M is

$$\begin{pmatrix} Y & -Z & 0 \\ -X & 0 & Z \\ 0 & X & -Y \end{pmatrix}$$

Third syzygy of module M is $\begin{pmatrix} X \\ Y \\ Z \end{pmatrix}$

Betti numbers are 1, 3, 3, 1.

VI Fuzzy subset- A Fuzzy subset of a non empty set E is characterized by a membership function $\mu : E \rightarrow [0, 1]$. The value of $\mu(x)$ for each element x of E represents the degree of membership of x (with 0 meaning that x is definitely not a member of the set and 1 meaning that x is a member of the set).

Fuzzy Submodule: Let A be a ring and M be an A -module then a Fuzzy Subset $\mu : M \rightarrow [0, 1]$ is called a fuzzy A - submodule of M if

- (i) $\mu(x + y) \geq \mu(x) \wedge \mu(y)$
- (ii) $\mu(rx) \geq \mu(x)$ for all $x \in M$ and $r \in A$
- (iii) $\mu(0) = 1$.

The notion of free fuzzy modules was introduced by Muganda in 1993 as an extension of free modules in the fuzzy context. $L(\vee, \wedge, 1, 0)$ represents a complete distributive lattice with maximal element '1' and minimal element '0'; ' \vee ' denotes the supremum and ' \wedge ' the infimum in L . L is said to be regular if $a \wedge b \neq 0 \forall a, b \in L$ such that $a \neq 0 \neq b$. The closed interval $[0, 1]$ together with the operations 'min', 'max' and ' \leq ' form a complete distributive lattice.

Let F be a free module over A on the set X with respect to the function $\theta : X \rightarrow F$. Let β be an L -subset of X . Let $\mu \in L(F)$. Then μ is said to be **free** with respect to β if $\theta(\beta) = \mu$ on $\theta(X)$ and for every module A over R , and $\eta \in L(A)$ with $k : X \rightarrow A$ and $k(\beta) = \eta$ on $k(X)$, there exists a unique homomorphism $\Omega : F \rightarrow A$ such that $k = \Omega \theta$ and $\Omega(\mu) \subseteq \eta$.

In 1994 Zahedi and Amen introduced the concept of fuzzy exact sequences in the category of fuzzy modules and in 1995 Zahedi and Ameri introduced the concepts of fuzzy projective and injective modules.

Fuzzy Projective Module- Let M and M^* are A -modules, let μ and ν be fuzzy A -modules on M and M^* respectively then μ is ν projective if

- (i) M is M^* Projective
- (ii) $\mu(m) \leq \nu(\Phi(m))$ for all $m \in M$ and Φ is $\text{Hom}(M, M^*)$.

A fuzzy module P is called fuzzy projective if and only if fuzzy projective dimension of P is zero. Fuzzy projective dimension of a fuzzy module can be considered as measure of how far a fuzzy module is from being a fuzzy projective.

Conclusion

My contribution to the current research work is mainly the following:

- In this Paper, we described a procedure and an algorithm to compute projective dimension of a module over Laurent polynomial ring motivated by the technique discussed in (for Weyl algebra) and (over polynomial ring)
- In this work, examples on each type of module has being discussed
- Also, towards the end various types of Modules has being extended to the concept of Fuzzy

Some Research Problems for Future Work

The following some open questions/problems that are related to the work presented.

- To write procedure and algorithm to compute projective dimension of a module over Heisenberg algebra/ Lie algebra.
- Examples of Fuzzy, Free and Projective Modules.
- To Find the procedure to compute projective dimension in Fuzzy Dimension.

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SUSTAINABLE DEVELOPMENT AND GREEN MARKETING

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Abstract

In the modern era of globalization, it has become a challenge to keep the customers as well as consumers in fold and even keep our natural environment safe and that it the biggest need of the time. Consumers are also aware of the environmental issues like; global warming and the impact of environmental pollution. Green marketing is a phenomenon which has developed particular importance in the modern market and has emerged as an important concept, and is seen as an important strategy of facilitating sustainable development. In this research paper, main emphasis has been made of concept, need and importance of green marketing.

KeyWords: Environmental pollution, Green Marketing, Globalization, Global Warming, Sustainable Development.

Introduction

Green marketing being a very wide field of study and having a wide subject area there doesn't exist a standard definition for it. However, various experts and associations have tried defining it. As per the American Market Association there are 3 ways of defining Green marketing-

1. Retailing Definition- Green marketing is the marketing of products that are presumed to be environmentally safe.
2. Social Marketing Definition- Green marketing is the development and marketing of products designed to minimize negative effects on the physical environments or to improve its quality.
3. Environmental Definition- Green marketing is the efforts by organisations to produce, promote, package and reclaim products in a manner that it is sensitive or responsive to ecological concerns.

Another definition of Green marketing defines it "As a holistic and responsible strategic

management process that identifies, anticipates, satisfies and fulfils stakeholder needs, for a reasonable reward, that doesn't adversely affect human or natural environmental well being."¹According to Peattie & Charter Green Marketing is "The holistic management process responsible for identifying, anticipating and satisfying the needs of customers and society, in a profitable and sustainable way."²

Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising. Yet defining green marketing is not a simple task. Indeed the terminology used in this area has varied, it includes: Green Marketing, Environmental Marketing and Ecological Marketing.

□ Significance of Green Marketing

The question of why Green marketing is significant and has an increased importance today is because of the simple reason which is the basic definition of Economics. "Economics is the study of how people use their limited resources to try to satisfy unlimited wants."³

Thus mankind has limited resources on the earth, with which she/he must attempt to provide for the worlds unlimited wants. As firms face limited natural resources, they must develop new or alternative ways of satisfying these unlimited wants. Ultimately green marketing looks at how marketing activities utilize these limited resources, while satisfying consumers wants, both of

¹ Charter 1992,p.394

²Ibid

³ McTaggart,Finley and Parkin 1992,24

individuals and industry, as well as achieving the selling organization's objectives.

In today's time there are 5 possible reasons for increased use of Green Marketing by firms-

1. Organizations perceive environmental marketing to be an opportunity that can be used to achieve its objectives.⁴
2. Organizations believe they have a moral obligation to be more socially responsible.⁵
3. Governmental bodies are forcing firms to become more responsible.⁶
4. Competitor's environmental activities pressure firms to change their environmental activities.⁷
5. Cost factors associated with waste disposal, or reductions in material usage force firms to modify their behaviour.⁸

According to a report by the Organization for Economic Co-operation and Development (OECD), the World Bank and the United States, prepared for the G20 Summits (Mexico, 2012), without any new policy action, it has been projected that there will be about 50% increase in greenhouse gas emissions and a significant worsening of urban air pollution by 2050. Over the past 25 years 60% of the world's major ecosystems have been degraded or used unsustainably, including through declining soil quality, land degradation and deforestation. By 2050, global terrestrial biodiversity is projected to decline by a further 10%. The costs and consequences of inaction on these environmental challenges are enormous, both in economic and human terms, and could jeopardize further progress in economic prosperity and poverty reduction.⁹

Considering these challenges it is all the more important for firms and organizations to focus on green marketing of their products in order to address these challenges considering Nations are having all time high environmental concerns given the rising challenges they'll have to face to protect their environment. Various studies by environmentalists indicate that people are becoming more concerned about the environment and are changing their behaviour pattern so as to be less hostile towards it. Green touches the lives of all people around the globe. Businesses cater to

numerous stakeholders, including customers, investors, and employees. They know that projecting a company's image as a leader and an innovator, as well as being socially and environmentally aware, can only be helpful. Influential customers want to do business with companies that have established their green credentials, so companies are launching hefty advertising and web campaigns, publishing extensively documented sustainability reports, cooperating with external sources to communicate transparently, and communicating their efforts internally. Now we see that most of the consumers, both individual and industrial, are becoming more concerned about environment friendly products. According to the recent comprehensive global report by Global Industry Analysts, inc. (GIA, 2011) on the green marketing market, driven by the rising awareness about environmental issues among consumers, governments and businesses, the global market for green marketing is projected to reach \$3.5 trillion by the year 2017.

History of Green Marketing

Green marketing is the result of concerns societies had about the natural environment due to which businesses started to modify their behaviour to address such concerns pertaining to the natural environment. The term of Green Marketing came into existence in the period of late 1980s and early 90s. The American Marketing Association (AMA) organised its first workshop related to Green Marketing on the topic of "Ecological Marketing" in 1975. The proceedings of this workshop resulted in the 1st book on green marketing entitled "Ecological Marketing"¹⁰. Since that time numbers of other books have been published on the topic by Charter¹¹, Coddington¹², Ottman¹³, etc.

Green Marketing today has evolved steadily over a period of time. According to Peattie initially there were 3 long phases in the evolution of green marketing –

1. Ecological green marketing- During this phase all marketing activities were carried out in order to resist the ever increasing environmental problems and offer solutions to these problems.
2. Environmental green marketing- The 2nd phase was called as the environment phase as after the environmental problems the entire focus shifted to implementation of cleaner technologies. This phase also helped in designing innovative products

⁴ Keller, 1987 Shearer, 1990

⁵ Michael J. Polonsky, An Introduction to Green Marketing, EGJ, 1994, at pg.3

⁶Ibid.

⁷Ibid.

⁸Ibid.

⁹ Aparna Choudhary & Samir Gokarn, Green Marketing: A means for sustainable development, 4 RW-JASC, 26, 27 (2013)

¹⁰ Karl E Henion et al., Ecological Marketing (1976)

¹¹ Green Marketing: A responsible approach to business (1992)

¹² Green Marketing: Positive Strategies for reaching the green consumer (1993)

¹³ The New rules of Green Marketing (2010)

that would improve the environment and take care of waste disposal and pollution in particular.

3. Sustainable green marketing- this phase still prevailing came into being in the late 90s and early 20s according to which it addresses green marketing as a means of achieving sustainable development rather than seeing it as a short term objective.

International conventions on Environmental Law

1. Stockholm Conference on Human Environment, 1972

The United Nations Conference on the Human Environment which took place in Stockholm, Sweden in 1972 was the first conference focusing on human environment.

Sweden first suggested to ECOSOC in 1968 the idea of having a UN conference to focus on human interactions with the environment, after which ECOSOC passed resolution 1346 on 30th July, 1968 and finally the General Assembly passed resolution 2398 on 3rd December, 1968¹⁴ to finally convene the conference in 1972 which also led to the establishment of the United Nations Environment Programme (UNEP). The conference agreed upon a declaration containing 26 principles concerning the environment and development, an action plan with 109 recommendations and a resolution.

2. World Commission on Environment and Development, 1987

The World Commission on Environment and Development also known as the Brundtland Commission after the name of its Chairman Gro Harlem Brundtland took place in 1987 which was established by the UN General Assembly resolution 38/161. The commission was instrumental in preparing a report for the General Assembly based on a 4 year study which was titled 'Our Common Future' which is now commonly known as the Brundtland Report. The WCED was also instrumental in developing the theme of sustainable development as well as in uniting countries to pursue sustainable development together.

3. Earth Summit, 1992

The United Nations Conference on Environment and Development took place in Rio De Janeiro in 1992 which was convened after passing resolution 44/228 in 1988 regarding it in the UN General

Assembly. Also known as the Earth Summit or The Rio Conference this Summit was instrumental in taking up several initiatives some of which include a global conference on Small Island Developing States, having a Convention to Combat Desertification, an agreement on highly migratory and straddling fish stocks, etc. Apart from all these initiatives 2 important multilateral treaties were opened for signature by Countries namely-

- i) United Nations Framework Convention on Climate Change (UNFCCC)
- ii) Convention on Biological Diversity

Apart from these 2 treaties 3 multilateral agreements were adopted as well, namely-

- i) Rio Declaration on Environment and Development, a series of principles mentioning the rights and responsibilities of States
- ii) Agenda 21, primarily a global action plan to promote sustainable development
- iii) Statement of Forest Principles, which are a set of principles to support sustainable management of forests worldwide.

The importance of the summit can be considered from the fact that the outcomes of this summit have been published in 3 volumes consisting Resolutions adopted by the Conference, Proceedings of the Conference, Statements made by Heads of State or Government at the summit respectively.

4. World Summit on Sustainable Development, 2002

The World Summit on Sustainable Development was convened by UN General Assembly resolution 55/199 in 2000. Also known as Rio+10, the Summit was held in Johannesburg in 2002. The summit gave an opportunity to all nations as well as the UN to review progress in the implementation of Agenda 21 since its adoption in 1992. Apart from this the outcome document of the Summit consisted of The Johannesburg Declaration on Sustainable Development and the Implementation plan of The World Summit on Sustainable Development which included poverty eradication measures, sustainable development initiatives by small developing island States as well as those of other geographic regions like Asia-Pacific, Latin America and the Caribbean, West Asia, etc and institutional framework to be adopted by the UN institutions for achieving the various goals of sustainable development.

5. UN Conference on Sustainable Development, 2012

¹⁴ G.A Res. 43/196

The UN Conference on Sustainable Development was called for by UNGA resolution 66/197. Also known as Rio+20 Conference it was held in Rio De Janeiro in 2012. The outcome document of this conference was titled 'The Future we want'. The document consisted some common visions which the UN expected to achieve in the nearby future which included amongst others:

- i) Poverty eradication
- ii) Mainstreaming sustainable development by interlinking it with economic, social and environmental aspects in order to achieve sustainable development in all dimensions
- iii) Accelerating the commitment to achieve internationally agreed developmental goals including the Millennium Development Goals by 2015
- iv) Taking urgent action to achieve sustainable development
- v) Reaffirming commitment to strengthen international cooperation to address persistent challenges to sustainable development for all.

Environment Impact Assessment in India

The European Economic and Social Committee (EESC) also known as The Council on European Economic Committee highlights the objective of Environment Impact Assessment in the following words –

*'The effects of a project on the environment must be assessed in order to take account of the concerns to protect human health, to contribute by means of a better environment to the quality of life, to ensure maintenance of the diversity of species and to maintain the reproductive capacity of the ecosystem as a basic resource of life'*¹⁵

Now, Environment Impact Assessment (EIA) involves the application of different types of knowledge and expertise. EIA has 4 main stages of complex questions-

- i) A preliminary study is made to find out whether a project causes significant adverse effects. If it does, EIA becomes necessary
- ii) Examining whether there are secondary effects of socioeconomic importance, such as concentration of population, loss of job opportunities, and shrinking of civic amenities
- iii) Determining the cumulative effects of a project. The impact of an individual project may appear to be harmless in the beginning however when more resources are pumped into the venture cumulative effects can be totally different.

¹⁵Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, OJL 175/40

- iv) Possibility of a project having an impact across national borders. Since every nation, in exercise of its sovereign powers to exploit its resources or to implement developmental policies, has to take particular care not to damage the ecological security of a neighbouring country.

There exist 2 main practices of EIA followed by nations namely, The Mandatory Model and The Discretionary Model. India has traditionally followed The Discretionary Model. This model does not derive its strength from a law as is the case in Mandatory Model. In this model the EIA clearance depends on the discretionary powers of the administration. The Discretionary model is said to be advantageous in the sense that it exhibits flexibility and maintains a harmony between developmental needs and environmental values. It also represents a viable mechanism with which experts can make a choice from the available alternatives. Another advantage of this model is the quick, expert and timely decision making.

However, the Discretionary model does have its own disadvantages. Experts within the government may go wrong, disagree on significant environmental questions, or may even fall for various kinds of bias and prejudices instead of committing to environmental and social values. This model was exposed when The Bhopal Gas leak tragedy took place in 1984. The Bhopal Gas leak is considered to be a victim of the Discretionary model of Indian Government to regarding EIA and is also considered as a glaring example of defective assessment by Ministry of Environment & Forests of Indian Government.

In 1994 Ministry of Environment & Forests (MoEF) took out a notification¹⁶ pertaining to Environmental Impact Assessment which had its origin in the 'necessary & expedient clause under Sec. 3(1) of Environment Protection Act, 1986. The notification was not applicable to projects having quantum of investments below the threshold limit which was Rupees 50 Crore initially and later raised to 100 Crore. Under the new notification the applicants for new projects or for modernisation of existing industry were to submit an EIA report along with the management plan. A committee of experts would evaluate and assess them and make recommendations based on a technical assessment of the document and data furnished. An amendment in 1997 allowed public inquiry as well into the process. Now, the 1994 EIA notification was first examined in Narmada Bachao Andolan v Union of India¹⁷ in which the Supreme Court held that the

¹⁶ SO 60(e), dated 27.01.1994

¹⁷ AIR 2000 SC 3751

EIA notification of 1994 was clearly prospective in nature and isn't applicable to the clearance of 1987. The apex court rendered less importance to the problems of submersion due to raising of the height of the Sardar Sarovar dam at full reservoir level (FRL) of 455 feet. The apex court allowed the construction of dam and raising its height above 90 metres subject to the conditions that it was to be done *pari passu* with relief and rehabilitation, clearance was to be granted at every stage by the Environmental Sub-Group under MoEF, and establishment of a Narmada Control Authority (NCA), seeking permission from NCA as well as the Relief and Rehabilitation (R&R) Subgroup of NCA, the concerned states should comply with the directions of all these authorities, an action plan to be drawn by NCA and that the review committee should meet periodically and oversee progress.¹⁸

The EIA notification gave way to a notification in 2006 by the MoEF.¹⁹ The notification gives powers to Central and State agencies namely MoEF and State Environment Assessment Authority as regulatory authorities at the Centre and State level. The notification also provides for prior environmental clearance before undertaking projects and activities. Expansion or modernisation of existing projects or activities requires clearance. The projects or activities are categorised as A and B in the schedule based on the spatial extent of the potential impacts and the potential impact on human health and natural and manmade resources.²⁰ Projects and activities which require environmental clearance include mining, extraction of natural resources and power generation industries and activities, industries involved in primary processing activities like coal washeries and mineral beneficiation, material production industries, materials processing industries, manufacturing fabrication industries, etc.

Category A projects and activities require clearance from MoEF on the recommendations of an Expert Appraisal Committee (EAC) constituted by the Central Government whereas Category B projects and activities require prior clearance from State Expert Appraisal Committee (SEAC). New projects have to undergo have to undergo 4 main stages before being granted environmental clearance-

i) Screening- The State Environmental Appraisal Committee (SEAC) screens and examines the nature, activities and location specificity of the category B projects to determine

whether they require further studies for preparation of an EIA prior to the grant of clearance. Projects which require EIA will be termed B1 projects and those not requiring are B2 projects. Hence, screening is only for projects coming under the category needing state clearance.

ii) Scoping- This is needed for both category A and B1 projects. The EAC or SEAC determines detailed and comprehensive terms of reference for the preparation of EIA report on the basis of information available in the application form as well as information gathered by the EAC or SEAC subgroups. Even at the stage of scoping the regulatory authority concerned can reject environmental clearance on the recommendation of EAC or SEAC. A reasoned decision to this effect is given to the applicant stating reasons for rejecting environmental clearance within 60 days.

iii) Public Consultation- Public consultation is a process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate.²¹ Projects exempted from public consultation include modernisation of irrigation projects, expansion of roads & highways not involving any further land acquisition, all category B2 projects and activities, etc.

iv) Appraisal- EAC and SEAC make the appraisal of all materials and evidences available after screening, scoping and public consultation. In this the applicant shall furnish necessary clarifications in person or through an authorised representative. Post appraisal the EAC or SEAC make categorical recommendations to the regulatory authority. Where public consultations are not necessary the appraisal is made on the basis of materials in application and EIA report. Then the appraisal report is placed before the competent authority for final decision within the next 15 days.

Conclusion

To conclude it is essential to view green marketing and the concept behind it as a way to achieve sustainable development. By using environment friendly ways to make products and to sell them in eco friendly ways is in a way linking marketing economics of products with achieving sustainable development. As the UN rightly says that without interlinking all fields it is not possible to achieve overall sustainable development globally. Green marketing as a concept has potential to help achieve the goals of UN to achieve global sustainable development by applying eco friendly ways to make products as well as to market them to create awareness amongst the consumers about it

¹⁸Narmada Bachao Adolan v Union of India, pp. 3831,3832

¹⁹MoEF notification No. S.O. 1533 dated 14.09.2006

²⁰Ibid. Para 4

²¹EIA Notification 2006 Para 7

which shall eventually help more and more people to think of ways to make products or invest in projects or activities which don't harm the environment and rather are in sync with their surrounding environment without any need to change the original environment.

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Hatch, B. (2006, July 13). Smoke lingers for those who keep hospitality flowing. Australian Financial Review, p. 14.

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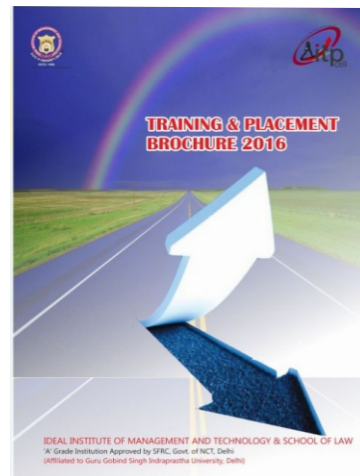
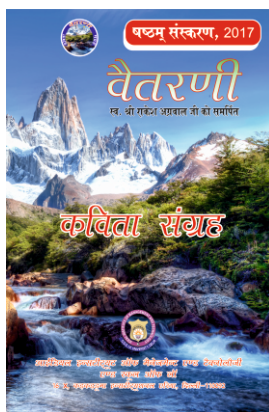
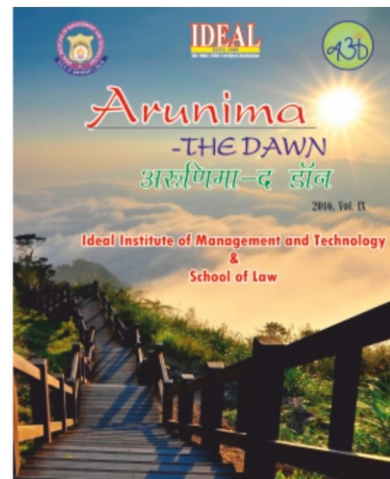
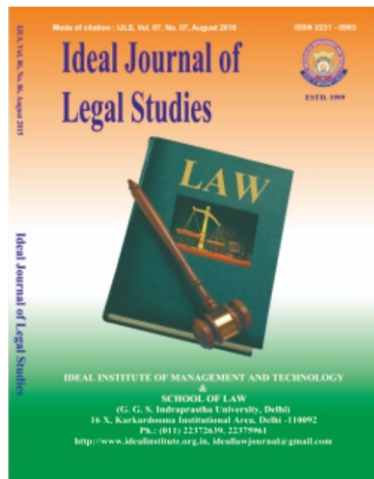
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