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EDITORIAL

Editing an academic journal is a gratifying experience also due to the opportunity of interesting and scholastic interactions that one has with peers from all over the globe. The reach of the journal is expanding by every issue and now it attracts contributions from a larger geographical area that spreads to the Far East on the right of the world map and Europe on the left. Similarly the coverage of topics too has expanded and this issue has contributions on a variety of areas further iterating the journal's claim to be a multi-dimensional business journal.

This issue also includes two research papers that were presented during the 'International Conference on Tourism Milestones' that was held at the Skyline University in the first week of April 2014. These papers were subjected to usual peer review process of the journal before having been accepted. One of those papers is on challenges for modernizing tourism higher education. It is a case study of the Czech Republic and relies upon qualitative data that was collected over a four month period and concludes that market orientation and service attitude should be embedded in the curriculum whereas increased knowledge of information communication technologies and knowledge of eco-innovation is essential for tourism personnel. The second paper from the Conference is about physical distance and psychological distance using the ultimatum game as simulation for economic exchanges. The analysis reveals a stable pattern of proposals for the physical distance condition and the psychological distance condition.

This issue has eight research papers in all that have been selected after a rigorous process of peer review. Three of these papers are in the area of finance where in one paper an analysis of risk management process of 'electrical transmission line installation projects' is presented and another paper assesses 'the impact of debt coverage on profitability in the banking sector', these are both empirical studies that reach their conclusions with the analysis of quantitative data. The third paper on the other hand is a case study of the negative interest rate policy of the European Central Bank and brings about an interesting analysis. In another paper that attempts to measure students' attitude towards e-learning the authors claim that the main contribution of the study is the successful use of newly constructed scale of measuring computer and e-learning attitude. In yet another paper the author explores the leadership style of Dr. Muhammad Yunus of 'Bangladesh Grameen Bank' and concludes that good leadership matters for transforming a drive into reality.

It will not be out of place to mention that the Skyline University College is celebrating its twenty fifth year of operations and the year 2015 has been earmarked as the Silver Jubilee year. The Skyline Business Journal too invites all its patrons to contribute to this celebration so that we come up with a 'twenty-five-article' Silver Jubilee issue in December 2015.

Dr. Amitabh Upadhya
Editor-in-Chief

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NEW TRENDS IN TOURISM - A CHALLENGE FOR MODERNIZATION OF TOURISM HIGHER EDUCATION IN THE CZECH REPUBLIC

Alžbeta Kiráľová

Abstract:

Tourism is a labour intensive sector employing one out of every eleven people. Human resources are the major key to visitors´ satisfaction, and so that able to enhance competitiveness and quality. Globalization has increased competition in tourism markets, and the industry realizes that human resources development has become more and more critical to the success of tourism in many markets. The current higher education in tourism in the Czech Republic does not respond adequately to new trends in tourism and, therefore is not fully able to equip graduates with the necessary skills for a globalized tourism market with a focus on sustainability at the same time. Private higher education institutions respond to the new challenges significantly more flexibly than the public one, but is often limited by the number of available academic staff. In this context, the aim of this paper is to define the possible ways of modernizing tourism higher education in the Czech Republic.

Keywords: *tourism, higher education, modernization, new tourism trends*

Introduction

Tourism is a labour intensive economic activity capable of generating growth and employment, it has a multiplier effect on many other sectors while contributing to the development of economic and social integration.

People are critical assets within the tourism industry for sustaining and enhancing competitiveness and quality. The involvement of the training and education sectors to industry is vital. Good management in service organizations and tourism enterprises certainly qualify as strategic success factors of the industry (Heskett, Sasser & Wheeler, 2008).

Globalization has changed the market reality also for the tourism industry. By opening the market to new competitors and by developments in information and communication technologies, possibilities for interaction with visitors, prospects, business partners, and stakeholders has changed fundamentally.

Higher education drives, and is driven by globalization. Higher education institutions (HEI) train the highly skilled workforce and contribute to the research base and innovation capacity that increasingly determines competitiveness in a knowledge-based global economy. With their central role in cross-cultural encounters, HEIs foster mutual understanding and helps to build global networks for the future. At the same time, cross-border flows of ideas, students, faculty and financing, coupled with developments in information and communication technologies, as well as the emergence of new players are changing the environment for higher education. Globalization implies both increased collaboration and competition between countries and institutions on a global scale (OECD, 2009).

Employability is regarded as a key performance indicator for HEIs as students want a high probability of employability and employers want employees with a high level of training. The most important components of employability include formal work experience, good use of non-formal work experience and/or voluntary work, and possession of a wide range of skills. Collaboration with industry could, in this context, increase students´ employability.

The employability of HEI graduates has been significantly affected by the economic crisis. In Europe as a whole, unemployment of graduates under 30 years of age increased from 7.3% to 11.1% (Koucký & Zelenka, 2013). However, significant differences are evident. Graduates suffered the most in the countries where the recession hit the labour market particularly hard. In addition there was a relative abundance of university students already before the crisis. This situation arose in the Portugal, Italy, Greece and Spain, but also in some countries of Eastern Europe, example, Poland, Slovakia, Slovenia, and the Czech Republic (OECD, 2013).

The numbers of university graduates, the current economic climate, and changes in the graduate recruitment market have meant that a degree is no longer a guarantee of a satisfying future career for a graduate. The tourism sector is looking for graduates with clear evidence of job-specific competencies in addition to high level of professional knowledge. Graduates should develop their employability throughout their time at university to gain a competitive advantage in the job market.

In this context, the aim of this paper is to define the possible ways of modernization of tourism higher education in the Czech Republic.

New Trends In Tourism

Hamel and Prahalad (1994) considered it important to spend time thinking about the future, and although it would probably be futile to try to predict it (Drucker, 2000); it is important to address new trends that will affect the future of tourism.

In 2010, futurist Popcorn published trends in lifestyle, which were reflected in the demand for destinations and tourism products. According to Popcorn (2010), the next few years would be driven by consumer scepticism movement against anything that was "big" and credible would be what was local. In this context, she predicted changes in preferences for the benefit of local resources followed by intense efforts of consumers to shop locally for food, products and services of all kinds.

Tourism destination managers are often confused by the emergence of competing businesses and destinations that do not fit into habitual categorization, and which offer new products and new ways of communication in a short time.

Competitive advantage of tourism businesses and destinations also depend on their ability to create networks. A number of destinations have to enter into various alliances, networks, chains, and clusters within which they collaborate. However, at the same time, they also compete as soon as they face each other in the market.

Deepening excess of supply over demand forces destinations and tourism businesses that want to prosper, to develop their innovative capacity, identify top employees and continuously create a portfolio of unique products. The ongoing individualization has resulted in the increased importance of offering different product variants, ideally tailored to the individual visitor.

Changes in lifestyle, in the availability of free time, and in the scale of values are resulting in changes in visitors´ behaviour toward flexibility and spontaneity when deciding on the purchase of the tourism product. Changing in visitors´ lifestyles creates demand for more targeted and personalized tourism marketing.

Visitors are becoming more experienced, more sophisticated and more demanding. They are constantly looking for new experiences. Even if they are happy with the holiday in certain destinations, they are not coming back because they are still looking for something more challenging, more exciting and less accessible (Holloway, 2006).

This trend is reflected in the demand for long-term stays in undetected, inaccessible and exotic destinations. At the moment, when a mass of visitors appear, the wealthy visitors are leave for other challenges to meet the searched status.

The visitors´ behaviour in tourism is developing in different directions (Cooper, Fletcher, Fyall, Wanhill & Gilbert, 2005). According to Maslow's hierarchy of needs (Maslow, 1954), self-realization is at the highest position in the hierarchy. Many wealthy people have reached this level, and in order to differentiate from mass consumption, hedonistic and conspicuous consumption, the constant search for new, ever more extreme experience becoms essential for them.

Choosing suitable strategic segments is not an easy task for the destination. It requires a thorough evaluation of destination´s strengths and its comparison with the competition, analytical marketing research and knowledge of future trends in lifestyle of the potential visitors. Segmentation is a not work for statistics but requires creative strategists (Jain, 1985).

In today's globalizing world, changes in visitors´ lifestyles forces destinations to reconsider their view on the visitors and redefine the way they want to satisfy the visitors´ needs and requirements.

Although the external environment of destinations is dynamically and significantly changing, it is possible to identify trends that will have a major impact on the future of destinations´ business and decision-making these include:
• declining birth rate of the population in most developed countries;
• growing demand for healthy foods and drinks and products intended for old people;
• decreasing number of people in the working age;
• decreasing number of family members;
• deeper social inequalities;
• boom of entertainment and sense of adventure;
• increasing interest of visitors in creation of products (in collaboration with destinations);
• growing importance of trademarks;
• growing importance of marketing associated with the charity, environmental consciousness, sustainability;
• growing pressure on social responsibility of the destinations;
• growing importance of the "disposable free time";
• growing importance of services as a competitive tool.

The development of information and communication technologies and their increasing use has radically changed the relationship between the destinations and their visitors. During its brief history, the internet transformed itself from static tool for digital publishing to a fully interactive platform for collaboration. Werthner and Ricci (2004) state that tourism is an industry that is at the forefront of internet use and online transactions.

Euromonitor International presented at the World Travel Market 2012 in London global trends in tourism that have a particular influence on the destinations (Bremner, 2012), namely:
• a new business model that focuses on the best value for visitors, offers safety with the best price when booking hotel rooms and, at the same time also helps hotels make better use of the room, changing the principles of revenue management;
• visitors from the BRIC countries shopping for luxury goods to major European cities created the need for staff that can speak BRIC languages, easy payment options, and business applications for mobile phones in Russian and Mandarin languages;
• many European retailers work closely with the BRIC tour operators on specialized tours focusing on shopping in local stores of luxury brands, visiting vineyards, food producers;
• smart TVs integrate television with internet technology and social media, allowing full interaction between the watchers and broadcasters, as well as the watchers themselves so that they can share their videos and can even create their own internet TV channels;
• applications allow television watchers to watch photos and videos of tourism destinations, find information about services, prices, offerings, and make a reservation via their smart TVs, travel apps or web links;
• integration of the hotels to the shopping centres (Shopping Hotels) to allow visitors easy shopping - Kempinski Hotel (Mall of Emirates), the Address Dubai Mall and Al Faisaliah Hotel in Saudi Arabia, Yas Mall on Yas Island

in Abu Dhabi, including the Viceroy Hotel that offers a shopping service, the Dubai Mall that introduced a "green screen fix" services, advising customers about the style are an example;

- increasing penetration of smartphones, tablets, laptops, and other electronic devices to the markets raised the need for digital detox - tech-free hotels offer packages of services without technology, with an emphasis on interpersonal communication, time spent with loved ones;
- a new trend in Asia is capitalizing on the popularity of luxury brands - an example is the Tonino Lamborghini brand, which opened its first hotel in the Chinese town of Suzhou in June 2012, and plan to open other forty five-star hotels in Asia; in Europe and the Middle East there are Armani Hotel in Milan and Dubai, Missoni Hotels in Edinburgh and Kuwait.

There are some more trends which can be observed in visitors´ behaviour (Kiráľová & Straka, 2013).

Present-day visitors often consider themselves environmentally conscious; they understand the terms as carbon footprint and global warming and begin to make decisions based on sustainability criteria.

In the light of the terrorist attacks in some popular destinations in the past, visitors, especially in certain phases of their life cycle, are giving emphasis on safety and protection.

Short break holidays have also become much more common as people take the time off as often as work allows them to. For them, internet has become the main source of information and reservation tools.

At the time when holidays abroad seem to be too expensive, visitors are turning their attention to domestic destinations.

Visitors often want to experience something new and different, something to learn or try. They are looking for wellness, fitness, spa, holistic health, spa and beauty tourism. Demand for medical and beauty tourism has also grown in recent years.

The increasing number of mentally or physically challenged people represents a significant market potential but also requires changes in the tourism strategy, service offer and staff attitude in order to meet their specific needs.

Rural tourism, ecotourism, wildlife tourism, bird watching, and fishing demand specific knowledge requirements for the tourism professionals in nature sciences, environment protection, and agriculture.

Sports tourism, golf tourism, cycling, trekking, hard and soft adventure tourism, thrill tourism, diving, sailing, geo-tourism, and experiential tourism requires appropriate security and training measures. Tourism professionals must be aware of these risks and demands, as well as of needs of insurance, necessity of being on compliance with legislative and local requirements.

Charity tourism, ethno tourism, cultural and heritage tourism,

creative tourism, culinary tourism, educational tourism, spiritual and holistic tourism, festival tourism, religious tourism, set-setting, migrant tourism have became more and more popular at present.

In the case of dark tourism (thana tourism), reality tourism and slum tourism is very important. The question of ethics and the political and managerial accountability for how that experience influences visitors, residents of the community, victims and their relatives.

Tourism specialists should also be aware of specifics of segments who visit their destination for the purpose of girlfriend getaways, mancation, singles tourism, wedding tourism, honeymoon tourism, prenatal tourism, postnatal tourism, babymoons.

Constant social and economic changes, globalization, diversification of the workforce, and new communication technologies are increasing the pressure on tourism managers. Graduates who want to succeed in a competitive environment must have the skills and competencies that future employers require.

Methodology

In order to determine the potential impact of the new trends in tourism on the tourism higher education in the Czech Republic, qualitative research method was used. The qualitative research was conducted from September 2013 to January 2014.

To select the participants of the interview and observation, purposeful sampling (Patton, 2002) was selected as the most common type of non-probability sampling used in qualitative research for gathering information by interviewing and observing the particular group. Specific selection criteria as (1) duration of employment at public or private HEIs minimum five years, (2) duration of employment in destination management organisation or tourism business minimum five years, (3) and holding management role were determinate. These criteria were required to ensure the sample would be able to answer the questions during the interview. The entire sample was not selected at the start of the research; The interviewed residents were selected by snowball sampling method. The direct, face-to-face interviews took place in a one-to-one setting.

The interviews were semi-structured (Murphy, 2004; Merriam, 2009), the outline of questions was prepared and formulated with the help of Patton's (2002) six types of interview questions. The interviews were recorded on tape and afterwards analyzed through transcription, and this resulted in the end in a summary per interview, which was used for this research.

Data Analysis

The tourism industry generates 9 % of the world´s GDP, 6% of total exports and employing one out of every 11 people in advanced and emerging economies (UNWTO, 2013).

With some 1.8 million businesses, primarily small and medium enterprises employing approximately 5.2 % of the total workforce (approximately 9.7 million jobs, with a significant proportion of young people). It is estimated that tourism generates over 10 % of the European Union's GDP and provides approximately 12 % of all jobs.

International tourist arrivals grew by 5% in 2013 and reached of a total 1.087 million, which was up from 995 million in 2011. Europe remains the most visited region in the world (+5%) with 563 million visitors. By sub-region, Central and Eastern Europe (+7%) and Southern Mediterranean Europe (+6%) experienced the best results.

The share of the Czech Republic on international tourist arrivals was 1.7% (8.908.000 in total), and its share on the international tourism receipts was 1.5%, 7.035 million US$ in total (UNWTO, 2013).

WTTC (2014) reports that the direct contribution of tourism to GDP in the Czech Republic was US$5.6 billion (2.9% of total GDP) in 2013, while the total contribution of the sector was US$16.7 billion (8.4% of GDP). The sector supported directly 248,500 jobs (5% of total employment) what meant in total, 511,500 jobs (10.4% of total employment) including jobs supported indirectly.

In accordance to the relative importance of tourism´s contribution to GDP, the Czech Republic was ranked to 50th (absolute) and 105th (relative size) place out of 184 countries in 2013. From the long-term growth perspective (2014-2024) the Czech Republic is ranked to 167th place. WTTC predicts for the Czech Republic, 2.7% annual growth in direct tourism contribution to GDP and 2.9% in the total contribution to GDP for the period from 2014 to 2024, This is below the world average level, but equal to Europe´s level.

The World Economic Forum ranked the Czech Republic 22nd in terms of tourism competitiveness in its travel and tourism competitiveness Index for Europe in 2011 (BIN, 2013).

Tourism has an important place in the economy of the Czech Republic. Its further development depends on many factors, but one of the most important is the qualification of human resources. The ability of the Czech Republic to take a good position in the global, rapidly changing labour market in tourism will depend mainly on flexibility of the educational system and its ability to respond to the demand of industry. The key roles will be played by middle and top managers who are trained at HEIs.

According to existing legislation, HEIs are public, private or governmental; and either university or non-university type. They provide accredited tourism study programs at bachelor, master and doctoral levels. Non-university HEIs are not entitled to offer doctoral study programs.

Higher education can be obtained by study at an accredited study program in accordance with the curriculum prescribed forms of study (full-time, distance or a combination thereof). HEIs may provide lifelong learning courses as part of its educational activities. There are two governmental, twenty-six public and forty-four private HEIs in the Czech Republic. HEIs differ in their legal status, its specific mission, in number of students, in internal functioning or funding system but study programs and fields of study of all are subject to accreditation awarded by the Ministry of Education, based on the previous expert standpoint of the Accreditation Commission. All accredited study programs and fields of study offered by HEIs are listed in the Ministry of Education's website. Fields of study undergo to regular reaccreditation process.

HEIs are also required to undergo a regular self-evaluation process. In the context of internal quality assurance processes of HEIs, the autonomy allows HEIs to design their own system of internal quality assurance and oblige them to carry out the internal evaluations regularly and annually report the results to public.

Delivery of higher education used to be exclusive to the public sector in the Czech Republic. However, legislative changes, particularly the adoption of the new Higher Education Act in 1998 (the Act No 111/1998 came into force starting 1999), led to the coexistence of governmental, public and private HEIs. Based on this Act, principles of the Lisbon Recognition Convention (EC, 1997) were incorporated in Czech legislation, and the Diploma Supplement was introduced.

The Research and Development Act and related evaluation system was adopted in 2002 and had a significant impact on HEIs. The assessment of research and development results was focused on applied research and papers in international journals, publications and conference proceedings with an impact factor that influenced especially the evaluation and promotion policies on the HEIs' level.

The growing demand for public higher education and the limited resources of the government allocated to public HEIs prompted the government to support the development of private HEIs.

By 1990, only one HEI (public) offered an accredited tourism program in the Czech Republic; and currently sixteen HEIs (nine public and seven private) offer tourism programs.

HEIs may also offer courses and programs for lifelong learning in the framework of accredited study programs. These courses are intended for the general public. If the student of the lifelong learning course is admitted to a HEI´s regular study program, up to 60% of the credits obtained in the framework of lifelong learning can be recognized by the HEI.

In addition to courses within the Lifelong Learning, HEIs can also provide special training according to the requirements of industry, or to collaborate in the formulation and implementation of professional associations and organization training programs.

In the past few years, the number of graduates each year increased by about 10,000. That was mostly caused by bachelor graduates as nearly three-quarters of them continued

to study in master programmes with their transition into the labour market delays few years. Over 85,000 graduates (compared with less than 32 thousand in 2003) received an undergraduate degree in 2012.

The employability of HEIs graduates in the Czech Republic continued to improve until 2008, when half a year to a year after graduation, only 2.3 percent of graduates were unemployed. The unemployment rate of HEIs graduates increased gradually, with a peak in 2011 (4.5 percent), then declined slightly to 4.2 percent in 2012 (Koucký & Zelenka, 2013).

Koucký and Zelenka (2013) observed an interesting phenomenon in the last couple of years, namely, better employability of graduates of private HEIs compared with graduates of public HEIs, In 2012, the unemployment rate of graduates of private HEIs was 3.3 percent, while by graduates from public HEIs, it was 4.5 percent. The better situation of graduates of private HEIs could be caused by two main reasons:

• Most private HEIs are based in Prague and graduates looking for a job have a wider range of relevant job opportunities than in other regions; and
• Private HEIs are more frequently visited by students who already have jobs and just supplement or enhance their qualifications.

Employability is derived from complex learning and goes beyond ‚core' and ‚key' skills (Yorke, 2006). Employability is regarded as a key performance indicator for Higher Education Institutions.

There is a gap between the professional structure of higher education programs and professional structure of jobs for HEI graduates in the labour marke for example roughly one in five undergraduates work outside her/his field of study four to five years after graduation.

While at the end of the 1990s, the number of graduates who had in terms of their job a lack of training average about 12% on average in the EV, and middle of the last decade, it was only eight percent. New jobs intended primarily for bachelors are still developing in the Czech Republic.

In 2010, the proportion of graduates who worked in a position where their level of education was equal to or higher than the level required was more than 14 percent. This phenomenon in the Czech Republic concerns bachelor graduates while abroad it is more typical for master graduates.

The industry, however, sometimes views graduates as "over qualified but under experienced" (Raybould & Wikins, 2005). The reason could be seen in curricula structure, when most of bachelor programs (especially those offered by private HEIs) include an industry placement, and, on the other hand, industry placements are rarely part of the curriculum of public HEIs. As a result, a significant gap exists between academic requirements and industry expectations.

Amendment of the Higher Education Act No. 159/2010 Coll.

brought a provision under which only a professor or associate professor who is an academic employee of the HEI could guarantee the quality and development of study program at HEIs. In connection with that, HEIs are preferably hiring full-time associated professors and professors.

The impact of demographic changes together with the provision mentioned led to an aging of teaching staff. According to OECD, the Czech Republic belongs to a group of ten OECD countries in which more than 40% of HEIs teachers are over 50 years old (OECD 2013).

As a result of the aging of the academic professionals and the lack of their young successors, only one public HEI admits students for doctoral studies in tourism and thus for educating the next generation of academic professionals, there is a shortage of academics at the public HEIs. To overcome this shortage, public HEIs are hiring part-time lecturers from private HEIs and/or colleagues in retirement which results in a further increase in the average age of academics.

The breadth of activities in the tourism industry enables to create specialized degree programs and courses. Eight of the twenty-six public and seven from forty-four private HEIs are offering tourism programs with different fields of study.
Currently, there are fourteen accredited study programs in the Czech Republic within which it is possible to gain accreditation for tourism fields of study, namely:
• Food, Hospitality and Tourism;
• Management of Tourism;
• Economics and Management;
• Management of Tourism;
• Logistics;
• Economic Policy and Administration;
• International Area Studies;
• International Economic Relations;
• Philology;
• Breeding;
• Physical Culture and Sport;
• Geological Engineering;
• Economy and Management in Transport and Communications;
• Hospitality Management.

Within these study programs, thirty-three accredited bachelor fields of study are offered by nine public and seven private HEIs; one field of study is offered in English namely: Hospitality; Hospitality Management with a certificate of Spa Services; Tourism Destinations Management; Management of Leisure Time; Tourism Management; Hospitality Management; Spa and Tourism; Hotel Management; Sport Management; Economics of Tourism; Tourism; Guiding in Tourism; Tourism Management; Tourism Management; ICT in Tourism; Management of Hotels, Catering Facilities and Spas; Tourism; Management of Transport Services; Tourism; Logistics in Tourism; Tourism Management; Tourism; Tourism and Regional Development; Recreology; Geoscience and Mountain Tourism; Aviation Transport Services in Tourism; Regional Development and Tourism; Tourism; Foreign Language for Tourism (Russian, Polish, German, French, English); Hospitality Management in English.

Master programs are offered by two public and three private HEIs in eight fields of study, and one is offered in English namely: Hotel and Spa Management; Tourism Destination Management; Tourism Management; Management of Aviation Business; Recreology; Tourism; Horse Breeding and Agro-tourism; Hospitality Management; Hospitality Management in English.

One private HEI offers modules taught in English. Basic courses focusing on tourism, without comprehensive study programs are offered by twenty HEIs. Doctoral studies focused on tourism are offered by one public HEI. Lifelong learning or re-training courses and seminars as part of the non-formal and informal learning are offered by three private and three public HEIs.

Private HEIs collaborate with industry in the field of student placements and in the field of student projects and thesis. The approach of public HEIs is somewhat different as they emphasize academic education, and usually their curricula do not include mandatory industry placement for students.

Results And Discussion

In order to define the future development and modernization needs in the Czech higher education in tourism, opinions of 100 representatives of HEIs, tourism destinations and businesses were collected. Given the qualitative nature of the information gathered and the size of the sample, the survey responses were not amenable to statistical analysis.

Visitors have become experienced and thus well know what service and/or experience they can expect. For the tourism industry, this means that is not sufficient anymore to offer an average product for the average visitor and treat him/her in an average manner. It is difficult to predict demand precisely. Unusual requests, or complaints require quick responses, and the work usually involves immediate contact with other employees and visitors. On the higher education level, it becomes more and the more important to teach students to think and act strategically and to develop service- and visitor orientation attitudes.

With regard to changes in visitor behaviour in tourism, the effects of globalization and the growing segmentation as a reflection of new trends and new attractions, appears to be a necessary, greatly enhancing the knowledge and skills of graduates in tourism especially in the field of applied marketing. Graduates must be able to implement independently and evaluate marketing research with the aim of closely monitoring the behaviour and needs of each visitor segment. The aim is to stimulate a well-structured offer for consumption even when the visitor is not able to articulate their needs. Tourism specialists should no longer offer its products passively and let the visitors choose what they prefer, but they should offer suitable products actively to complete the picture of the visitors´ needs.

Significant differentiation of the tourism segment requires a deeper knowledge of multicultural management. This need is compounded by the process of globalization and the cross-linking of the global tourism sector. However, only theoretical knowledge cannot guarantee the successful integration of graduates into practice. The theory of multicultural management must be extended with practical skills that graduates can acquire during their studies only through participation in training abroad or in companies with multicultural clientele and multicultural staff.

Internationalization of the HEIs´ curricula opens opportunities for students to gain experience that expand and deepens their understanding of other cultures. Students, moving for academic purposes, bring new opportunities and challenges for both the curricula development and teaching particularly in the field of intercultural communication, information and communication technologies and management skills.

In the area of communication skills it would be beneficial to place emphasis on the development of communication and foreign language skills, and the active use of new media, including social networks to support sales.

Social media has taken tourism and the travel-booking experiences to a new level. Technological development and globalization of media create new possibilities to destinations that need creative and powerful social media marketing strategies to reach potential visitors (Kiráľová & Pavlíček 2014). HEIs should react to this demand and develop social media skills of their students.

for the steadily growing demand for individual services, it is necessary to strengthen and develop the skills of graduates to modify the final product to meet the needs of visitors. This modification at the stage of the sale is overly expensive. It must be done already in the design phase and the creation of a product with a sufficient degree of freedom and space for individual modifications. Graduates must be able to design not only the traditional products, but modules from which the final product will be completed.

Trends of shorter and more frequent trips deepens the need to introduce systematic teaching of logistics as a necessary precondition for the desired increase in the cost-effectiveness of tourism services.

It is also necessary to strengthen, broaden and deepen the teaching of subjects focusing on theoretical and practical aspects of sustainability as the only guarantee of a permanent global competitiveness of the tourism sector.

In tourism management programmes, here is a need to strengthen the ability to use information systems for decision support in human resource management. Emphasis should be placed on the professional development of students and their ability to lead.

Graduates also require motivation, passion and initiative, interpersonal skills and social competence, team working, oral and written communication skills, flexibility and adaptability, productivity and self-management, problem solving, planning and organisation as specialized knowledge, skills and abilities.

Tourism courses cannot be developed by focusing on restricted courses deemed to be relevant to tourism anymore. Sociology and psychology courses also need to be included in tourism curricula. Sociology develops an understanding of society and the social forces that shape events and psychology help explain the behaviour of individuals, groups and organisations. Art and drama courses will be helpful for developing communication skills.

It is necessary to develop collaboration with industry, and especially for bachelor degree programs to incorporate mandatory industry placement for students. HEIs should invite tourism businesses and destinations to define themes for student projects and theses to enable students to work with real data and face real challenges.

Traditional education is based on reproduction of knowledge. Today´s students are experts in collecting information, and the lecturer loses their monopoly in this field. Seminars must be used in conjunction with other methods to support diverse opportunities for students and engage them to work on certain issues. Seminars enable students to develop confidence in their ability through reflecting upon theory and case studies and engaging in discussions with their peers.

Innovative technology-based teaching will help to reach more students both on campus and in the broader community through distance education are e-learning.

Curriculum design is a continuous process which enhances collaboration between HEIs, students, and the industry. To prepare competitive graduates for the labour market, HEIs must increase integration of industry partners into tourism programs and courses, monitor trends and developments in the tourism and labour market, integrate internships as tool of automatic adaptation, and a skills and competences requested by the industry to curricul, linking teaching and research, and focus on problem based teaching.

Conclusions

Globalization requires of tourism personnel with increased knowledge of information and communication technologies, health and wellness, sustainability, creation of added value for visitors, knowledge of eco-innovation, and multicultural differences.

The Czech Republic has a sophisticated and complex system of tourism higher education. Nevertheless there are a number of weaknesses, which could be eliminate by implementing some of the recommendations presented.

Market orientation and a service attitude were identified as being among the top recommendations for tourism curricula.

Internship projects, student placement, especially those with experience from abroad should become an integral part of tourism higher education.
Collaboration with industry could also increase students´ employability. Employability is regarded as a key performance indicator for HEIs as students want a high probability of employability and employers want employees with a high level of training.

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THE ULTIMATUM GAME AND THE NATURE OF THE DISTANCE OF THE ECONOMIC AGENTS: PHYSICAL DISTANCE AND PSYCHOLOGICAL DISTANCE

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Abstract:

The study includes results based on four versions of the ultimatum game, with parallel questions directed to money proposals and time proposals. The four versions were designed to manipulate the study main variable, the interpersonal distance of the economic agents, in two variants: (1) physical distance, and (2) psychological distance. The results revealed a stable pattern of proposals for the physical distance condition and the psychological distance condition. The tests on the object of the game revealed differences between the money format and the time format. The study conclusions and the stability found in the proposals independently of the physical and psychological distance can be applied to economic decisions in no-negotiation settings as online or website based e-business. Applications to the travel and tourism industry are online commerce and reservations as e-ticketing for airlines, hotel internet reservations, travel packages, tours, travel activities, events, travel insurance and other online business services.

Keywords: *Ultimatum game, physical distance, psychological distance, economic agents decision patterns, economic value limits and efficiency, online economy.*

Introduction

The modern paradigm in economic decision theory is that there is not one but several patterns of rationality and that the more probable or stable human decision patterns are not necessarily the patterns derived from the classic rational decision models. So, "the assumption of purely rational behavior is controversial" (Webster, 2013, p. 4).

The modern research approach studies the decision patterns that are considered anomalies in view of the classic rational decision models.

The classic contributions of Max Weber (1864-1920) with the substantive rationality versus formal rationality discussion and Karl William Kapp (1910-1976) with rational humanism, along with the concept of bounded rationality by Herbert Simon (1916-2001) and the most recent developments on decision under uncertainty by Daniel Kahneman and Amos Tversky (1937-1996) are all considered important to the understanding of the influence of the perception of value in decisions.

The Weber concepts of formal rationality and substantive rationality can be analyzed in parallel to the classic economic models of rationality and to the modern models of rationality in economic decisions. The substantive rationality concept – "Weber's notion of the real societal conditions that frequently underlie formal rationality" (Aron, 1998, in Olson, 2012, p. 217) – is a real world rationality while formal rationality is a laboratory rationality developed under requirements of a structured decision process and directed to the maximization of yields, wins or utility over economic exchanges.

The rational humanism of Kapp "expands the notion of substantive rationality by not limiting the concept to value" (Berger, 2008, in Olson, 2012, p. 217) and including direct and indirect losses resulting from unrestrained economic activity and the notion that these losses or costs could be minimized (Olson, 2012). Tainter (2006, 1996, 1995)

argues that in societies under limit conditions there is a loss of complexity, and limit conditions can be linked to restricted environments and sustainability risks. Unrestrained competition for resources can pose a risk to basic conditions of equilibrium in the environment, particularly in the case of restricted environments (Moreira, 2013a, 2013b, 2012a, 2012b, 2011a, 2011b, 2011c, 2011d, 2008).

The ultimatum game is an economic decision game in which two players are asked to decide once for the chance of winning a given sum of money. The proposer has to suggest a division of the sum that the responder will then agree to or not. If the responder agrees, the money is divided as proposed. If the responder rejects the offer, both players will receive zero. The rational decision pattern expected is the tendency to offer proposals as small as possible with a minimum of one. A proposal of zero would probably be refused even if in terms of outcomes the responder would be in the same situation either accepting or refusing a proposal of zero. On the side of the responder, the decision pattern expected is the acceptance of proposals as small as one as it is still a higher proposal than zero. Theoretically, it can be argued that a complete acceptance rational decision pattern is to be expected from the responder as a proposal of zero could be either accepted or rejected with the same overall economic outcome to the responder.

A possible explanation for the discrepancy between the rational and the real decision patterns could be that individuals do not analyze cognitive problems directly, what would involve high cognitive resources, and instead compare possible results in a more heuristic process, less demanding in terms of cognitive resources and effort but producing results more close to a random solution or to an efficient solution easily accepted by the other player.

Rationality, Competition and Evolution
The ultimatum game offers a model to study economic

transactions (Croson, 1996). The analysis of economic behavior was originally based on the understanding of human individual decisions as the decisions of rational economic agents (Alchian, 1950) even in evolutionary approaches. "Evolutionary models consider populations of boundedly rational agents who are repeatedly matched in pairs to play a defined stage game" (Vignolo, 2010, p. 397). Tested in simulation, the rational strategy is also prevalent. "Consider a population of n players. In every generation, several random pairs are formed. Suppose each player will be proposer on average r times and be responder the same number of times. The payoffs of all individuals are then summed up. For the next generation, individuals leave a number of offspring proportional to their total payoff. Offspring adopt the strategy of their parents, plus or minus some small random value. Thus, this system includes selection and mutation. As before, we can interpret these dynamics as denoting biological or cultural reproduction. We observe that the evolutionary dynamics lead to a state where all players adopt strategies that are close to the rational strategy": low offers and low demands (Nowak, Page and Sigmund, 2000, pp. 1773-1774). In game settings, the agents are by definition competitive (Tzafestas, 1995) and therefore the decision patterns would theoretically be closer to the economic models rationality. However, the research results show a different image, an image of irrational rationality. "The irrational human emphasis on a fair division suggests that players have preferences which do not depend solely on their own payoff, and that responders are ready to punish proposers offering only a small share by rejecting the deal" (Nowak, Page and Sigmund, 2000, p. 1773). A theoretical alternative to the competition tendency defended by the economic rational models is the concept of strong reciprocity, "a predisposition to cooperate with others and to punish those who violate the norms of cooperation" (Gintis, Bowles, Boyd and Fehr, 2003, p. 153). The concept of strong reciprocity explains the anomalies in the economic decision patterns found in the ultimatum game and in the limit the refusal to accept zero proposals. In terms of evolutionary dynamics, strong reciprocity is argued to be an evolutionary stable strategy (Gintis, Bowles, Boyd and Fehr, 2003). The evolutionary dynamics explanations, while following the Darwinian line of rational competition for survival, recognize the extensive evidence of cooperation in the natural world, both within the same species and between individuals of different species (Axelrod and Hamilton, 1981).

Ultimatum Game Research Results

Empirical research on the ultimatum game produced some consistent patterns that differ from the expected rational patterns. The research on ultimatum games shows a fair 'soft' tendency from the allocators, with a dominant pattern of 50-50 allocations, and an economic 'hard' tendency of the recipients to refuse low offers (Thaler, 1988). The main results presented by Croson (1996) were the following: (1) the variation of the information available to the responder influenced the proposals and the demands; (2) when the proposals were made in the dollar format the absence of information to the responder produced a decline in the offers; (3) for the percentage format the absence of information resulted in demands and rejection significantly higher, even

for non-significant differences in the proposals; (4) for the condition with information, higher demands were found in the percentage format than in the dollar format. Studying the ultimatum game Cappelletti, Guth and Ploner (2011) found that under time pressure the allocators' proposals were higher. The time pressure could therefore be understood as a cooperation influence, as higher offers are less profitable and indicate a lower competition level. List (2007) reports results in line with previous research with the dominant proposal pattern being a non-zero amount and the proposal mean close to 25 percent of the available proposal range. Recurrent empirical tests of the ultimatum game revealed a high modal offer around 50 percent of the total, with frequent rejections of proposals below 30 percent of the total (Camerer and Thaler, 1995, Guth and Tietz, 1990, Roth, Prasnikar, Okumo-Fujiwara and Zamir, 1991, all referred by Gintis, Bowles, Boyd and Fehr, 2003). Henrich et al. (2005) in a cross-cultural study of 15 tribal societies found that there was a rejection tendency for offers lower than 30 percent of the total and that even some offers below 40 percent were rejected. The meta-analysis of ultimatum game studies by Oosterbeck, Sloof and Van de Kuilen (2004) shows a proposal average of 40 percent of the total and an average rejection ratio of 16 percent of the total number of proposals. The cross-cultural comparison of the studies revealed a stable behavior pattern for the proposers across geographic regions. The behavior of the responders was different in the results from different geographic locations but the researchers were unable to isolate and identify specific variables that could explain the variation.

Physical Distance and Psychological Distance

The departure point of this line of research is the fact that complete anonymity is rare in economic environments. The study focuses on the importance of physical distance and psychological distance in economic decisions. Some supporting references, theoretical arguments and relevant empirical results from previous studies are presented next.

In earlier studies we discussed the influence of distance perception (Moreira, 2009a), economic value perception (Moreira, 2009b) and risk perception (Moreira, 2007) in human decision and behavior. Nowak (2000) argues that the influence of additional information about the previous behavior of the other player leads to a behavior evolution trend towards less rational and less competitive dominant patterns. Information about the other player behavior reduces the psychological distance between the players. Andreoni, Castillo and Petrie (2003) found that there was a divided decision orientation, with half of the subjects oriented to the rational maximization of the outcomes and the other half oriented to reciprocity and a lesser competitive behavior. Another finding was that the more strict responders, the subjects more willing to reject unfair offers, would also present the more generous proposals while in the opposite player position. The study also suggests that the information in the environment influences the dominant decision patterns. Charness and Gneezy (2008) refer that in specific economic environments as in e-commerce the information clues are reduced. The e-commerce environment is however not anonymous, and that introduces some relevant questions

leading to the research on the influence of the physical distance and of the psychological distance on economic decisions. The initial question of Charness and Gneezy (2008) was how people respond to different degrees of anonymity and social distance. The results showed a significantly larger allocation in the dictator game but no significant effect on the ultimatum game proposals when the social distance was reduced, including minimal information about the other player. In a previous study, Charness, Haruvy and Sonsino (2007), compared real environment versus virtual environment using an Internet experiment and found significantly less influence of social preferences as the social distance increases. Hoffman, McCabe, Shachat and Smith (1994) found that the degree of anonymity increased the social distance and induced behavioral changes. Kim, Li and Zhang (2008) refer previous research by Lieberman, Sagristano and Trope (2002) and Trope and Lieberman (2003) suggesting that decisions are influenced by psychological distance, through both direct and indirect effects in decision and behavior (Tsai and Thomas, 2009, Raghubir and Krishna, 1996, Trope, Liberman and Wakslak, 2007). Kim, Li and Zhang (2008) found in their study that the temporal and social dimensions of psychological distance influence the perceived distance and consequently the individual decisions and behaviors. The psychological distance dimensions of social distance and temporal distance were also found to affect decisions by Olivola and Liu (2009) and Kennedy, Olivola and Pronin (2009). The influence of temporal distance on decisions and the importance of the psychological dimensions of time are specifically discussed by Mogilner (2009). Giacomantonio et al. (2010) found that pro-self individuals were more competitive and pro-social individuals more cooperative under a high construal level corresponding to a high psychological distance when compared to a low construal level corresponding to a low psychological distance. Spence, Poortinga and Pidgeon (2012) found a positive correlation between four dimensions of psychological distance (geographical, social, temporal, uncertainty) and the communalities between the dimensions supported the reliability of the psychological distance scale. Webster (2013) argues that offers become higher when the proposer uncertainty about the responder reservation is also higher. Thomas and Tsai (2012) induced psychological distance by using physical distance and the results identified physical distance as an antecedent of psychological distance. In recent research Kim, Schall, Yi and White (2013) found that in high psychological distance conditions subjects were more competitive and closer to the rational pattern of decision than in low psychological distance conditions.

Study Objective and Research Hypothesis

The ultimatum game offers a laboratory simulation of economic exchanges that allows the investigation of the transactions end results.

The objective of the study was to investigate the influence of the physical distance and of the psychological distance in the economic decisions of individuals for economic transactions in no-negotiation environments.

The departing research hypothesis was the following: In conditions of higher physical and psychological distance between the economic agents the value of the economic proposals decreases and the decision tendency inflects towards the rational economic decision pattern.

Methods

The sample consisted of 143 college students from management majors, with a gender distribution of 66 percent female and 34 percent male individuals. The age mean was 19 years old with a variation of ±1 year considering the standard deviation.

The following is a copy of the questionnaire with the standard instructions and the four versions variations:

Instructions

Imagine you are about to play a game with another person you don't know.

Version 1
The other person is in another room and will be randomly chosen by a computer. The two persons will remain anonymous, meaning that the players will never know who they played the game with.

Version 2
The other person is in another room and will be randomly chosen by a computer. After the game is over, there is a possibility that you and the other player will be introduced to each other but nothing will be revealed about how each one played the game.

Version 3
The other person is in another city and will be randomly chosen by a computer. The two persons will remain anonymous, meaning that the players will never know who they played the game with.

Version 4
The other person is in another city and will be randomly chosen by a computer.

After the game is over, there is a possibility that you and the other player will be introduced to each other via the Internet but nothing will be revealed about how each one played the game.

The two players are defined as Player 1 and Player 2.
According to the game rules, the situation is the following:

You will be Player 1 and to the purpose of the game you are given $100. You have to decide how to divide the $100 between yourself and Player 2. Player 2 is in the same situation and will also be asked for a proposal to divide $100. If Player 1 and Player 2 proposals are equal, the money will be divided as proposed.

If the proposals are different both players will receive nothing. You can make a proposal between $0 and $100.

Question 1
How much will you offer Player 2?

Question 2
How much do you think Player 2 is going to offer you?

Question 3
If instead of $100 you have 100 hours of work time off, how many hours will you offer Player 2?

Question 4
How many work time off hours do you think Player 2 is going to offer you?

The research design compares the influence of the physical distance towards the other player (low physical distance versus high physical distance) and the psychological distance based on the possibility of future contact (high psychological distance versus low psychological distance). The first variable includes an instruction related to a random selection of the other player by a computer lowering the perceived possibilities of playing the game with a person the respondent is previously linked to. The second variable includes an instruction indicating that even if the players meet nothing will be revealed about how each one played the game, preserving the decision freedom of the respondent.

The first two versions of the questionnaire (version 1 and version 2) are variations for the variable psychological distance (high psychological distance versus low psychological distance) with the variable physical distance remaining constant (low physical distance).

The last two versions of the questionnaire (version 3 and version 4) are variations for the variable psychological distance (high psychological distance versus low psychological distance) with the variable physical distance remaining constant (high physical distance).

Results
The means and standard deviations for the conditions physical distance (PHY) and psychological distance (PSY) for all variables (Q) and all questionnaire versions (V) are presented in Table I. The means for the different versions are presented in the graph in Figure 1, and the means comparison in Table IV.

Table I. Means and standard deviations for the conditions physical distance (PHY) and psychological distance (PSY) for all variables (Q) and all questionnaire versions (V)

		Mean	SD
V1 **Low PHY Distance** **High PSY Distance**	Q1	62	22
	Q2	59	22
	Q3	56	27
	Q4	54	30
V2 **Low PHY Distance** **Low PSY Distance**	Q1	54	19
	Q2	53	21
	Q3	45	29
	Q4	46	27

V3 **High PHY Distance** **High PSY Distance**	Q1	57	26
	Q2	50	21
	Q3	35	24
	Q4	30	24
V4 **High PHY Distance** **Low PSY Distance**	Q1	56	24
	Q2	49	29
	Q3	43	21
	Q4	42	26

The results for the original ultimatum game question (Q1) revealed significant differences for the psychological distance only when the physical distance was low and were not statistically significant for the remaining conditions (Table II). However, the mean of the offer to player 2 was higher in the anonymous or high psychological distance condition, when what was expected (under the assumption that as the physical distance and the psychological distance increase the ultimatum game proposals will tend to decrease) was a lower offer mean for the high psychological distance and the high physical distance conditions.

Table II. Effect of the psychological distance (PSY) and of the physical distance (PHY) on the original ultimatum game question (Q1)

	V2 Control		F	p
PSY Distance	**PHY Low**	V1 vs. V2	4.49	.05
	PHY High	V3 vs. V4	.42	n.s.
PHY Distance	**PSY High**	V1 vs. V3	.01	n.s.
	PSY Low	V2 vs. V4	1.45	n.s.

The game object revealed significant differences between player 1 (P1) money and time offers (F=1.8, p<.01) and stable means indicating identical expectations for the player 2 (P2) proposals independently of the object of the game. The player position produced significant differences for money (M) proposals (F=8.4, p<.01) and time (T) proposals (F=13.5, p<.01). In addition to the differences found in both game objects, the high F values indicate a strong influence of the player position in the ultimatum game proposals (Table III).

	V2 Control		F	p
Game object	**P1**	Q1 vs. Q3	1.8	.01
	P2	Q2 vs. Q4	1.4	n.s.
Player position	**M**	Q1 vs. Q2	8.4	.01
	T	Q3 vs. Q4	13.5	.01

Table III. Effect of the game object (M,T) and of the player position (P1,P2) on the variable means (Q) for all questionnaire versions

Source: www.tradingeconomics.com

The questionnaire version main effect is presented in Table IV and was only confirmed for Q3 (F=3.95, p<.01) and Q4 (F=4.39, p<.01). Version 3 (V3) is the version in which both the psychological distance (PSY) and the physical distance (PHY) were high and although Q1 and Q2 (money proposals) means remained stable, Q3 and Q4 (time proposals) were abnormally low when compared with the other results (Table I, Figure 1). Although not confirmed in this study the results of further research could support the hypothesis that as the psychological distance and the physical distance expand the values offered as player 1, or expected as player 2, will decline.

The factor analysis revealed that the object of the game accounted for 85 percent of the explained variance, leaving only 15 percent of the variance to other variables (Table V).

Table IV. ANOVA results for the questionnaire versions (V) main effect on the variables means (Q)

	Version main effect	F	p
Q1	V1 vs. V2 vs. V3 vs. V4	.74	n.s.
Q2	V1 vs. V2 vs. V3 vs. V4	1.41	n.s.
Q3	V1 vs. V2 vs. V3 vs. V4	3.95	.01
Q4	V1 vs. V2 vs. V3 vs. V4	4.39	.01

Figure 1. Variables means (Q) for the different questionnaire versions (V)
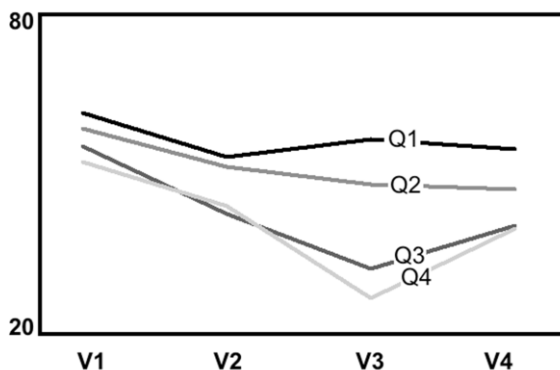
Table V. Factor analysis varimax normalized

	Eigenvalue	Explained variance (%)
Factor 1	2.09	52
Factor 2	1.34	33

Table VI. Factor loading varimax rotated

	Factor 1 Loading	Factor 2 Loading
Q1	.09	.89
Q2	.09	.89
Q3	.94	.11
Q4	.94	.08

The factor loadings grouped Q1 and Q2 with Factor 2 and Q3 and Q4 with Factor 1, suggesting Factor 1 is associated to time as the object of the game and Factor 2 is associated to money as the object of the game (Table VI).

Table VII. Pearson R parametric correlation between the variables (Q) for the game object (M,T) and the player position (P1,P2)

			R	t	p
Game object	**M**	Q1 Q2	.63	9.74	.01
	T	Q3 Q4	.79	15.65	.01
Player position	**P1**	Q1 Q3	.24	2.94	.01
	P2	Q2 Q4	.21	2.62	.01

Table VIII. Spearman Rho non-parametric correlation between the variables (Q) for the game object (M,T) and the player position (P1,P2)

			Rho	t	p
Game object	**M**	Q1 Q2	.60	8.93	.01
	T	Q3 Q4	.73	12.94	.01
Player position	**P1**	Q1 Q3	.20	2.50	.05
	P2	Q2 Q4	.19	2.33	.05

Finally, the correlations between the variables (Q) within the two conditions game object and player position were all statistically significant for the parametric and non-parametric correlations, with higher values for the game object than for the player position (Table VII and Table VIII), in line with the factor loadings previously analyzed. The results for the Pearson R and the Spearman Rho are similar and the Spearman correlations are higher than the Pearson correlations, two arguments pointing to the linear relation of the variables.

Conclusion

The results revealed a stable pattern of proposals for the physical distance condition and the psychological distance condition.

After an isolated analysis of the two object formats of the ultimatum game we found significant correlations between the questions related to money proposals and the questions related to time proposals.

The standard experimental environment in economic decision research is based on anonymity conditions so the conclusions reach external validity and can be transposed to real or virtual economic environments.

As a final note, absolute anonymity in e-commerce is rare and would be expected to produce lower sales numbers. At least

a nominal degree of knowledge of the other economic agent is necessary to establish a minimal level of trust, a primal condition for business in all economic environments.

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RISK MANAGEMENT BY SCALING FOR PROJECT PHASES OF ELECTRICAL TRANSMISSION LINE INSTALLATION PROJECTS

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Abstract:

The study analyzes the risk management process of electrical transmission line installation projects. Risk mapping of each project is suggested for better risk management. The methodology suggested is based on the analysis of four risk factors in the project and division of project into six phases. Inter relationship between these risks is studied with the help of Risk Numerical Matrix (RNM). Then a survey based analysis is done in which scales obtained from questionnaire are converted into probability by using Juster's scale and translated probability. The risk impact values are calculated for different risk factors and phases of project. Risk Numerical Matrix (RNM) method proves that Technical risk factors have large effect on environmental risk factors so mitigation plans are to be made accordingly. On the basis of this questionnaire based study the technical risk factors and Survey and background analysis phase comes out to be most important for deciding the risk mitigation plan for such projects.

Keywords: *Project risk management, Electrical transmission line installation, Risk Numerical Matrix (RNM), Juster's scale, Risk interrelation, Risk mitigation.*

Introduction

Project management for any electrical transmission line installation project is very important. The reason for such an importance is the level at which the resources are at stake for such project. In a country like India where installed capacity is itself at around 2,50,000 Mega-watts and it is planned to rise exponentially in future so the relevance of project management of such projects increases many folds. Project risk management is an important part of project management in any electrical transmission line installation project and the level of risks in such projects is always high. The professional bodies involved in electrical transmission line installation projects always pay great attention to the risks involved in commissioning of such projects. In general the risk management plans consists of risk mitigation plans but for risk mitigation planning risk assessment is also needed at the first place. In this study the risk assessment is done for different phases of electrical transmission line installation project on the basis of scale developed. Electrical transmission line installation projects are mainly civil work based project in which the overall project is always under one sort of risk or another.

The current study deals with the analysis of risk in electrical transmission line installation projects by measuring or assessing the risks on the basis of fixed scale developed, the paper is divided into two sections. The first section deals with the risk assessment or collection of influence factors which determine the value of risk for any electrical transmission line installation project. The second part of the study deals with division of project in phases and calculating the cumulative risk for each phase in particular. The analysis results in indicating those areas or phases of projects which are more risky and needs special attention while implementing on site. The study ventures into a unique methodology of development of "risk scales" which is derived out of each project itself and hence it is in particularly tailor made for that project only and depicts the risk scenario for that phase of project in a unique fashion. The risk management process for electrical transmission line installation project is studied by authors

like Wyk et al. (2007); Tummala and Burchett et al. (1999) but risk mapping is not done on the basis of phases in that particular project. Many studies are present which stresses on the need for uplift of risk management process in electrical transmission line installation project. This study is an effort in this direction. In future more and more such projects are bound to be sanctioned by the government of India and hence this process will find applicability in most of such projects. As a matter of fact the whole of the project is needed to be dealt on the basis of a risk profiling of each phase present in electrical transmission line installation projects.

Electrical transmission line installation is one such activity in which we have multiple risk related aspects which are dealt in detail in this study, although each such project is technically very sensitive and elaborative but the division in phases can be applied uniformly to most related projects, this means that may be the transmission line can be a short transmission line ranging from a few kilometers or a very long type transmission line extending to hundreds of kilometers but the processes marked in this study are common for most of the electrical transmission line installation projects. This feature has increased the applicability of this study. Although technical details may vary to a large extent so the risk mitigation plans can have a large difference in their applicability in different projects but the level of risk for each phase can be confined to a particular range and hence this study is a step in the direction to bring standardization in risk analysis process in electrical transmission line installation projects. This technique of dividing the project in phases and then calculating the risk impact at each phase individually increases the overall accuracy in risk management by giving a portfolio effect in risk assessment and the division of risks into phases makes the cumulative risk count of the whole project more accurate. Moreover the chances of ignoring of certain risks in the whole project becomes very less since each project in this study is taken out as a separate entity so ignoring of certain risk factors in overall project is not possible when separate risk plans are devised out for different project phases. Overall study can be seen as a process of dividing the

project according to critical activity and then risk assessment is done for each activity unlike the present methodologies where single project is dealt with common risk assessment process as a whole. It is shown that this process can increase accuracy and allows project managers to have a better and customized risk mitigation plan for each phase of electrical transmission line installation project.

Literature Review

Project risk management is studied by many authors like Dey (2001); Dey (2010); Thevendran and Mawdesley (2004); Tummala and Burchett (1999) and Wyk et al. (2007), their viewpoints may differ but the core ideology is somewhat similar like in most of the studies the whole process of project risk management is divided into phases like risk identification, risk assessment and risk mitigation. Many studies have suggested methods which include collection of risk factors and then risk impact is calculated from these factors by assessing them through different techniques. The risk management process is mainly based on the collection of risk factors and then these risk factors are treated with different procedures by different authors, like Dikmen et al. (2008) has given a learning based approach in which a database is created through which the risk related information are updated and are used for one project after another. The application of this approach has been proven in this study by applying it to a real time construction project.

Project risk management differs according to the type of project and industry involved. The electrical power transmission industry is a very unique one in many aspects. It has been found that dedicated studies are present for this sector, the main works in this domain are by authors like Wyk et al. (2007) and Tummala and Burchett (1999), in their studies they have stressed on the risk management process of electrical projects, although the studies concentrate on different aspects of operation and installation in electrical transmission line but the process is dealt with insight in both the studies. These studies prove the effect of risk on electrical transmission line projects. The effect is seen with the help of graphs that shows risk has direct effect on the project cost and even after the installation during the operation of a transmission line risks persists and have a considerable effect on the performance. Both of these studies implicate that project risk management is an essential component for electrical transmission line installation projects. The risk management process as a whole is very well defined and analyzed by Tummala and Burchett (1999) in particular with respect to risk management phases like risk identification, assessment and monitoring, the same classification is also given for other types of projects by authors like Dey (2001), Dey (2010) and Thevendran and Mawdesley (2004) and hence that is the reason why it can be conferred that risk management process can be a collection of certain common phases like risk identification, risk assessment and finally the risk mitigation. In our study the same methodology is being followed and risk identification is being done in order to achieve the risk assessment.

The risk identification is another aspect in which the studies

are present in abundance over a prolonged period of time. Authors have given many aspects of risks and named them differently. Actually the type of risk depends on the type of project being undertaken but in our literature survey many authors are found to be indicating about certain common type of risks. These are the risk categories which are predominant and common for various types of project.

Table I: Risk factor identification by authors

AUTHORS /RISK FACTORS	Erickson et al. (2006)	Chen et al. (2011)	Iyer et al. (2010)	Regos (2012)	Aloini et al. (2012)	Wyk et al. (2007)	Thevendran (2004)	Fang et al. (2012)	Fan et al (2008)	Baccarini et al. (2001)	Dey (2001)	Castro et al. (1995)	Wu et al. (2008)	Dikmen et al. (2008)
Technical Risk	S	S	S	N	N	S	N	S	S	S	S	S	S	S
Financial Risk	S	S	S	N	N	N	S	S	S	S	S	N	N	S
Environmental Risk	S	S	S	S	N	N	S	N	S	S	S	N	S	S
Human Risk	S	N	S	S	N	N	S	N	N	S	S	N	S	N
S - Supported and N - Not supported														

Risk factor collection

Authors like Erickson et al. (2006); Chen et al. (2011); Iyer et al. (2010); Wyk et al. (2007); Fang et al. (2012); Fan et al (2008); Baccarini et al. (2001); Dey (2001); Castro et al. (1995); Wu et al. (2008) and Dikmen et al. (2008) have shown considerable importance to the technical factors for assessing the risk level for any project. Dey (2010); Chen et al. (2011) and Thevendran and Mawdesley (2004) have suggested generalized factors related to risk which are technical in nature but Dey (2001) has named specific categories of technical risks which are related to equipment, material and engineering related problems. The second most descriptive risk factor present in various literature sources is related to environmental factors and Fan et al. (2008); Thevendran and Mawdesley (2004); Dey (2001) and Chen et al. (2011) all have shown importance of this factor in project risk management. In our study all such factors under the cap of acts of God or environmental risk factors are given considerable importance and included as one of the primary factors in risk management. Chen et al. (2011) has given a dedicated study on environmental risk only and the case taken in his study is also of a construction project and since electrical transmission line installation project is pre dominantly a construction based project full of civil based requirement and processes, this study by Chen et al. (2011) can be very useful and the amount of emphasis given by the author for environmental risk factor proves that such risk factors are mandatory to be included in any construction based project and hence due to support of many authors environmental risk factors is selected as a major risk factor in our study. Human risk factors are also supported by many authors like Erickson et al. (2006); Iyer et al. (2010); Regos (2012); Thevendran and Mawdesley (2004); Baccarini et al. (2001) and Dey (2001). This human risk is usually given the name of clearance related risk or other safety related risks. It can be derived from studies of Dey (2001) and Wu et al. (2008) that electrical power project managers are especially

cautious of such risks. Hence in our study human risk related factors are also included. Another Important category is that of financial risk factors since transmission line installation projects involves a very huge amount of capital investment and organizations from all over the world are jointly handling capital matters in these projects. Authors like Erickson et al. (2006); Chen et al. (2011); Iyer et al. (2010); Regos (2012); Fan et al (2008); Baccarini et al. (2001) and Dey (2001) have all given importance to financial factors and since it is included in all such project risk management studies, it is found that electrical transmission line installation projects need financial risk to be included and the same is done in our study. Table I shows the point of view of authors on these risks collectively. The main risk categories which are formed on the basis of literature survey are:

- Technical risk factors (Rt)
- Environmental risk factors (Re)
- Human safety related risk factors (Rh)
- Financial risk factors (Rf)

Hence a categorization of common risk factors is done and in our study these factors are now being used in different phases of projects to analyze the risk level at each phase of the project.

Phases present in electrical transmission line installation projects
Now the electrical transmission line installation projects are being divided into certain pre fixed stages of work, many authors have given view points on phases of electrical transmission line installation projects. Studies from authors like Castro (1995); Kandaris et al. (1993); Johnson (2006); Gill (2006); Mooney et al. (2010) and Zhu and Han (2011) have accounted for different sections in a transmission line installation process. The complete processes of transmission line in this study are divided into six sub-phases. These phases are the areas of a transmission line installation process in which the studies have been done already. The electrical transmission line installation process is actually the sum of these phases and it might happen that the technical specifications in each phase may vary along with the type of electrical transmission line installation project but the phases are same for almost every electrical transmission line installation project. That is the reason why such a division is being used to analyze the general risk management process in electrical transmission line installation project. The six main divisions or phases in any electrical transmission line installation project are:

- Survey and background analysis (P1)
- Tower base construction process (P2)
- Construction of lattice structure based tower (P3)
- Hardware installation like Ground wires, electrodes and conductor erection (P4)
- Stringing and Sagging in conductor (P5)
- Installation of Vibration Damper, Spacer etc instruments (P6)

The above mentioned phases are the divisions on which our study is based upon. The basis of selecting these factors is given in the discussion below.

- **Survey and background analysis** - The starting of any electrical transmission line installation project is always by collecting the data charts regarding the soil type and other technical and legal aspects that are necessary to be decided upon before the actual work begins. This phase marks the analysis of soil survey, socio economic analysis, government laws and any regional problem that might occur in projects life time and this phase also confirms the feasibility of that project in a particular region. Kandaris et al. (1993) and Johnson (2006) have given insight in this phase where the rock drilling etc processes are explained. Inaccurate tower blue prints, Faulty Backfilling Unchecked soil parameters and Wood matting and Faulty right of way are the main points of risk occurrence that are under consideration in this phase.

- **Tower base construction process** – The work on tower construction starts even before the tower's lattice structure arrives on site. Authors like Johnson (2006); Gill (2006); Mooney et al. (2010) and Zhu and Han (2011) have stressed on the need for sticking to the IEEE guidelines for successful implementation of this phase. This phase is expanded over a large span of geographical area and needs special stress on risk management domain and technical expertise is very much necessary in this phase for risk mitigation.

- **Construction of lattice structure based tower** – This phase marks a huge amount of man power and technical expertise at stake. A wide range of risks like faulty tower installation blue prints, improper lattice structures etc are present in this phase. Gill (2006), Mooney et al. (2010) and Johnson (2006) have stressed on this phase of project and accounted for risks in this phase. This phase of any electrical transmission line installation project is marked with incidents of faults like bends, unbalanced shear forces etc. The life span of such a project is very large and hence structure based risks are very important for its proper functioning over the life span and hence it is needed to be included in the risk management process.

- Hardware installation like ground wires, electrodes and conductor erection – This phase of project deals in particularly with the installations on the tower, after the towers are erected on site the conductors of various types are to be installed and since the conductors carry a huge amount of Ampere – Volts and the span of line may be for several hundred kilometers, this phase is in particular vulnerable for risks. Authors like Imamovic et al. (2010); Carrington (1998) and Gill (2006) have stressed on the risks like grounding current, slag, crossing rivers, local permits and guard structuring as the major risk sources in this phase and hence in our study it is taken as a separate phase for risk analysis.

- Stringing and Sagging in conductor – Authors like Kandaris et al. (1993); Johnson (2006) and Carrington (1998) have also stressed on the problems related to stringing and sagging in a conductor which includes improper tensioning, crossings and other bull wheel related problems. This phase is considered separately for the employment of risk mitigation technique in our study.

- Installation of Vibration Damper, Spacer etc instruments - A wide range of associated instruments are needed to be installed in the transmission line after conductor erection. These installations require special skills and cost of these installations is also very high and is a critical path activity, since these instruments cannot be installed before the conductor erection phase and hence they form a very important and risky set of activities. Authors like Mooney et al. (2010); Gill (2006) and Zhu and Han (2011) have given stress on various such processes and showed that severe risk exists in such an installations. Hence this phase is hence taken into consideration in ours study for risk analysis.

On the basis of the view point of different authors, it is clear that any electrical transmission line installation project consists of some common processes or phases. In our study it has been found that different authors over the span of time have agreed upon six different phases mentioned above. Now different electrical transmission line installation projects have different risk factors but once again going through literature survey it is derived that mainly four types of risk factors that are Technical risk factors, Environmental risk factors, Human safety related risk factors and Financial risk factors are the main risk factors which are common for any electrical transmission line installation project. In the next phase of the study each of these project phases are scanned for these risks, that is in order to achieve the accurate risk mapping for each phase the risk factors are analyzed for impact in the different phases present in a single electrical transmission line installation project. Figure 1 explains the ideology with the help of a process based figure. Figure 1 enlists how different phases are analyzed for different types of risks simultaneously and the final risk value for each phase can be determined as the sum of all risk factors for a particular risk phase. Figure 1 explains the methodology applied in our study in which different types of risk factors like Technical risk factors, Environmental risk factors, Human safety related risk factors and Financial risk factors are judged on the basis of their impact on each project phase. On combining the risk level for each phase, the risk for complete project can be expressed and analyzed. The total risk for entire project is the sum of all four risk factors in all the six phases of project.

Steps followed for risk analysis
In order to rate the project risk, project is divided into seven phases and in each of the four selected risk types are assessed in each phase of the project. The following methodology is used for risk mapping :
- Collecting of risk factors and division of project into phases.
- Observing the risk scale value for each type of risk with the help of a questionnaire for each project's phase separately.
- Convert this scale into probability of risk occurrence in that phase of the project.
- Calculate the cumulative risk score for each phase of the project.
- Interrelationship among the risk factors is studied with the help of Risk Numerical matrix.
- The interrelationship between each risk is taken into account which affects the risk mitigation plans based on final risk impact value for each risk in all the six selected phases of the project.
- Finally the explicit and collective risk impact is analyzed with the help of risk maps.
Figure 1 given below shows the phase wise explicit risk analysis procedure more clearly and explains how step I is carried

out with the help of literature survey and expert discussion. Each of these phases is repeatedly written again and again in Figure 1 to clearly express that each risk type is to be analyzed for each individual risk separately.

Explanation of the steps for risk analysis
- Expert opinion in the form of questionnaire is collected and Risk Numerical matrix is being made by these responses and only those professionals who are having a relevant work experience of more than three years are selected for filling questionnaire in survey. In the case of differences in the opinion brain storming sessions are being done with the experts to achieve a uniform rating and the accuracy of data is hence maintained. Risk scale based rating for both risk occurrences are analyzed with the help of values decided by these questionnaires. The questionnaire is so designed that experts are required to fill risk occurrence frequency on an 11 point scale and same scale is used for judging intensity of the risks involved in each phase.
- The result achieved from the questionnaire on risk occurrence for each type of risk in all the specific phases of project are shown below in table IV and V.
- The conversion of scale into probability is shown in table IV.

Calculation of the cumulative risk score for each phase of the project is done by calculating the average value of each risk's translational probability of each different phase. Like in the case of first phase that is Survey and background analysis (P1) the mean reading of all the four technical, environmental, financial and human risks is calculated. Table III enlists these values for each of the six phases.

Figure 1: Risk Mapping Procedure

- Interrelationship among the risk factors is studied with the help of Risk Numerical Matrix (RNM). Figure 2 given below explains how the inter relation among the risk factors is studied by RNM. This procedure requires special row and column analysis. In the study done by Fang and Marle (2012) a similar procedure is done for risk factor analysis which is modulated on the same guidelines for electrical transmission line installation projects in this study. In our study all four type of risks that is technical, environmental, financial and human are judged for their effect on each other. The major steps undertaken for calculating risk interrelation effect on each other are given below in bullets.

- Calculate a 4 X 4 effect matrix which indicates the effect of one risk on another. If the risk under consideration (written in column) causes or enhances the risk written in row then 1 is written in the respective cell and in this way whole matrix is completed for each risk.

- Now one by one each risk is analyzed by AHP (analytical Hierarchy Process) where the calculation of Eigen vectors for each row and column matrix is done separately for each risk one by one. Row and column matrix are prepared by picking the respective row and column of a risk under consideration from effect matrix. For example in figure 2 given below Technical risk is selected for consideration. Row and column under the heading T (stands for technical risk) are selected. In these row and column matrix wherever the corresponding entry is one is noted and judged according to a criteria. The criteria is that the experts judged them on the basis of a comparison that which risk is more important in causing that particular risk under consideration to occur. It can be more clearly understood from the example given in figure 2, row and column risk matrix are calculated for technical risk. Then AHP is applied for calculating the effect of other risks on occurring of technical risk.

Figure 2: Showing the row and column operation for interrelation of technical risk

Row and column matrix for technical risk

- Then geometric mean of Eigen vectors is taken for each element of row and column matrix and it finally gives the effect of other risks on that particular risk. The resultant matrix so formed is called Risk Numerical matrix (RNM).

This geometric mean of Eigen vectors is shown in figure 3, which shows that environmental risks can cause technical risks since the value for geometric mean is .565 in the Risk Numerical matrix for technical risk against environmental risk column.

Figure 3: Showing the geometric mean method for calculation of T RNM

- Similarly the interrelationship between all the other risks is calculated (shown in table I) and is helpful in deciding the risk mitigation plan for each risk in all the seven selected phases of the project. Table I given below shows that the value of T RNM and E RNM are higher for each other and hence shows the interdependence among these two risks. In other words technical risk and environmental risks are highly proportional to each other. Similarly financial risk and human safety related risks shows high interrelation, which shows that in order to prepare the risk mitigation plan for these risks it should be noted that environmental risks increases the technical risk and vise-versa and similarly financial risks are dependent on human safety risks and human safety risk increases when financial risk is more.

Table II: Showing the interrelationship between risks

Final Risk Numerical Matrix			
	T	**E**	**F**	**H**
T RNM	0	0.565	0	0
E RNM	0.819	0	0	0
F RNM	0	0	0	0.415
H RNM	0	0	0.4014	0

- Finally the explicit and collective risk impact is analyzed with respect to each phase and each risk factor. Table IV shows the mean value of the score given by the experts to each risk category in each of the project phase. This scale is then expressed in terms of probability which tells the probability of occurrence of each risk in each phase of the project. The mean value of all the phases for a single risk type is also calculated which signifies the probability of occurrence of each risk type in complete project and due to the cumulative effect in combining the risk values the accuracy of such a measurement is increased. On the other hand each phase is also analyzed with respect to the sum of risks that are to be occurred in that phase by averaging the value of all the risk types for a single phase. In other words it can be said that (as shown in Table IV) the probability of occurrence of all the risks in a single phase and the probability of occurrence of specific risk type in the specific project phases both are calculated.

Along with that the probability of occurrence of specific risks in overall project is also calculated. This type of analysis helps in mapping the risk level at each phase and risk mitigation plans for each specific risk in each specific phase of the project can also be curved out.

Conversion of scale used in questionnaire to probability

In order to convert the scale based measurement into probability different techniques are present, like Snell (1964) has given a probability formula for a continuous scale of measurement with scales consisting of various categories, but the formula present in this method has logistic continuous distribution function (Pi) for an interval Xj which is given in equation 1 as

$$P_i = 1/(1+e^{-(a_i + x_j)}) \text{ --------------------------------------- (Eq 1)}$$

Where – ai is the mean of the readings. This function is applicable when the value of interval Xj extends from positive infinity to negative infinity, which is not possible in our case since the range is limited and defined in our case. Hence a more practical approach is advised for scale to probability conversion. Another author Juster (1966) has given a method for scale to probability conversion. In this method an 11 point scale is advised since the scale is directly related to the probability. In the case of likert scale lower scale values like 1 and 2 are sometimes assigned zero probability which is not correct in practical situations. This ambiguity is removed in an 11 point scale. The Juster's scale is given in Table III.

Table III: Juster's 11-Point Probability Scale
10 - Certain, Practically Certain (0.99)
9 - Almost Sure (0.9)
8 - Very Probable (0.8)
7 - Probable (0.7)
6 - Good Possibility (0.6)
5 - Fairly Good Possibility (0.5)
4 - Fair Possibility (0.4)
3 - Some Possibility (0.3)
2 - Slight Possibility (0.2)
1 - Very Slight Possibility (0.1)
0 - No Chance (0.01)

The process of conversion of scale into probability is done with the help of this Juster's method. In this method the following steps are undertaken for conversion of scale into probability -

- When the mean value for each question is derived from the questionnaire then that value is converted on the basis of probability scale shown in Table III and such probabilities are called translated probabilities and these are our predicted probabilities.
- Then historical values for each risk occurring are arranged from the study of projects undertaken by same firm in the past and then the actual probability of risk occurrence is calculated on the basis of this past data.

- A line of regression is obtained between actual probabilities and predicted probabilities.
- If this line of regression holds a high value of r (coefficient of regression) then the translated probabilities are kept in this line of regression and this equation gives the actual probability.
- For the calculation of risk impact the risk probability and risk intensity (derived from questionnaire) are multiplied.

The above mentioned scale to probability conversion steps are shown in Table V.

Sr no	I. Technical risk (Rt) -	Scale value from questionnaire	Probability on the basis of Juster's scale	Translated probability	Risk intensity value	Risk impact value = Translated probability X intensity	
1	Survey and background analysis (P1)	7.2	0.648	0.655	5.4	3.539	
2	Tower base construction process (P2)	8.2	0.738	0.751	4.8	3.604	
3	Construction of lattice structure based tower (P3)	7.4	0.666	0.674	3.2	2.158	
4	Hardware installation like Ground wires, electrodes and conductor erection (P4)	5.4	0.486	0.484	4.5	2.176	
5	Stringing and Sagging in conductor (P5)	4.8	0.432	0.426	2.5	1.066	
6	Installation of Vibration Damper, Spacer etc instruments (P6)	7.2	0.648	0.655	3.7	2.425	
			Average	0.61		2.495	Average
Sr no	II. Environmental risk (Re) –						
1	Survey and background analysis (P1)	4.2	0.378	0.369	5.7	2.103	
2	Tower base construction process (P2)	2.8	0.252	0.235	3.1	0.730	
3	Construction of lattice structure based tower (P3)	4.6	0.414	0.407	2.7	1.099	
4	Hardware installation like Ground wires, electrodes and conductor erection (P4)	2.4	0.216	0.197	2.6	0.513	
5	Stringing and Sagging in conductor (P5)	2.6	0.234	0.216	3.1	0.671	
6	Installation of Vibration Damper, Spacer etc instruments (P6)	6.4	0.576	0.579	2.8	1.621	
			Average	0.32		0.889	Average
Sr no	IV. Human Safety risk (Rh) –						
1	Survey and background analysis (P1)	4.2	0.378	0.369	2.5	0.923	
2	Tower base construction process (P2)	2.6	0.234	0.216	1.4	0.303	
3	Construction of lattice structure based tower (P3)	2.8	0.252	0.235	3.1	0.730	
4	Hardware installation like Ground wires, electrodes and conductor erection (P4)	3.2	0.288	0.274	2.8	0.766	
5	Stringing and Sagging in conductor (P5)	4.8	0.432	0.426	2.9	1.236	
6	Installation of Vibration Damper, Spacer etc instruments (P6)	3.6	0.324	0.312	1.4	0.436	
			Average	0.31		0.732	Average

Table IV: Phase wise Risk Impact calculation

The calculation for risk intensity for each phase is shown in Table V. At this stage the average value of probability of risk occurrence for each phase is done separately. This probability is again compared with actual data from past projects. Finally the line of regression is obtained between actual probabilities and predicted probabilities. This line of regression holds a high value of r (coefficient of regression) in our study and then the translated probabilities are kept in this line of regression which gives the actual probability. For the calculation of risk impact the final translated risk probability and risk intensity (derived from questionnaire) are multiplied.

Table V: Phase wise project's risk occurrence probability calculation						
Sr no.	Phases	Average probability of risks in each phase	Phase symbol	Translated probability	Risk intensity value	Risk impact value = Translated probability X intensity
1	Survey and background analysis (P1)	1.817	P1	2.083	5.3	11.038
2	Tower base construction process (P2)	1.306	P2	1.461	4.7	6.868
3	Construction of lattice structure based tower (P3)	1.282	P3	1.432	4.3	6.157
4	Hardware installation like Ground wires, electrodes and conductor erection (P4)	1.031	P4	1.127	3.7	4.170
5	Stringing and Sagging in conductor (P5)	0.879	P5	0.942	2.4	2.260
6	Installation of Vibration Damper, Spacer etc instruments (P6)	1.285	P6	1.436	3.1	4.452

After calculating the risk impact for each risk phase, mapping of these risks is done. The result for risk impact with respect to each risk type is shown in figure 4. In figure 4 the X axis marks the risk types at coordinates 1, 2, 3 and 4. The Y axis marks the risk impact received for each risk from table IV. The risk impact for each project phase is shown in figure 5. In figure 5 the X axis marks the six project phases at coordinates 1, 2, 3, 4, 5 and 6. The Y axis marks the average risk impact received for each risk from table V. Technical risks are holding highest impact value of about 2.5, which is more than double of any other risk type. The T RNM matrix shown in table I shows that environmental risk factor can also be controlled if only technical risks factors are mitigated. Hence the importance of technical risks is further increased. The first phase which is Survey and background analysis (P1) is most important at a value of 11.038, but the other phases like Tower base construction process (P2) and Construction of lattice structure based tower (P3) are also important with a value of 6.8 and 6.1. Stringing and Sagging in conductor (P5) is a small phase and the risk impact associated with this phase is also coming out at 2.2 (shown in figure 5) which is lowest among all the phases.

Figure 4: RISK TYPES AND IMPACT SCORE
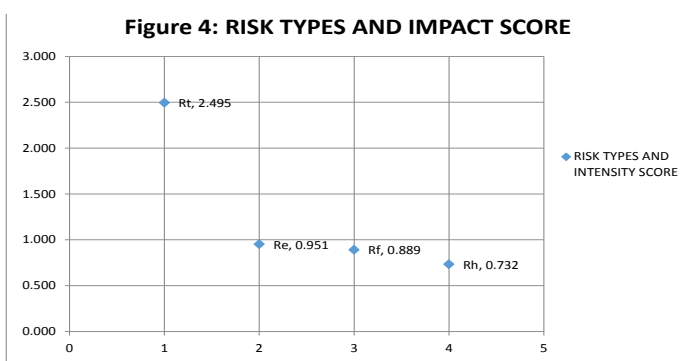
In figure 5 the second most important phases are Tower base construction process (P2) and Construction of lattice structure based tower (P3) with the nearby rating of 6.8 and 6.1, which shows that both of them are important in terms of risk mitigation. Collectively the tower construction process can be termed as a very important process on the basis of results derived in this study for general risk mitigation planning.

Figure 5: Risk mapping
(X axis - Phases of project and Y axis - Average risk impact)
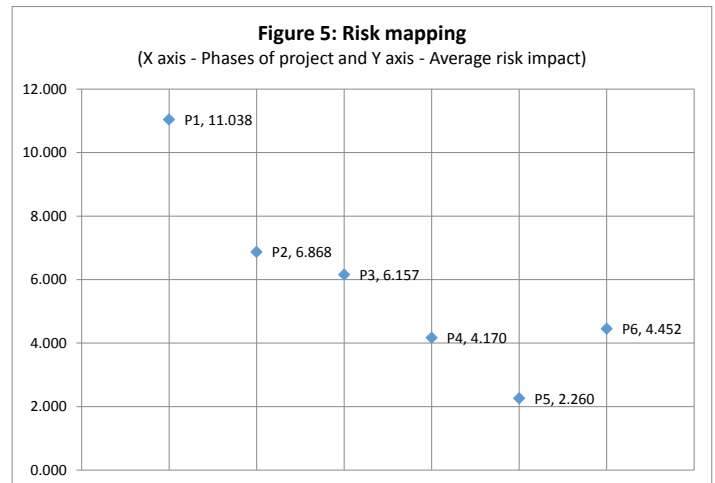
The above analysis completes the mapping of risks according to risk type and phases. In the overall analysis technical risks are found to be most important and more over they are inter related with environmental risks so these points should be kept in mind while designing the risk management plans for technical risks. From figure 4 it can be seen that Human risk at .732 is given lowest risk impact value. This can be shown here that since technical and environment risks are interrelated and both have high value of risk impact, on reducing or mitigating technical risk the environmental risks are bound to create less effect. The same relationship can be expressed with the other two risk types that is financial and human risk in order to reduce the human risk better financial prospects are to be designed so that safety measures are not considered an extra burden on project's cost.

Conclusion
The technical risk impact shown in table V is found to be the highest at a value of 2.49 while the other risks like environmental, finance and human risks are having very low values as compared to technical risks. Environmental risk are the second most important with an average value of .951. The T RNM matrix in table II also shows that technical risk and environmental risk both are interrelated so if one of them is mitigated or increased the other risk factor follows the same route. It is proved from T RNM matrix in table I that environmental risk factors can also be controlled if technical risks factors are mitigated.

When the phases are mapped for risk intensity the first phase that is Survey and background analysis (P1) is most important at a value of 11.038, while the others like Tower base construction process (P2) and Construction of lattice structure based tower (P3) are also important with a value of 6.8 and 6.1.

The study shows that if the starting phase of each project is executed with better risk mitigation plans then other phases

are easy to monitor and control. In both the risk factor-wise analysis and risk type-wise analysis the starting points in the installation phase are coming out to be more important. Overall technical risks at the staring of the project are most important. In the case for risk mapping the main risks which are predominant are found in the starting phase and technical specification and knowledge are most important risks for any project.

The methodology suggested in this study has proved that if the technical aspect planning phase is properly executed the risk impacts can be lowered since the technical risks and the first phase of the project are coming out as most important in terms of risk management. The technical risks are holding more than double impact values as compared to other risks hence the technical planning should be given foremost importance in risk management. In the risk management the planning phase of Survey and background analysis (P1) is the segment where most of the risks are having their roots. In nutshell it can be drafted that technical planning process is the most important aspect for project risk management in electrical transmission line installation projects.

Along with this in future more of such studies should be performed to develop industry standards for risk types. Industry standards means the standards for risk level in particular phase of a project that can be considered admissible by the industry guidelines, for example safety guidelines which are given by standard world level organizations like ISO etc. Different projects show different risk handling situations in terms of risk impact and hence such a mapping criteria can be proved very helpful for preparing industry standards for any type of risk management and this simple method can be employed for any type of project without much complexities. In future the studies can be adopted and applied to develop more exact risk impact values since after applying this methodology, the historical data tends to improve itself every time the process is repeated and so in future such studies can be made even more accurate and further analysis in the same direction can be used to make the results even for universal in application for projects of different industries or sectors.

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IMPACT OF 'DEBT COVERAGE' ON 'PROFITABILITY' IN BANKING SECTOR

Sonali Yadav

Abstract:

The current study has been carried out in Punjab National Bank in order to study the relationship between various indicators of profitability and debt coverage. Indicators of profitability were Interest Spread, Adjusted Cash Margin (%), Net Profit Margin, Return on Long Term Fund (%), Return on Net Worth (%) and Return on Assets Including Revaluation and the indicators of debt coverage were Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratios. One by one the relationship between these variables was checked and it was incovered that total Debt to Owner's Fund' has the maximum impact on Interest Spread. This result is significant for PNB to assess the impact of various components of 'Debt Coverage' on 'Profitability' components as we can infer that not all 'Debt Coverage' components have a significant impact on 'Profitability' components.

Keywords: *Adjusted Cash Margin, Interest Spread, Net Profit Margin, Return on Assets, Return on Long Term Fund, Return on Net Worth.*

Introduction

Profitability is one of the major criteria to judge the financial soundness of any business organization whether it is corporate house or a banking institution. Banks in India and specially public sector banks have a significant role to play in the financial soundness of the economy as a whole. Punjab National Bank of India is the front-line bank in India and the largest nationalized bank with 4525 offices and 432 extension counters and corporate office at New Delhi. It was the first Indian bank started only with Indian capital nationalized in July 1969. It also has representative offices at Almaty (Kazakhistan), Shanghai (China) and in London and a fully fledged Branch in Kabul (Afghanistan). It is serving 3.5 crore customers providing a wide variety of banking services like Corporate banking, Personal banking, Industrial finance, Agricultural finance, Financing of trade, International banking, etc. It has been ranked 38th amongst top 500 companies by The Economic Times and has earned 9th position among top 50 trusted brands in India and maintains relationship with more than 200 leading international banks worldwide with Rupee Drawing Arrangements with 15 exchange companies in UAE and onet in Singapore.

To date, Punjab National Bank has earned numerous awards and recognitions like Best Bank Award, Most Socially Responsive Bank by Business World-PwC, Most Productive Public Sector Bank, Golden Peacock Awards by Institute of Directors, etc. Besides, the Bank is ranked 26th amongst FE 500 India's Finest Companies, 26th amongst the Top 500 India's Largest Corporations by Fortune 500 India. The Banker ranked PNB on 186th position in 2011, improving from 257th position a year before. PNB ranked 668th amongst 2000 Global Giants as per the Forbes and 170th in 2012 improving from 195th in 2011 in Top 500 Most Valuable Banking Brands by Brand Finance Banking 500. India Inc Top 100 Most Powerful CEOs for the year 2012, Shri K.R. Kamath, CMD, PNB, adjudged Most Powerful amongst the Nationalised Banks in India, with overall rank at 50 by Economic Times. Bank has also been ranked 26th amongst India Top Companies as per ET 500 and 25th amongst the Top 50 most valuable corporate brand by Brand Finance-ET. Bank also has a strong capital base with Capital Adequacy Ratio of 12.57% as on June'12 as per Basel II with Tier I and

Tier II capital ratio at 9.33% and 3.24% respectively.

PNB has been showing a consistently good performance over the years as can be inferred from the profitability figures. Ability of PNB to cover its debts is one of the factors influencing the profitability. Efficient debt coverage ensures that the funds are not blocked and in turn reduces the chances of assets turning into non-performing. Now the question that arises in the minds of the researchers is that whether the ability of the PNB to recover its debts results into profitability or not? Also, it very important to know as to which components of debt coverage have significant impact on which components of profitability.

Objectives of the study

The current study has been undertaken with following objectives in mind:
1. To study the relationship between various indicators of profitability and debt coverage.
2. To study the impact of components of Debt coverage on profitability levels of Punjab National Bank.
3. To identify the most significant debt coverage indicator over which the PNB should focus in future.

Literature Review

Performance of banks has been assessed against a lot of factors. In order to develop a comprehensive understanding of what all factors lead to good or bad performance of banks, the following review of literature was done. Chowdari Prasad and K.S. Srinivasa Rao (2004), selected the criteria like efficiency, financial strength, profitability and size of scale to evaluate the bank's performance and revealed that the private sector banks are in a position to offer cost-effective, efficient products and services to their customers using technology, best utilization of human resources along with professional management and corporate governance principles. Chidambaram and Alamelu (1994) pointed out the problem of declining profit margins in Indian public sector banks and concluded that regional disorientation, poor customer service, improper monitoring of advances and inappropriate marketing strategies are the reasons of failure. A number of steps like use of advanced

technological instruments, securitisation bill, reduction in employee strength through Voluntary Retirement Schemes (VRS) can help solve the problem, Jalan (2002). Joshi and little, (1997) suggested that stock solution (i.e., restoration of net worth) and flow solution (i.e., an improvement in future profitability) are the key to bank's success whereas Jaikvoulle and Kauko (2001) stressed upon the issue of capital adequacy and recapitalization. All in all, the five fundamental goals of efficient bank management are profit maximization, risk management, service provision, intermediation and utility provision, Bergendhal(1998).

Successful performance of public sector banks have been accorded to deposit and loan expansion in the post liberalization period, Bhattacharya et al., (1997) and the thrust areas are technical efficiency and allocative efficiency, Das (1997). Interest spread(cost of intermediation) i.e., the difference between the interest rate charged to borrower and the interest rate paid to depositors, has been shown as an important indicator of efficiency by Ram and Souza (2002). Bank's profitability is also affected by total assets, proportion of government securities to total assets, proportion of priority sector loans, share of rural banking, non-interest income to total income and foreign ownership, Sarkar et al., (1998). Other parameters are profitability ratio, interest spread, capital adequacy ratio and the net NPA, Ajit and Bangar (1998) and also lowering deposit rates which lowers cost of funds to banks can increase profitability and spread, Abdourahmane (2000).

Another very important variable affecting the profitability of banks is providing non intermediation banking services, which ultimately may increase domestic banks efficiency and foster domestic financial deepening (Bernado and Douglous, 2001).

Not only the financial indicators but non financial indicators play an equally important role in the performance of banks as shown by a study on Croatian banking system and the outcome was that good management, which succeeds both in cutting costs and managing risk prudently are the success factors for the banks in transition banking (Evan et al., 2002). David and Vlad (2002) found that tighter minimum capital adequacy ratios seem to be associated with improved revenue generating capacity and more aggressive deposit taking behavior. Well-capitalized banks face lower expected bankruptcy costs, thereby reducing their cost of funding. A prerequisite to formulating effective banking policies is thus to understand the determinants of bank profitability and interest margin, Asli and Harry (1999).

In the light of the above literature review it emerges that there are several factors responsible for the good performance of banks irrespective of whether it is a private sector or public sector banks. With the plethora of factors identified above, the researcher wanted to probe into the area which perhaps has been ignored. 'Debt coverage ratios' which measures the ability of a bank pay the regular debt payments from the cash generated through different avenues have been used to assess the profitability aspect. In the literal terms, "debt coverage ratio," is the ratio of cash available for debt servicing to interest, principal and lease payments. It is a popular benchmark used in the measurement of a Bank's ability to produce enough cash to cover its debt payments.

Data Collection

Secondary sources of data have been used for extracting relevant information on various financial aspects. For this, annual report, bulletins, journals, articles and newspapers have been studied. Period of study has been restricted to last 12 years (2000-2012) due to the limitation of availability of data.

Research Methodology

Keeping in mind, the objectives of the study, this research paper goes through the following steps of data analysis.
STEP 1: Identification of variables and grouping

Researchers have identified 6 indicators of profitability and 5 indicators of debt coverage from the financial statements of PNB covering the period of 12 years (from 2000 to 2012). Six Profitability indicators for the purpose of current study are Interest Spread, Adjusted Cash Margin (%), Net Profit Margin, Return on Long Term Fund(%), Return on Net Worth(%) and Return on Assets Including Revaluation whereas. The indicators of Debt Coverage are Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratios. Once these indicators were identified, the following groups were formed for the purpose of data analysis keeping in mind that each individual 'Debt Coverage Ratio' should be analyzed against each 'Profitability ratio' one by one. This was done keeping in view the first objective of the current study. MINITAB 16 Software was used to carry out the complete data analysis.

Case 1: Relationship and impact of Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Interest Spread.

Case 2: Relationship and impact of Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Adjusted Cash Margin.

Case 3: Relationship and impact of Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Net Profit Margin.

Case 4: Relationship and impact of Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Return on long term fund.

Case 5: Relationship and impact of with Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Return on Net Worth.

Case 6: Relationship and impact of Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Return on Assets including revaluation.

Step 2: Establishing relationships with the help of Matrix Plot and Correlation

Matrix plot and Correlation Matrix are attached as Annexure 1 and Annexure 2 respectively. A look at the Matrix Plot makes it clear that there exist a linear relationship amongst the variables which is later supplemented by Correlation Matrix. Correlation Matrix shows a comprehensive correlation amongst all the variables taken for the study. The variables have later been tested for significance. The following are the interpretation of stage 2:

Note: The correlation coefficient (also known as Pearson's correlation coefficient) measures the strength and direction of the linear relationship between two quantitative variables x and y. It's a number between −1 and +1 that's unit-free. If the relationship between x and y is positive (as x increases so does y), the correlation is a positive number. If the relationship is negative (as x increases, y gets smaller), then the correlation is negative. If the correlation is zero, you can find no linear relationship between x and y. If the correlation is close to +1 or −1, this correlation value signifies a perfect relationship. If the correlation is closer to +0.5 or –0.5, these values show a moderate relationship. A value close to 0 signifies a weak relationship or no linear relationship at all.

To test the significance of result, p value is compared with alpha (.05). If p value is less than alpha, that means the two variables are significantly related and vice versa.

For Case 1: 'Interest spread' is negatively moderately related to 'Credit Deposit Ratio' but this relationship is not significant as p value is more than alpha value of .05, hence cannot be taken further in the analysis. Interest spread shows highly positive and significant relationship with 'Total debt to owners fund' (Alpha is less than .05). In this case we will run a simple linear regression, with 'Interest Spread' as the response variable and 'Total debt to owner's Fund' as the predictor variable.

For Case 2: From the correlation matrix, we observe that 'Adjusted Cash Margin Ratio' is highly positively correlated with 'Credit Deposit Ratio' and is also significant, whereas 'Adjusted Cash Margin Ratio' is highly negatively correlated with 'Total debt to owners funds' and also highly significant. So, we have two x variables for running multiple regression analysis after checking the multi-co linearity between them which comes out to be -.724 ensuring that these two x variables can be considered for assessing their impact on 'Adjusted Cash Margin Ratio'.

For Case 3: 'Net Profit Margin' is positively highly correlated with 'Credit Deposit Ratio' and moderately negatively correlated with 'Investment Deposit Ratio' and 'Total Debt to Owners fund ratio' and all three x variables are significant. Next we check multi-co linearity amongst x variables and

then remove 'Credit Deposit Ratio' for further consideration as it is highly correlated with the other two variables. Which leaves us with assessing the impact of 'Investment Deposit Ratio' and 'Total debt to Owner's Funds Ratio' on 'Net Profit Margin'.

For Case 4: 'Return on Long Term Fund Ratio' has moderate degree of negative correlation with 'Credit Deposit Ratio' whereas, has high degree of positive correlation with 'Total Debt to Owner's Fund Ratio' and the result is significant also in both the cases. After a check for multi-co linearity, we have these two x variable for assessing the impact on y i.e., 'Return on Long Term Funds'.

For Case 5: 'Return on Net Worth' is negatively moderately related to 'Cash Deposit Ratio' but it is not significant as the p value is more than .05 and therefore, this variable cannot be considered further. And with other variables we find very less correlation. So the Case 5 ends here and hence the question of running a regression does not arise.

For Case 6: 'Return on Assets' is highly positively correlated to 'Credit Deposit Ratio' and at the same time it s highly significant also whereas it is highly negatively correlated with 'Financial Charge Ratio' and 'Investment Deposit ratio' and both are highly significant too. 'Return on Assets' is moderately negatively correlated with 'Total Debts to Owners Funds' and is also significant. But in case of 'Cash Deposit Ratio' it is moderately correlated but not significant. So the x variables for assessing the impact on 'Return on Assets' are 'Credit Deposit Ratio', 'Investment Deposit Ratio', 'Total debt to Owners Funds Ratio' and 'Financial Charge' which will further pass the test of multi-collinerity. In the end, we are left with 'Total debt to Owners Funds Ratio' and 'Financial Charge' to assess their impact on 'Return on Assets'.

Step 3: Multiple Regression analysis was conducted in all five cases as case five ended after step 2. In case 1, Simple Linear regression was done as it has only one x variable. In case 2, Case 3, Case 4 and Case 6, Best Subsets Procedure was used. The following is the outcome of running regressions:
For Case 1: Interest Spread = 2.27 + 0.135 Total Debt to Owners Fund

The above result can be written as y = 2.27 + 0.135x, which means that this equation represents estimated value of y, given the value of x that we observe with our data. This y-hat is the estimate of the average value of y over the long term, based on the observed values of x. Here, the 2.27 is the intercept and .135 is the slope. It means that every .135 percentage increase in 'Total Debts to Owners Fund' will result into one percentage increase in 'Interest Spread' of PNB.

Checking the Model's fit!
The fit of the simple linear regression equation is checked with the help of residual plots. A residual is the difference between the observed value of y (from the best-fitting line) and the predicted value of y (from the data set). If the residual is large, the line doesn't fit well in that spot. If the residual is small, the line fits well in that spot. The residual plots are shown in annexure 2.

Two major conditions must be met to check the fit of the simple linear regression model:

_ The y's have to have a normal distribution for each value of x.
_ The y's have to have a constant amount of spread (standard deviation) for each value of x.
_the residuals should be independent.

Condition for Normality

Decision Rule: If the regression model is fitting well, the data values should be scattered around the best-fitting line in such a way that about 68 percent of the values lie within one standard deviation of the line, about 95 percent of the values should lie within two standard deviations of the line, and about 99.7 percent of the values should lie within three standard deviations of the line (68-95-99.7 rule).

Checking the condition: we observe from the upper left graph of the residual plots that almost all the residuals are falling in a straight line. From the upper right graph, we observe that, lots of (standardized) residuals are falling close to zero; as we move farther and farther away from zero, you can see fewer and fewer residuals.

Note: A standardized residual at or beyond +3 or −3 is considered as an outlier, which demands different treatment. Also, the residuals are occurring at random, some above the line, some below the line without showing any pattern.
The lower-left plot in Figure makes a histogram of the standardized residuals, and we can see it doesn't look much like a bell-shaped distribution. It doesn't even look symmetric (the same on each side when you cut it down the middle).
Checking Condition 2: Same spread for every x: homoscedasticity condition

The graph in the upper-right corner of Figure also addresses the homoscedasticity condition. If the condition is met, then the residuals for every x-value have about the same spread. If we cut a straight line down through each x-value, the residuals have about the same spread (standard deviation) each time. That means the condition of equal spread in the y-values is met.

Checking the condition of independence

From the lower right corner of the graph, we observe that there is no definite pattern that the dots are following which ensures that the residuals are independent.

All the three conditions to the check the fit of the model have been met and hence PNB can use this model to improve its interest spread in future.

For Case 2, Case 3, Case 4 and Case 6, researchers have used 'Best Subsets Procedure' for running multiple regressions. It basically examines the fit of every single possible model that can be formulated from the given x variables. The following is the outcome of running regression in Minitab 16 software (Annexure)

The output contains a list of all models that contain one x variable, all models that contain two x variables, all models that contain three x variables, and so on, all the way up to the full model. Each model is presented in one row of the output. Note: R2 adjusted measures how much of the variability in the y-values can be explained by the model, adjusted for the number of variables included. (R2 adjusted ranges from 0 to 100 percent. If the model fits well, R2 adjusted is high. So we want to look for the smallest possible model that has a high value of R2 adjusted, and a small value of Mallow's C-p compared to its competitors. And if it comes down to two similar models, we always want to make your final model as easy to interpret as possible by selecting the model with the fewer variables.

Mallow's C-p is a measure of the amount of error in the predicted values compared to the overall amount of variability in the data. If the model fits well, the amount of error in the predicted values is small compared to the overall variability in the data, and Mallow's C-p will be small. So look for a model that has a small value of Mallow's C-p compared to its competitors.

The following are the results of regression in different all different cases:
For Case 2: Model number one and three have high R-square (Adj) but in case of model one, Mallows Cp is lesser i.e., 1.0, therefore, first model will be used to run regression to assess the impact of 'total Debt to Owner's Fund' on 'Adjusted Cash Margin'. The final regression equation comes out to be:
Adjusted Cash Margin (%) = 25.1 - 0.698 Total Debt to Owners Fund

For Case 3: We find that R-Sq (adj) is maximum in second model and slightly less in case of first model but the corresponding Mallows Cp is less in case of the model one and it is a well known fact that the model with minimum number of x variable should be choosen. So for running the final regression, the variable that is selected is 'Total Debt t Owners Funds' for assessing its impact on 'Net Profit Margin. The following is the regression equation:

Net Profit Margin = 23.4 - 0.667 Total Debt to Owners Fund
For Case 4: Third model is final regression as in this case r-square (adj) is maximum i.e., 96.3 and Mallows Cp is minimum i.e., 3.0. Therefore, Credit Deposit Ratio and Total Debt to Owners fund are used to assess their impact on 'Return on Long Term Fund'. Te following is the regression equation:

Return on Long Term Fund (%) = - 132 + 0.968 Credit Deposit Ratio + 11.4 Total Debt to Owners Fund
For Case 6: Model number three comprising of both the variables is most appropriate as it has the highest R-Square (Adjusted) i.e., 79 and the lowest Mallows Cp of 3.So, 'Total debt to Owners Fund' and 'Financial Charges Coverage Ratio' have been used to assess their impact on 'Return on Assets including Revaluation'. The following is the regression equation:

Return on Assets Including Revaluation = 1197 - 28.0 Total

Debt to Owners Fund - 427 Financial Charges Coverage Ratio.

Conclusion and suggestions

The final conclusions of the current research paper can be summarized in the form of the following table:

CASES	Multivariate results	Intercept	Slope
CASE 1	Interest Spread = 2.27 + 0.135 Total Debt to Owners Fund	2.27	.135
CASE 2	Adjusted Cash Margin (%) = 25.1 - 0.698 Total Debt to Owners Fund	25.1	-.698
CASE 3	Net Profit Margin = 23.4 - 0.667 Total Debt to Owners Fund	23.4	-.667
CASE 4	Return on Long Term Fund (%) = - 132 + 0.968 Credit Deposit Ratio + 11.4 Total Debt to Owners Fund	135	.968 and 11.4

Source: Author's calculations

The results of the above multivariate analysis are highly useful for PNB due to two reasons. It will help PNB to assess the impact of various components of 'Debt Coverage' on 'Profitability' components as we can infer that not all 'Debt Coverage' components have a significant impact on 'Profitability' components. Following are the inferences:

1. Out of all components of 'Debt Coverage', 'Total Debt to Owner's Fund' has the maximum impact on 'Interest Spread' in such a manner that every .135% increase in the former will lead to every 1% increase in the later. So. It is suggested to PNB that they should focus on covering up total debt extended against owner's fund if they wish to improve interest spread.

2. If PNB wants to increase adjusted cash margin by 1%, it has to decrease -.698% of Total Debt to Owners Funds as there is inverse relationship between the two. Similar kind of inverse impact we observe in another case where every -.667% decrease in Total debt to owner's fund will lead to 1% increase in Net profit Margin. So, it is suggested that PNB should take measures which aim at reducing Total debt to Owner's Fund.

3. Another interesting inference emerge i.e., .968% increase in Credit Deposit Ratio keeping Total debt to owners Fund constant will have 1% increase in Return on Long Term Funds and at the same time if we keep Total Credit Deposit Ratio constant, we need to increase 11.4% of Total Debt to Owner's Fund.

4. Return on Assets including revaluation can be increased by 1% if 'Total Debt t Owner's Fund' is kept constant and 'Financial Charges Coverage Ratio' is decreased by -.427%.

5. Finally we can conclude that the most important component that has significant impact of various components of profitability is 'Total Debt to Owner Fund'

Limitations and Future Scope of the study

The current study opens up new vistas of research where other factors can also be analyzed against like management efficiency, leverage, etc.

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ANNEXURE 1

Matrix Plot of Interest Spr, Adjusted Cas, … vs Credit Depos, Invest
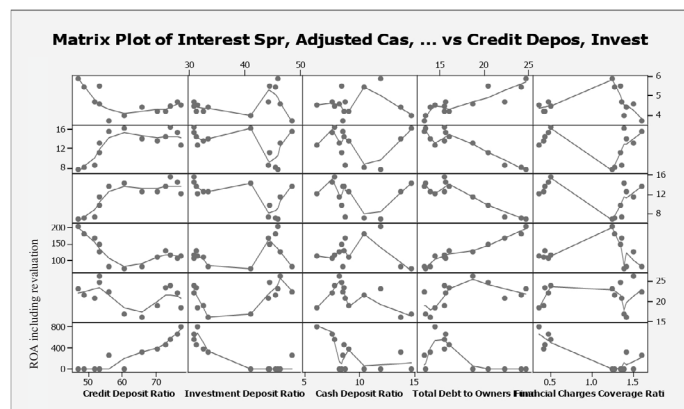
Note:

Legends on the upper side signify Interest Spread, Adjusted Cash Margin (%), Investment Deposit Ratio, Credit Deposit Ratio and Investment Deposit Ratio.

Legends on the left hand side signify Return on Assets including Revaluation, Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio and interest spread.

Legends on lower side signify credit deposit ratio, investment deposit ratio, cash deposit ratio, total debt to owners funds ratio and Financial Charges Coverage Ratio.

ANNEXURE 2(A):

Correlation between Interest Spread, Adjusted Cash Margin, Net Profit Margin, Adjusted Cash Margin, Net Profit Margin, Return on Long Term Fund (%), Return on Net Worth (%), Return on Assets including Revaluation, Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Funds Ratio and Financial Charge Coverage Ratio.

	Interest Spread	Adjusted Cash Margin	Net Profit Margin
Adjusted Cash Margin	-0.799 0.001		
Net Profit Margin	-0.771 0.002	0.990 0.000	
Return on Long Term Fund(%)	0.858 0.000	-0.904 0.000	-0.864 0.000
Return on Net Worth(%)	0.365 0.220	-0.160 0.603	-0.158 0.607
Return on Assets including Revaluation	-0.376 0.206	0.524 0.066	0.619 0.024
Credit Deposit Ratio	-0.513 0.073	0.686 0.010	0.767 0.002
Investment Deposit Ratio	0.323 0.281	-0.513 0.073	-0.607 0.028
Cash Deposit Ratio	0.026 0.934	-0.053 0.863	-0.112 0.715
Total Debt to Owners Funds Ratio	0.869 0.000	-0.924 0.000	-0.915 0.000
Financial Charge Coverage Ratio	0.140 0.649	-0.299 0.321	-0.420 0.153

ANNEXURE 2(B):

Correlation between Long Term Funds Ratio, Return on Net Worth Ratio, Return on Assets Ratio, Return on Net Worth Ratio, Return on Assets Ratio, Credit Deposit Ratio, Investment Deposit ratio, Cash Deposit Ratio, Total Debt to Owners Funds Ratio and Financial Charges Coverage Ratio.

	Return on Long Term Funds Ratio	Return on Net Worth Ratio	Return on Assets Ratio
Return on Net Worth Ratio	0.457 0.117		
Return on Assets Ratio	-0.430 0.143	-0.212 0.488	
Credit Deposit Ratio	-0.575 0.040	-0.296 0.327	0.932 0.000
Investment Deposit ratio	0.401 0.174	0.351 0.240	-0.850 0.000
Cash Deposit Ratio	-0.110 0.720	-0.524 0.066	-0.511 0.074
Total Debt to Owners Funds Ratio	0.967 0.000	0.441 0.131	-0.602 0.030
Financial Charges Coverage Ratio	0.088 0.776	0.058 0.851	-0.827 0.000

ANNEXURE 2(C):

Correlation between Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Investment Deposit Ratio, Total Debt to Owners Fund Ratio and Financial Charge Coverage Ratio

	Credit Deposit Ratio	Investment Deposit Ratio	Cash Deposit Ratio
Investment Deposit Ratio	-0.944 0.000		
Cash Deposit Ratio	-0.355 0.234	0.210 0.491	
Total Debt to Owners Fund Ratio	-0.724 0.005	0.550 0.051	0.010 0.973
Financial Charge Coverage Ratio	-0.840 0.000	0.856 0.000	0.509 0.076

Note:

Values in the upper cell are correlation and values in the lower cells are p values.

ANNEXURE 3: Results of Regression Analysis

CASE 1: Regression Analysis: Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage Ratio on Interest Spread.

The regression equation is

Interest Spread = 2.27 + 0.135 Total Debt to Owners Fund

Predictor	Coef	SE Coef	T	P
Constant	2.2661	0.4153	5.46	0.000
Total Debt to Owners Fund	0.13488	0.02316	5.82	0.000

S = 0.332437   R-Sq = 75.5%   R-Sq(adj) = 73.3%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	3.7493	3.7493	33.93	0.000
Residual Error	11	1.2157	0.1105		
Total	12	4.9649			

Note:
Coef means coefficient
SE Coef means Standard Error of coefficient
T means t statistics
P means probability value
R-Sq means R-square
R-Sq (adj) means R-square adjusted
DF means degrees of freedom
SS means sum of squares
MS means mean sum of squares

ANNEXURE 4: RESULT OF APPLYING BEST SUBSET PROCEDURE TO CASE 2, CASE 3, CASE 4 AND CASE 6.

Residual Plots for Interest Spread

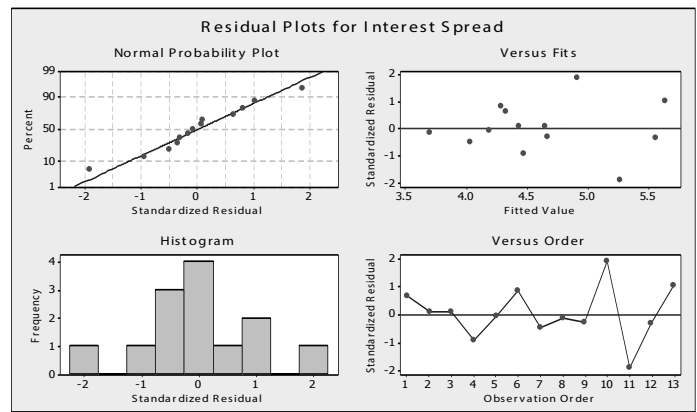
CASE 2: Best Subsets Regression:

Credit Deposit Ratio, Investment Deposit Ratio, Cash Deposit Ratio,

Total Debt to Owners Fund and Financial Charges Coverage Ratio on Adjusted Cash Margin.

Response is Adjusted Cash Margin (%)

Vars	R-Sq	R-Sq(adj)	Mallows Cp	S	A	B
1	85.4	84.1	1.0	1.2484	X	
1	47.1	42.3	27.4	2.3782	X	
2	85.5	82.6	3.0	1.3066	X	X

Where column A is Credit Deposit Ratio and Column B is Total Debt to Owner's Fund

---

Note:
Vars means variables
Cp means mallows cp

CASE 3: Best Subsets Regression: Credit Deposit Ratio, Investment Deposit Ratio,

Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage

Ratio on Net Profit Margin.

Response is Net Profit Margin

Vars	R-Sq	R-Sq(adj)	Cp	S	A	B
1	83.6	82.1	2.0	1.2774	X	
1	36.8	31.1	33.6	2.5093	X	
2	85.2	82.2	3.0	1.2748	X	X

Where Column A is Investment Deposit Ratio and Column B is Total Debt to Owners fund Ratio

---

Note:
Vars means variables
Cp means mallows cp

CASE 4: Best Subsets Regression: Credit Deposit Ratio, Investment Deposit Ratio,

Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage

Ratio on Return on long term fund.

Response is Return on Long Term Fund (%)

Vars	R-Sq	R-Sq(adj)	Cp	S	A	B
1	93.6	93.0	11.8	10.747	X	
1	33.0	26.9	208.1	34.755		X
2	96.9	96.3	3.0	7.8232	X	X

Where Column A is Credit Deposit Ratio and Column B is Total Debt to Owners Fund Ratio

---

Note:
Vars means variables
Cp means mallows cp

CASE 6: Best Subsets Regression: Credit Deposit Ratio, Investment Deposit Ratio,

Cash Deposit Ratio, Total Debt to Owners Fund and Financial Charges Coverage

Ratio on Return on Assets including revaluation.

Response is Return on Assets Including Revaluations.

Vars	R-Sq	R-Sq(adj)	Cp	S	A	B
1	68.3	65.5	9.1	173.52	X	
1	36.2	30.4	27.5	246.28	X	
2	82.5	79.0	3.0	135.29	X	X

Where Column A is Total Debt to owners Fund Ratio and Column B is financial Charges Coverage Ratio

---

Note:
Vars means variables
Cp means mallows cp

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ECONOMIC GROWTH, ITS EFFECTS ON ECOLOGY AND NEED FOR SUSTAINABLE DEVELOPMENT

Mrudula Trivedi

Abstract:

Economic growth world over is accelerated with technological inventions, process innovations and new ways of managing businesses. However, today we realize that the journey of growth has a darker side as well. Various industries have been discharging industrial waste and are responsible for depleting the natural resources and generating pollution. The present growth pattern has its own limitations as natural resource availability is finite. . Therefore, growth pattern should be such that it leads us towards environmentally sustainable development. It calls for using natural resources more sensibly and economically and minimizing the waste. Thus, sustainable economic growth is the only viable option we have.
In this paper few organizations and their practices are studied which provides an insight about how sustainable organizations have created economic as well as ecological balance.

Keywords: *Economic growth, present growth pattern, ecological growth and sustainable development, creating sustainable organization.*

Introduction

In simple words we can say that economic growth means a continuous and persistent increase in real per capita income from one point of time to another point of time. Over the years several efforts are made to accelerate economic growth. Three factors which have played a vital role in heralding the economic growth are technological inventions, process innovations and new ways of managing businesses. Hence, industries, agriculture and tertiary sectors have registered a remarkable growth.

Effects of Economic Growth on Ecology

This economic growth led to some significant positive changes in the world economy which are as follows:
1) Increase in national and household income
2) Growth of service sector
3) Demand for white goods
4) Improved standard of living and better quality of life.

However, today we realize that the journey of growth has a darker side as well. The world has paid a heavy cost for the growth. Various industries like oil, textiles, electronics, leather, automobiles etc. have been discharging Industrial waste and is responsible for depleting the natural resources and generating pollution. In fact, pollution is increasingly increasing. It has significantly damaged our environment.

Some alarming situations being faced by us today are:
1. Continuous excessive use of natural resources by the industries.
2. Destruction of natural habitats along with urban development.
3. Excessive use of chemical based fertilizer for agricultural production.
4. Hazardous industrial wastes being disposed off in the rivers.
5. Air pollution rising at a faster pace due to emission of carbon products.
6. Global warming, ozone depletion and rise in temperature of the earth.

As cited in Shrivastava's book titled Greening Business, these problems are reaching levels where they threaten the stability and survival of earth's ecosystems. Corporations that own and manage industrial systems face enormous environmental challenges in coming years. At present, if we analyze the current usage pattern of natural resources, they are being depleted faster than they can be renewed. Let us have a look on some major environmental crisis in the various industries around the world.

- Studies indicate that world oil supplies could be exhausted in next 40 years. [2]

- As per "Little Green Data Book" global rate of the natural wealth depletion in a year is 45 per cent. [3]

- Scientists caution that the loss and decline of animals is contributing to what appears to be the early days of the planet's sixth mass biological extinction event. Since 1500, more than 320 terrestrial vertebrates have become extinct. Populations of the remaining species show a 25 percent average decline in abundance. [4]

- Excessive use of chemical based fertilizers weakens the soil and its fertility. Further, pesticides enter the food chain and harm humans and animals who consume the food. Various reports suggest that careless and excessive use of pesticides poisons more than 5, 00,000 persons annually. [5]

- Media reports that the Bhopal disaster at the union carbide plant in India killed more than 3,000 people and injured 3, 00,000 more. [6]

- In the IEO2013 Reference case, which does not assume new policies to limit greenhouse gas emissions, world energy-related carbon dioxide emissions increase from 31.2 billion metric tons in 2010 to 36.4 billion metric tons in 2020 and 45.5 billion metric tons in 2040. [7]

- Global warming can in turn raise sea level, drowning large parts of currently inhabited lands and cause changes in climate that are hostile to established patterns of world agriculture, animal farming, and human habitation. [8]

Thus, rising evidence of environmental problems such as the depletion the ozone layer, forest degradation, increased proportion of acid in river waters posed a major threat to the people and made them more concerned about environment. At the same time, a strong voice and organized efforts undertaken by various N.G.O's, legislative initiatives implemented by various governments and increased media exposure made public more aware and concerned about the environment.

The above discussion definitely throws light on environmental damage that occurred due to economic growth. As industries use resources of the nature on larger scale, its environmental significance is also on a larger scale. Therefore, we need to bring changes in our growth pattern so that environment can be protected and damage to the nature can be minimized.

Need for Sustainable Development:

The world population has reached to 7 billion today and each year, world population grows by 85 million people. Less than one fourth of this population lives in affluent, industrialized western countries. Yet, these countries produce and consume nearly three-fourths of the world resources, and they generate nearly three-fourths of world's pollution and waste.

Now if we consider further growth in the world population then by 2030, it could reach to about 11 billion. By then, 84 percent of the world would be living in developing countries. Just providing basic amenities would require increase in world production and energy use up to 30 times of current levels. The current level of production already places an enormous strain on the environment. Imagine what a 30 fold increase in production would do! Imagine 30 times more pollution, 30 times more toxic wastes, 30 more Bhopals and Chernobyls would do to the world. [9]

Further, growth of industries is directly dependent on availability of finite natural resources. But, the natural environment has only limited ability to deal with pollution and degradation. Agriculture, metals and mining, oil industry, dairy, food processing, forest products etc. are greatly dependent on availability of natural resources.

Figure-1 A flow showing pollution and limited growth
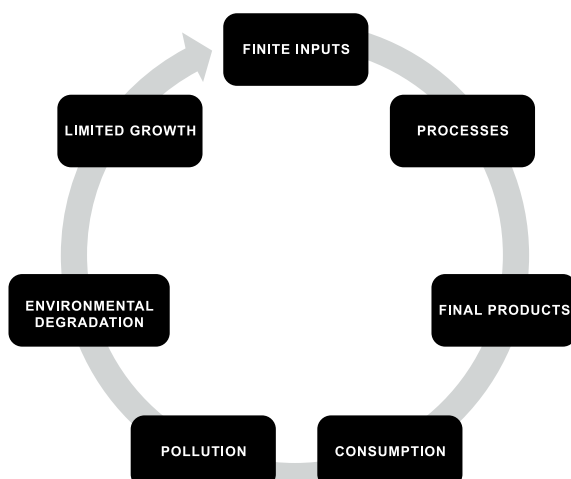
Thus, it is important to note that the present growth pattern has its own limitations as natural resource availability is finite. Secondly, pollution generated by the industries depletes the natural resources. Therefore, growth pattern should be such that it leads us towards environmentally sustainable development. It calls for using natural resources more sensibly and economically and waste should be minimized. Further, consumers today are also showing strong concern for resource depletion and environmental degradation. Organizations will have to become more sensible and sensitive to understand, how this damage to nature influences a consumer's attitude towards various products, their tastes, preferences and brand choice. After taking these inputs, the organizations should design their marketing strategies. This will enable organizations to hone its competencies and will enable them to lead the markets not only today but even tomorrow.

The best example who has implemented this is the case of Procter & Gamble. It used the information that U.S. households spend 3% of their electricity budgets to heat water for washing their clothes. If they switched to cold water washing, they would consume 80 billion fewer kilowatt-hours of electricity and emit 34 million fewer tons of carbon dioxide. The Company made a priority to develop cold water detergents and in 2005, Procter & Gamble introduced Tide cold water in U.S. and Ariel cool clean in Europe.10 Thus, sustainable development is inevitable in 21st century and corporate greening has to be undertaken for long-term survival.

As Shrivastava argued "only with corporate greening can corporations- the main engines of economic development be made ecologically sustainable.11 Organizations now will have to take a wakeup call. They must introduce ecologically sound initiatives and practices, which are essential for its survival and further growth.

Sustainable Development Defined:

Sustainable development is development that is conscious of limits of the natural environment to support growth. It moderates the rate of use of natural resources, and attempts to renew these resources. It is development that does not jeopardize the ability of future generations to meet their own needs.[12]

It means that growth efforts should be accelerated in such a way that it takes into account finite availability of natural resources as inputs, identifies new ways of renewing these resources, so that growth can be sustained and future generations can fulfill their needs.

Here, it should be noted that sustainable development does not mean halting the growth. It calls for developing and adopting an alternative growth pattern which can protect the diversity and richness of natural resources, can conserve the non-renewable natural resources and uses them sensibly and economically. In short, growth strategy must revolve around "renew, reuse and recycle" of the resources.

As rightly mentioned in "Greening Business", sustainable development questions growth strategies that are energy intensive, that deplete non-renewable resources, pollute the environment and generate excessive amounts of toxic waste. It challenges corporations to create an alternative form of sustainable growth. [13]
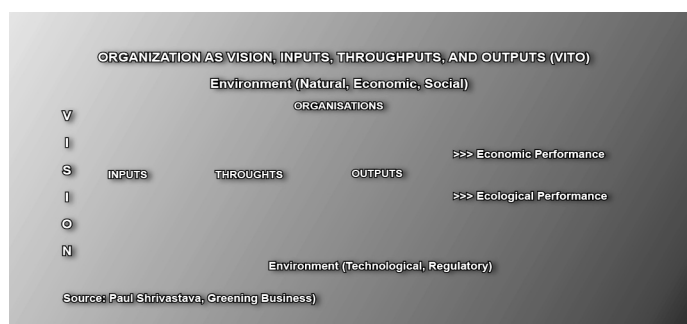
Let us understand that the consumers are the end users of all natural resources. To avoid resource depletion, they need to reassess their consumption habits and buying preferences which can push industries to go for developing greener products. However, corporations must take a lead in green initiatives as they are the growth engines in a given economy and can play an important role in resource conservation. In fact, the long term survival of many industries, including agriculture, metals and mining, forest products and oil depends on the sustained availability of natural resources. Corporations, thus have a special responsibility for protecting these resources.

Creating a Sustainable Organization

Organizations use energy and natural resources as inputs. With the help of a given technological systems and processes, inputs are converted into final products and along with this organization also discharges waste. Corporations seek to meet the multiple and conflicting goals of profitability, growth, competitiveness, and stakeholder demands.[14] It means that these competing goals need to be achieved in such a way that it can bring profit as well as satisfies stakeholder demands. Here, it is important to discuss and analyze important elements called VITO (Vision, Inputs, Throughputs, and Outputs) which have the power to minimize the negative impact of corporate activities, as suggested by Shrivastava Paul.

"Creating sustainable corporations requires addressing all VITO elements to minimize the environmental and health consequences of corporate activities". [15] Here, corporations need to re-examine what is their vision and mission, as ultimately this will determine actions of the organization, product strategies, technologies etc. Corporations have been ignoring the nature, and their focus is on economic interest but environment is neglected. "There is great potential for changing this traditional vision to support genuine ecological sustainability. Organizations should adopt eco-centric vision which will transform its entity from economic to ecological and social entity. It would treat nature as an important stakeholder and should treat its employees not simply as labor, but as complete persons". [16]

Figure- 2

ORGANIZATION AS VISION, INPUTS, THROUGHPUTS, AND OUTPUTS (VITO)
Environment (Natural, Economic, Social)
ORGANISATIONS
V
I
S   INPUTS   THROUGHTS   OUTPUTS
I
O
N
Environment (Technological, Regulatory)
Source: Paul Shrivastava, Greening Business

>>> Economic Performance
>>> Ecological Performance

Hence, organizations today have ample opportunities to minimize pollution, product hazards, and wastes by developing environmental friendly products, packaging, and green advertising. Organizations can save money by being eco centric and by developing green solutions. It will fetch economic benefits to the organization and will protect the environment. Thus, win-win situations can be achieved.

How to promote Sustainable Development in the organization:
1. Transformation of organization from economic entity to ecological entity.
2. Create environmental management systems and policies.
3. Design environmental friendly strategies, products, operation systems and waste management practices.
4. Develop technologies that minimize the pollution and invest heavily in research and development of projects dealing in environmental protection.
5. Develop a network with ecologically oriented non government organisations, create tie-ups with agencies which promote awareness on environmental issues.

As Shrivastava argued, if corporations continue along the environmentally exploitative paths of the past, soon there will not be much left to exploit. The power of the idea of ecological sustainability lies in the opportunities it opens up. It does not resist growth per se. It challenges us to look for ecologically sound forms of economic development.[17] Hence, sustainable economic growth is the only viable option we have. Let us have a look as to how pollution prevention programmes are executed and how they have minimized the waste.

Companywide Pollution-Prevention Programs: Few **Examples**

1) Environmental program at AT&T

Company used a BIOACT solvent derived from citrus fruits and other organic compounds to clean its electronic equipments. It eliminated CFC use in circuit board manufacturing process through use of the AT&T low solid fluxer.[18]

2) General Electric Pollution, Waste, and Emissions Reduction Program (POWER, 1989)

At its Louisville plant GE has reduced its production of hazard wastewater-treatment sludge as high as 95%. At GE Plastics' Ottawa plant it has reduced its butadiene emissions by more than 90%. GE Medical Systems' E. Dale Trout plant has reduced its generation of hazardous waste by 74%. Business wide, GE Power Delivery has reduced its CFC usage by 72% and companywide, GE has reduced its SARA 313 reported releases by 11% in the period from 1987 to 1988.[19]

3) Goodyear Toxic Air Emissions Reduction
At Goodyear toxic air emissions were decreased from operations by improving maintenance and monitoring of equipments and through decreased use of acrylonitrile, butadiene and styrene. [20]

4) IBM Hazardous Waste Generation

Company pledged to eliminate ozone depleting chemicals from its products and various processes. Further, company also kept an ambitious target of recycling 50% of its solid waste. It accomplished its targets reasonably well.

Its hazardous waste was reduced by 38% from 1984 to 1988. Similarly 84% of its hazardous waste was recycled. At IBM US 28% of all solid waste and 20% emissions were reduced during 1987-88. 21

5) Xerox

At Xerox by substituting d-limonene for chlorinated solvents, it reduced the amount of solvents emitted to the atmosphere from about 200,000 lb in 1982 to an estimated 17,000 lb in 1990. Further, a High-pressure water strip operation has enabled Xerox to recycle 800,000 Ib nickel and 2 million lb of aluminum tubes per year, and to return 160.000 lb of selenium to suppliers for reuse. 22

The above cases indicated the economic benefits derived by corporations by implementing pollution prevention programmes. It can be practiced in any other organizations also, by bringing new waste reduction ideas and implementing them. Today, it is the economic as well as ecological performance of the organization that will determine its operational effectiveness and competitive advantage in the industry.

This discussion definitely provides insight towards developing a model which can be used to guide organisations towards sustainable and yet profitable organisations.

Figure-3   Model for Sustainable Organisation
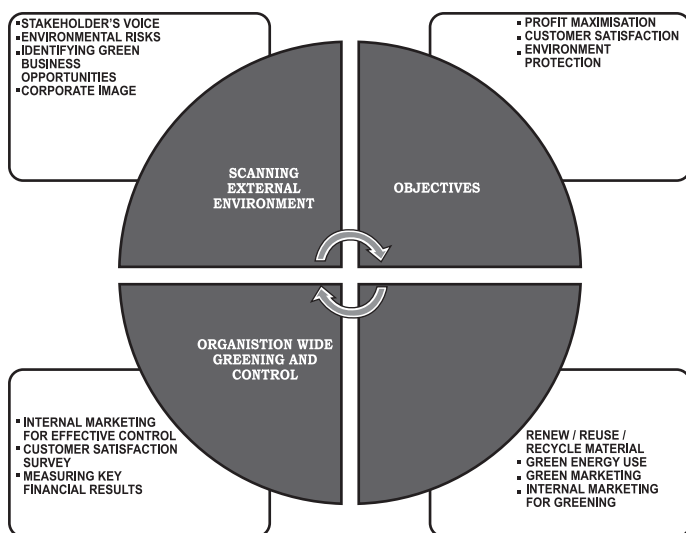
As it is indicated in above figure-3, it's a circular flow in which organizations need to examine external environment which leads to green business opportunities, and also provides insight about use of energy and natural resources and its likely hazards to environment. Taking this as an input, organisations need to set its objectives which helps it to grow as a sustainable ogranisation. Here, rather than traditional objectives of customer satisfaction and profit, it has to hit the triple bottom line i.e. maximization of profit, customer satisfaction and protection to environment. Once objectives are set, then organization moves to third stage where it has to design and employ green marketing strategies and also need to introduce internal marketing so that employees become sensitive towards environment, can deal with various stakeholders considering organization wide greening. Similarly, use of green energy, practice of renew/ reuse/ recycle material need to be inculcated in organisation's culture which would enhance the journey of sustainable growth.

At the last stage, monitoring and control need to be designed and executed so that organizational objectives can be achieved effectively. With the help of close monitoring of employee behavior towards greening of the organisation, measuring key financial results, and conducting customer satisfaction survey would provide adequate insight about effectiveness of green strategies.

Thus, in order to move towards sustainable development along with economic growth, this proposed model can be utilized effectively to make organizations sustainable.

Conclusion:

Although technological inventions, process innovations and innovative business practices have accelerated economic growth, its vital for us to understand that this economic growth has come with the cost that we have heavily compromised in terms of environment. Global warming, ozone depletion and rise in temperature of the earth have reduced the possibilities of sustainable development. Therefore, growth pattern should be such that it leads us towards environmentally sustainable development. We need to use natural resources more sensibly and economically and waste should be minimized. Today's consumers have shown concern for environment and corporations need to respond positively by developing products, processes and practices which creates the sustainable organizations. In short, growth strategy of the organization must revolve around "renew, reuse and recycle" of the resources.

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Students' Attitude Towards e-Learning : A Case Study

Gunmala Suri , Sneha Sharma

Abstract:

Technological advancement has led to important changes in the way education is being imparted. e-learning symbolizes an important, rising trend in the application of technology to assist student learning. It is one of the tools that has emerged from information technology and has been integrated in many universities. The study presented here focuses on the relationship between discipline of student and their response and attitude towards e-learning. In light of literature it is recognized that discipline of students does play a role in understanding the satisfaction and experience of students in the education environment. The effect of students discipline on their attitude towards computer technology and e-learning are being analyzed in this paper. Computer and e-learning attitude scale was constructed and validated and a questionnaire was further developed for collection of data. In this study 477 students enrolled in various courses across 6 major discipline in Panjab University Chandigarh, India were analyzed. To measure the attitude of students a new scale on computer and e-learning attitude (SCAELA) was developed and validated. The results of ANOVA for analyzing the impact of disciplines of student on Scale on computer and e-learning attitude showed that a significant positive relationship between discipline of student and factors of scale on computer & e-learning attitude. The results show that a significant relationship exists between discipline of student and the factors of scale on computer and e-learning attitude which falls in line with previous researches which lay emphasis on the role of department in learning and satisfaction level of students. Chi square test of association disclosed that there is no association between discipline of student and response towards provision for e-learning. A moderate association between discipline of student and weekly internet usage is also inferred. The research here thus puts forward that discipline does play a significant role in building the attitude towards computer technology and e-learning. This can be used as an input for framing the e-learning platform or tool for implementing virtual learning environment in an educational setting.

Keywords: *e-learning attitude, department/discipline of student, computer attitude, internet usage.*

Introduction

E-learning is the deliberate use of networked information and technology in teaching and learning. e-learning is usually defined as a type of learning facilitated ICT for improving the quality of teaching and learning. A number of other terms such as virtual learning, online learning, network and web-based learning, distributed learning are also used. Primarily, they all refer to educational processes that make use of information and communications technology. e-learning utilizes interactive technologies and communication systems to develop better learning experience. It has the potential to transform the way teaching and learning is done across the board. The changes in the field of Information and Communication Technologies (ICT) have revolutionized the business as well as the educational sector across the globe. Teaching and learning strategies have seen a radical revision with the sole aim of providing better service to the learners through the intensive use of the technology. Universities and corporations have expanded their use of e-learning in order to provide better and more cost effective ways of delivering instruction and training. The previous researchers have analyzed the effect of demographic variables such as age and gender on e-learning attitude of students. It also suggests the dependence of the demographic variable department/background of student on internet usage and activities on computer. But not much research has been done to analyze the effect of department or discipline of student as a factor affecting attitude towards computer and e-learning. Literature suggests that department/discipline does play a key role in building attitudes of students. The satisfaction and learning is also affected by the discipline/department of student. This research builds an approach to examine individual's attitude toward the computer technology and e-learning based on the discipline/department in which they are studying thus adding a new dimension to the literature.

Statement of problem

Literature suggests no answer to the impact of department/discipline of a student on their attitude towards e-learning.

Objectives of the study

1. To analyze the effect of discipline of student on Scale on computer and e-learning attitude (SCAELA) of students.
2. To analyze the effect of discipline of student on students response towards provision of e-learning.
3. To analyze the impact of discipline of student on weekly internet usage.

Hypothesis of Study

H1: There is no significant difference on computer and e-learning attitude scale on basis of discipline of student.

H2: There is no association between discipline of student and weekly internet usage.

H3: There is no association between discipline of student and response towards provision for e-learning.

Period of Study

The study was carried out from July 2012 to Oct 2012 for collection of data and analysis.

Research Methodology

Participants

The study used a survey approach for examining computer and e-learning attitudes of the students. The target population for the research was the students studying in the Panjab

University campus. A total of 500 questionnaires were distributed among various discipline of the university. It included Arts, Science, Business Management, Engineering and Law. Ten departments were covered across the above mentioned five discipline.

Measurement

Demographic profile of the respondents such as sex, age, discipline of student and response towards provision of e-learning were covered in first section. A scale on computer & e-learning attitude (SCAELA) was constructed and validated in order to draw a relationship between e-learning attitude and attitude towards computer. Computer Attitude Scale (CAS) [19] by Loyd and Gressard„s (1984) & „The Attitude towards Computer Instrument (ATCI)[20], developed by Shaft et al. (2004) were referred and modified for the purpose of current study. The scale on computer & e-learning attitude contained seventeen questions that covered variables on attitude and feelings towards computer/computer technology as well as e-learning.

Data Analysis

Overview of data gathered

A total of 500 questionnaires were distributed across five discipline of the University. 477 questionnaires were received back and retained for the further analysis. Thus the response rate was over 95%. SPSS and Microsoft Excel were used for analysing the data. Statistical approach of one-way ANOVA and Chi-square test of Association was used for testing the hypothesis.

The details regarding the demographic characteristics (Table I), i.e. gender, age, discipline of study are discussed; the sample size consisted of sample units from all the major discipline of Panjab University. The gender distribution in the sample survey was not biased with 45.1 % males and 54.7 % female respondents. The discipline under study had 36.7 % representation from business management and 19.5 % from Arts followed by 15.5% and 15.1% from Law and Engineering technology. Representation from science discipline was 13.2 %. The students' response towards provision of e-learning when compared with the discipline to which the student belongs shows that students from all discipline are in favor of provision for e-learning facilities (Table II).

Table I: Demographic statistics

Descriptive Statistics	No of Respondents	Percentage
Discipline/Department		
Arts	93	19.5
Business Management	175	36.7
Engineering Technology	72	15.1
Law	74	15.5
Science	63	13.2
Gender *		
Male	215	45.1
Female	261	54.7
Age*		
Less than 20	160	33.5
20-26 years	299	62.7
26-30 years	8	1.7
Above 30 years	4	0.8

*N≠477 due to missing values

Table II: Discipline wise response towards provision for E-learning

Department/Discipline	Yes	No
Arts	85	6
Business Management	168	6
Engineering	61	11
Law	73	1
Science	54	8

The scale that was constructed for measurement of computer and e-learning attitude was validated and further factor analyzed. Factor analysis reduced the 17 variables into four factors after PCA with varimax rotation (Table III). The statement which had the maximum factor loadings under a factor were grouped together. The four factors were named as Sentiments towards computer/ computer technology, Attitude towards e-learning, Perceived usage of computers and Physical presence of teacher. 58 % variance was explained by these four factors which is near to 60 % i.e. the expected value.

Table III: Rotated Component Matrix[a]

	Component			
	1	2	3	4
I feel at ease learning about computer technology	**.715**	.218	.062	.124
I am the type to do well with computer technology	**.790**	.138	.159	-.069
The thought of using computers is not frightening	**.777**	.124	.025	.049
I do not feel threatened by the impact of computer technology	**.759**	.089	.017	-.112
I feel comfortable about my ability to work with computer technology	**.716**	.112	.244	-.036
I like working with computers	**.629**	.244	.341	.091
Once I get on the computer I find it hard to stop	.141	.151	**.562**	.266
I would choose to use a computer in my spare time	.083	.064	**.773**	.220
I prefer to use a computer to write my assignments	.167	.175	**.699**	-.238
I would choose to use computers in my teaching	.254	.427	**.462**	-.186
e-learning is a suitable alternative to the pen/paper based system	.161	**.616**	.327	-.353
With e-Learning my course will be more enjoyable	.269	**.695**	.227	-.143
Class notes of any lectures will be easily accessible even if I miss one	.108	**.591**	-.052	.330
With e-learning I would interact more with other students	.135	**.759**	.094	.117
Studying through online medium will help me retain more	.172	**.757**	.161	-.071
Physical presence of teacher is extremely essential for learning the course	.002	.010	.145	**.809**
More topics can be covered less time by use of e-learning as compared to conventional medium of blackboard and notes.	.079	**.683**	.087	.034

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 6 iterations

The fourth factor due to insignificant correlation with the other three was dropped. Cronbach"s

The fourth factor due to insignificant correlation with the other three was dropped. Cronbach's alpha value was 0.857(>0.7) which shows that the scale has good internal validity thus highly reliable. The three factors were highly reliable with Cronbach's alpha near to expected range (Table IV).

Table IV: Cronbach's alpha

Factor	Cronbach's Alpha	No of items
Scale on computer & e-learning attitude	.857	17
Sentiments towards computer/computer technology	.854	6
Attitude and feelings towards e-learning	. 803	6
Perceived usage of computers	.619	4

To analyze the impact of discipline (department) of student on the Scale on computer and e-learning attitude

ANOVA was used. For testing the association between discipline of student and response towards provision for e-learning and weekly internet usage Chi square test of association was used.

Results and Discussion

The results of ANOVA for fulfilling objective-1 i.e. analyzing the impact of discipline of student on Scale on computer and e-learning attitude showed that a significant positive relationship between discipline of student and factors of scale on computer & e-learning attitude. The test of homogeneity was run for three factors on scale on computer and e-learning attitude the p-values depicted equal group variances (p = 0.711, 0.176, 0.137 > 0.05). The results of ANOVA (Table V) revealed that factor on attitude towards e-learning at p<0.05 level [F (4, 470) = 3.815, p = 0.005], for factor on sentiments towards computer/computer technology [F (4, 470) = 9.601, p = 0.000] and perceived usage of computers [F (4, 469) = 4.866 p = 0.001].

Table V: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Attitude towards e-learning	Between Groups	8.476	4	2.119	3.815	.005
	Within Groups	261.068	470	.555		
	Total	269.544	474			
Sentiments towards computer/ computer technology	Between Groups	21.639	4	5.410	9.601	.000
	Within Groups	264.825	470	.563		
	Total	286.464	474			
Perceived usage of computers	Between Groups	11.343	4	2.836	4.866	.001
	Within Groups	273.339	469	.583		
	Total	284.682	473			

The p-value for attitude towards e-learning, sentiments towards computer/computer technology, perceived usage of computers is 0.005, 0.000, and 0.001 respectively is less than .05 thus the null hypothesis are rejected. The results show that a significant relationship exists between discipline of student and the factors of scale on computer and e-learning attitude which falls in line with previous researches which lay emphasis on the role of discipline (department) in learning and satisfaction level of students. The radar diagram (Figure1) further depicts the overall attitude of students across the discipline under study. It clearly depicts that students from business management and law were having a high positive attitude as compared to discipline of science, engineering and arts.
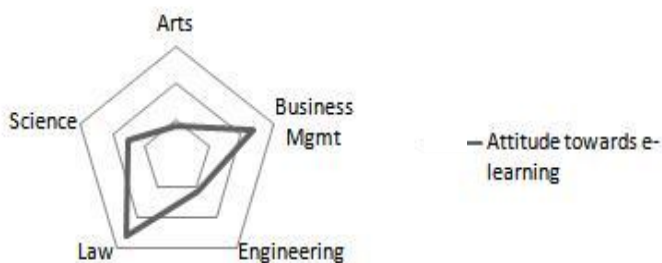
To achieve objective-2, chi square test of association was run to see if there is any association between discipline of student and response towards provision for e-learning. The output stated the Pearson chi-squared statistic as 18.038. The p-value is .001 which is less than 0.05 which means that we can reject the null hypothesis of no association between discipline of student and response towards provision for e-learning (Table VI).

Table VI: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.038[a]	4	.001
Likelihood Ratio	17.966	4	.001
Linear-by-Linear Association	1.260	1	.262
N of Valid Cases	474		

Table VII: Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.195	.001
	Cramer's V	.195	.001
N of Valid Cases		474	

Phi and Cramer's V though significant have the statistic value .195 which shows a weak association between discipline of student and response towards provision for e-learning (Table VII). For examining the effect of discipline of student on their weekly internet usage chi square test of association was used for attaining objective three. The Pearson chi-squared statistic came out to be 90.872. The p-value is .000 which is less than 0.05 which means the null hypothesis of no association between discipline of student and weekly internet usage is rejected (Table VIII). Phi and Cramer's V though significant have the statistic value .438 and .253 which shows a weak to moderate association (Table IX). Thus a moderate association is observed between discipline of student and weekly internet usage by student.

Table VIII : Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Likelihood Ratio	92.709	12	.000
N of Valid Cases	474		

Table IX: Symmetric Measures

	Value	Approx. Sig.
Cramer's V	.253	.000
N of Valid Cases	474	

The radar diagram further shows that weekly internet usage is maximum for the business management discipline in the current study (Figure2).
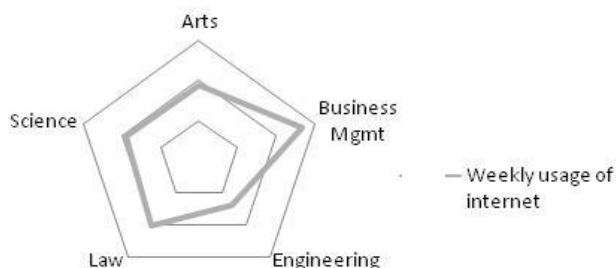
Figure 2: Radar graph for discipline-wise weekly usage of internet

Literature Review

The term e-learning can be used to explain any electronic learning material from CDROMS on stand-alone PCs to intranet/internet networked systems with downloadable and interactive material [1] [2]. Adopting and implementing e-learning into an educational system can be categorised into three reasons; first, the growth of information technology has made e-learning an ideal delivery vehicle for education and learning. Second, it is information rich as e-learning allows access to "information rich" resources by both teachers and learners anywhere, anytime. Third, it is an alternative learning strategy it can get in touch with those who were previously denied access (e.g. students with physical disabilities) and further the blended learning approach proposes that e-learning can supplement traditional classroom off thus freeing up valuable resources and expanding the offering to greater numbers students [3]. e-learning concept is existent since decades and is one of the most significant recent developments in the Information Systems (IS) industry [4]. e-learning can be defined as a wide set of application and processes allied to training and learning that include computer based learning, online learning, virtual classrooms and digital collaboration [5]. These services can be delivered by a variety of electronic media, including the intranet, internet, interactive TV and satellite. Research on the impact of college on students suggests that sub-environments within the same institution can have very different influences on students [6]. Overall institutional culture is not significantly associated with student outcomes but that major departments are important in the study of the impact of college on students. Faculty continues to be one of the important factors that influence the students' experiences in college, and a debate continues over the impact of the opposing roles of faculty work [7]. Researchers have put forward that the research and teaching are complementary endeavours and that faculty who do research are more likely to produce satisfied, well-educated students [8], [9]. Researchers have also shown the impact that departmental culture and climate have on student learning and satisfaction [10]. The impact of academic departments on students' satisfaction and development has been researched. The characteristics of departments such as faculty contact with students, research emphasis, and proportion of female undergraduates had a significant impact on satisfaction with education in the major and the perceived impact that college had on skill development [12]. Research for demographic factors gender suggests that female students accept ICT use more than their male counterparts [13]. Contrary to

this another study demonstrated that male students have more positive e-learning attitudes than female students [14]. A gender difference exists for "affect" and "perceived usefulness", whereas no gender differences were indicated for attitude towards Physical activity [15]. Prior technical skills or computer experiences may be influenced by age and gender and may influence intent to use a variety of technology applications [15] [16]. The demographic variables such as gender, age and discipline (departments) have a considerable effect on the activities that students carry out with the help of computer [17] [18].

Conclusion

The main contributions of this study are it successfully uses a newly constructed scale for measuring computer and e-learning attitude. The research further reveals that discipline of student (department) is a significant criterion that affects computer attitude and e-learning attitude. The association between discipline of student and response towards provision for e-learning also brings out that e-learning implementation will require discipline/department-vise focus for implementation. The connection/association between discipline of student and weekly internet usage hints at the varied comfort levels that students will have from various discipline with respect to usage of internet/computer technology. These results can be used as inputs for proper implementation of e-learning process at any education setting. Proper analysis of the various discipline w.r.t students comfort with technology/internet usage should be done before implementing any technology based learning methodology.

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EXPLORING THE LEADERSHIP STYLE OF DR. MUHAMMAD YUNUS AT GRAMEEN BANK OF BANGLADESH

Mohammad Aftab Uddin

Abstract:

Good leadership matters for transforming a drive into reality. A legendary leader can transform merely a drive into reality by his charisma, dedication, initiative, and commitment to the society, and above all, to the organization. Dr. Mohmmad Yunus transforms his drive and vision of alleviating poverty from the rural Bangladesh by building an organization of 8.61 million borrowers scratched from only 42 borrowers by his initiative. The research is a kind of exploratory research based on secondary information which has been collected from journals, websites, and books. It is found that his vision of building a bank for the poor who are not bankable by the traditional banking system comes true by his transformational leadership style backed by his drive, vision, charisma, desperation, commitment, and faith on Grameen Bank families. Social and managerial implications, conclusion, and future directions have been discussed in the end.

Keywords: *Bangladesh, Grameen Bank, Leadership Style, MuhammadYunus.*

Introduction

Nothing is permanent in the world but the change and transformational leaders along with charismatic leaders are the agents of change (Rowold & Heinitz, 2007). None can sustain for long without changing the way of thinking, doing, and moving forward. In business organizations, it's crucial to bring changes to the changing requirement of customers because customers expect differences from the competitive company. The competitive company keeps the customer (internal, i.e. employees, and external, i.e. buyers-actual and potential) satisfied by bringing innovation through creativity prior to any competitor does. Strategic leader makes the difference between success and failure by anticipating, challenging, interpreting, deciding, aligning, and learning (Schoemaker, Krupp, & Howland, 2013). A good leader transforms an institution into the benchmark deemed to be followed by others in the same industry or competing for the same currency.

The workplace has become a melting spot because of the involvement of diverse workforces. This workforce diversity has given rise to the mountainous problems in organizations clouded with dissatisfied employees for reduced wages, tight work-schedules, high turnovers, least productivity, etc. Only a good leader can counterbalance all these and turn everything into some meaningful outcome. Transformational leadership is the right answer for this. Transformational leadership is an ability of the leader that transforms the followers into articulated and committed to the concerted goal guided by the mission of a leader with a different view towards the work by accepting the ideas from the leader and culminating things done in new ways. Comparing with transactional leaders who expect respect through compensation deal, transformational leaders deserve to have much respect, honor, and acceptance through their personal charisma, quality, faithfulness, and compelling vision (Rahman, Ferdausy, & Uddin, 2012a; Uddin, Rahman, & Howladar, 2014; Weihrich & Koontz, 2000).

Bangladesh is one of the most densely populated countries of the world and one of the world's lowest land areas per capita (Roy & Chan, 2011). 160 million populations are living in a territory of 147,570 square km with a literacy rate of 71% (Ahmed & Flaherty, 2014; Uddin, Sohel, & Rahman, 2014). Today, a country of a bottomless basket during independence war in 1971 has become a developing one. Since then, small and medium enterprises and agriculture were severely affected due to the scarcity of loans to the poor. Dr. Muhammad Yunus transforms the eye-catchy bubble 'bank for the poor' into a reality. This paper have been undertaken to understand the nature of Dr. Muhammad Yunus leadership style and how this type of leadership can be socialized for building a better Bangladesh.

Literature Review

Leaders are matter for radical and incremental change in the organization. It is their ability to influence people toward the attainment of organizational goal (Daft, 2010, p. 378). Philosophers such as Aristotle (Nichomachean Ethics and Politics), Plato (The Republic), Confucius, Sun Tzu (The Art of War), Niccolo Machiavelli (The Prince), Pareto (The Treatise on General Sociology), and many others contributed to the development to the theoretical basis of leadership (Toor & Opori, 2008 p. 61). A good leader is one who knows the way, shows the way, and goes the way (Maxwell cited by Baker, 2011, p. 98). Who is a good leader had been explained more than 2500 years ago (Figure 1) by a Chinese poet and philosopher Lao Tzu (cited in Toor & Opori, 2008 p. 63). The previous literatures suggest that this discipline is not novice. Since the inception of human civilization, leader-followers, and leadership behavior were co-existed.

A leader is best

When people barely know he exists

Not so good when people obey and acclaim him

Worse when they despise him

But of a good leader, who talks little,

When his work is done, his aim fulfilled,

They will say: we did it ourselves.

Figure 1

of leadership over 60 years and researche before 1945 encompassed primarily on identifying traits, behaviors, and personality patterns that would differentiate leaders from non-leaders (Fiedler, 1996; Yukl & Heaton, 2002). Different schools (Leadership traits, behavioral approach, contemporary approach, and contingency approach) of leadership propose different types of leadership styles and the appropriateness of leadership style depends upon the situation being faced. A sheer volume of researches has been carried out in the field of transformational leadership, transactional leadership, and charismatic leadership. Transformational leadership is the instilling of pride, self-respect and faith in the leader and is centered on the articulation of a vision for the organization by transforming followers' attitudes, beliefs, and values which is positively correlated with subordinate satisfaction, motivation, and performance (Bass, 1996; Wofford, Whittington, & Goodwin, 2001; Masi & Cooke, 2000) whereas transactional leadership is characterized by the exchange of one thing of value for another between leader and subordinates and careful correction of mistakes by the leader (Masi & Cooke, 2000; Rahman, Ferdausy & Uddin, 2012a, Rahman, Ferdausy & Uddin, 2012b).

Transformational leaders are, to some extent, similar to charismatic leaders (Table 1), but distinguished by their special ability by the way they used to treat followers to the concerted goal (Conger & Hunt, 1999). Charismatic leadership is an ability (of Adolf Hitler, Abraham Lincoln, Mahatma Gandhi, Mahathir Bin Mohammad, Mao Zedong, Martin Luther King Jr., Mother Theresa, Nelson Mendala, Sheikh Mujibur Rahman, Steve Jobs, William Jefferson Clinton, etc) to inspire and motivate people to do more than they would normally do, despite obstacles and personal sacrifice (Daft, 2010). Fiedler (1996) finds that charismatic leaders may or may not be effective in achieving the organization's goals, but their followers are blindly obedient and unquestioningly loyal. Transformational leaders (i.e., Abraham Lincoln, Mahatma Gandhi, Steve Jobs, Nelson Mendala, Mahathir Bin Mohammad, Deng Xiaoping, etc.) used to have charisma like charismatic leaders and in addition, they instill in followers the ability to question not only the established views but also eventually those established by the leader himself which makes them (transformational leaders) totally different from charismatic leaders (Avolio & Bass, 1985). Transformational leader is more than a charismatic leader which compels the follower to dedicate themselves to the congruent organizational goals. This type of leadership ability instills high sense of commitment, trust and creativity among the employee directing the transformation of the enterprise toward the envisioned goal (Yucel, McMillan, & Richard, 2014; Gumusluoglu & Ilsev, 2007; Braun et al, 2013).

Authenticate or ethical leadership and servant leadership are other two dominating styles of leadership in organizations. A snapshot of all major leadership styles is given in the following Table 1:

Table 1: Leadership styles and their characteristics found in different studies		
Leadership Styles	Characteristics	Studies
Transformational	Visionary, drive to serve, charisma, intellectual stimulation, individual consideration, and inspirational motivation, recognition, and openness.	Acar (2012), Aliakbari & Darabi, (2013), Bass (1990), Bass (1995), Castaneheira & Costa (2011), and Kim & Kim (2014).
Charismatic	Charisma, trust, radical, inspiring vision, sensitivity to environment, and sensitivity to followers.	Conger & Hunt (1999), Fiol, Harris, & House (1999), Klein & House (1995), and Rowold & Heinitz (2007).
Servant	Interpersonal bondage, vision, credibility, trust, ethical behavior, empowered followers, follower centered, and preparing others to serve.	Hunter et al. (2013), Nsiah & Walker (2013), Rachmawati & Lantu (2014), and van Dierendonck, Stam, Boersma, de Windt, & Alkema (2014).
Ethical	Correct decisions, principle oriented, honest, reward & punishment, corporate values, confident, hopeful, optimistic, resilient, high moral character, and trustworthy.	Aslan & Şendoğdu (2012), Avolio & Gardner (2005), Brown, Treviño, & Harrison (2005), Brown & Treviño (2006), and Gardner, Cogliser, Davis, & Dickens (2011).
Transactional	Instrumental, exchange relationship, contingent rewards, compensation deal.	Acar (2012), Bono, Hooper, & Yoon (2012), Epitropaki & Martin (2013), and Uddin, Rahman, & Howladar (2014).

Enterprises in Bangladesh were facing enormous crises crowded with war infected nation (after 1971), political instability (since 1975), poverty stricken society, downgraded rules and order situations, and overall macro-economic downturn and its economy was regarded 'bottomless basket' (Hossain, 2013). This country was in need of some heroic leaders for transforming the people, organizations, and the resources for rebuilding the war-devastated nation. Building effective leadership talent is really a big challenge then and even today (Cleavenger & Munyon, 2013). Different styles of leadership turn out to be effective in different situations for constantly anticipating and adapting to change. There are meager of researche as to the exploration of leadership style of social leaders and transformers in Bangladesh. It strives the researcher to figure out the leadership style of Muhammad Yunus, the CEO and Founder of country's biggest bank.

Muhammad Yunus: From a Professor of Chittagong University to Nobel Laureate Economist

Professor MuhammadYunus, was born in a family got his master degree from Dhaka University in 1961 and joined Chittagong College at the age of 21. He was naturally blessed with self-confidence, optimism, and ambition and got started a magazine named 'Advancement' while he was the student of Dhaka University. He got full bright scholarship in 1964 to study development studies in USA. He has extended his utmost efforts to the West Pakistani (Currently Bangladeshi) community during independence war time while in USA. He came back to Bangladesh to take part for rebuilding the war devastated nation, but got frustrated while working in planning commission and found that transformation of thousands of bureaucrats' mentality, indeed the entire government, was necessary (Counts, 2008).

Eventually, he had been appointed as Associate Professor in Economics Department of the University of Chittagong. After joining there, he launched Rural Studies Program (RSP) financed by him for giving students a chance of understanding how things are happening in reality. In 1975, he proposed a model (tehbhaga-three share) to the local farmers where he will get nothing but loss eventually and contribute significantly to the continuation of crop production. This project faced enormous loss to Yunus and farmers were not losers at all. It experienced miraculous success in the years that followed under the supervision of farmers. He started next venture for removing helpless women folk by giving loan of $27 to 42 labors from his own pocket and got some remarkable results (Counts, 2008). Motivated by this effort, he approached some state commercial banks for financing those poor women but declined for having no collateral. Professor Yunus became the guarantor of all loans ($300). This bank of $27 seed money has become the noble laureate organization under the great visionary leadership of Professor Muhammad Yunus.

Objectives of the Research

(1) To figure out the leadership style of Muhammad Yunus;
(2) To highlight what makes him becoming this type of leadership;
(3) To garner some leadership traits in Muhammad Yunus; and
(4) To suggest some recommendation for nurturing a leader like him.

Research Methodology

To conduct this research, the authors first selected some keywords, such as, Bangladesh, Grameen Bank, Leadership Style, and MuhammadYunus. These keywords were used to search databases like Emerald, JESTOR, Springer, Sage Journals Online, Science Direct, and Wiley. Furthermore, search engine Scholar Google, and DOAJ were used to find out relevant literatures from other sources. Articles were sorted out based on their names, keywords, and abstracts. An exhaustive literature review has been chalked out for engendering the key facts of his leadership style. Journals, conference proceedings, and various directories including web page of some related companies have been considered. Secondary quantitative data has been used in this research paper.

Findings

This (Tk. 856; US$27 in 1976) was the first seed capital of present Grameen Bank (a bank of the poor) which has sanctioned a loan of US$6 billion (with a recovery rate of 98.6%) in 78,000 villages throughout Bangladesh. It has been working since 1976 (transformed into a formal bank under a special law in 1983) with a lot of ups and downs (Yunus & Waber, 2007). This bank disburses Tk. 10000 million loans every month by a constant motivating slogan "Discipline, unity, courage and hard work-with these we march forward (Yunus, 2011a)!" It gives interest free loans to over 132 thousand beggars (130 thousands in 2011) to find ways to get

out of the humiliating life of begging. The bank is owned by more than 8.6 million populations (97% of them are women) till to date (Table 2).

Table 2: Grameen Bank at a Glance

Origin:	1976
Formal Bank:	1983
Total Borrowers:	8.61 million
Total Beggars Members:	132 thousands
Female Borrowers:	96%
Total Villages Coverage:	81390 (97%)
Total Branches:	2567
Loan Disbursed since inception:	$11.35 billion
Recovery Rate:	96.67%
Loan Finance:	100% by itself
Interest Rate:	11% (Flat Rate)
Source: Grameen Bank Website (2014)	

'I learned a lot sitting and talking with the women of Jobra; I came to know about things which I had never imagined. I longed to do whatever I could to help them. With my students, I was able to help the women in a small way. Acting as the guarantor, I was able to arrange loans from the bank for the poor people of the village. Alongside the loans, I added a savings program. At that time, women in the village did not have the capacity to save. The savings program started with 25 paisa (¼ of a Taka) in savings per week. Today the total amount of savings by the borrowers stands at 6 billion Taka' (Yunus, 2011b, Farewell Speech)!

Grameen bank has been growing up since 1976 facing tremendous hurdles from all corners, for example, from natural (floods, storms, and tidal waves) to human created like, political and religious attacks and overcame them with discipline, unity, courage and hard work. In 2006, Grameen Bank and Professor Dr. Muhammad Yunus won the Nobel Peace Prize, first & only ever by any institution or individual and brought the entire nation a very big honor. Mossammat Taslima Begum on behalf of Grameen Bank received the Nobel Peace Prize and she gave her acceptance speech to the global television. The entire world watched and listened to her words which were totally impossible back in 1976. She was the representation of each of the women who was used to pull her cloth over their face for protecting their illusions from other than husband while talking to any male and even not allowed to go outside the house. And now these women folk are giving lecture in Norway winning Nobel Peace Prize (Counts, 2008). Mohammad Yunus makes his dream(s) come true and he made it meaningful by his dedication, enthusiasm, inner drive, hard work, and commitment to the nation and the society. Grameen bank, now, became poor bank (!!) of $2.3 billion lent to 2.3 million families by 1998 to $11.35 billion to 8.61 million families by 2014 (Table 1; Yunus & Jolis, 1999).

It was thought that the poor would not be able to repay because they do not have collateral; in fact, repayment rates reached to 97 percent. It was thought that poor rural women,

in particular, were not bankable. The success of this approach shows that a number of objections to lending to the poor can be overcome if careful supervision and management can be administered. His visionary model has become globally popular and applied in 100 countries from Ecuador to Eritrea, from the Norwegian polar circle to Papua New Guinea, from Chicago's inner-city ghettos to remote mountain communities in Nepal Canada, China, France, The Netherlands, and Norway (Yunus & Jolis, 1999; Yunus, 2003). He-a man of vision, practical ability, and drive- had a dream of putting homelessness and destitution in a museum so that one day our children will visit it and ask how we could have allowed such a terrible thing to go on for so long. Yunus's small loan helped them break the cycle of poverty for good. His solution to world poverty, founded on the belief that credit is a fundamental human right, is brilliantly simple: lend poor people money on terms that are suitable to them, teach them a few sound financial principles, and they will help themselves. His initiative small credit transforms the poor having no collateral to become self-employed and self-dependent.

Professor Yunus imagination of sending poverty to museum, strong drive to build an institution of giving credits to landless and hardcore people especially the women, personal qualities of never stopping, and talent of reading the unforeseen future has paved the way of building a bank of billion borrowers. His personal charisma, attention to details, dedication to grater mankind, commitment to community development, and a vision of having zero poverty are found to be similar to the attributes of a transformational leader (see Table 1). His transformational leadership ability has transformed the entire organization into a world leading microfinance provider and is being followed in different parts around the world.

Managerial and Social Implications

Transformational leadership is instilling pride, drive, encouragements, and desperation to pursue the vision and mission of the leader to the extent that it is shared goal, target, and achievement. Muhammad Yunus makes this sense by driving a folk of million Grameen bank clients to achieve the harmonious target. This study is important from two perspectives. Firstly, from leadership perspective: a leader being followed by his vision, integrity, commitment, dedication, determination, and desperation can transform a group of people or an organization into living example for the world. Secondly, from followers' perspective: followers tend to follow a leader whom they think that he is the right guy to lead the organization to their long desired goal. This study will be useful for all CEOs and executives who have been running an enterprise or a group of people for leading them in a right track. Students and youth might be aided by learning the autobiography of Muhammad Yunus. His legacy will envision young entrepreneurs all over the world to keep chasing their dream for the social enlightenment. Academics will find a new understanding of how the traditional banking fails to address the poverty at the remote level what they ought to abate. Society must nurse this type of enlightened people for the emancipation of social poverty otherwise one day it has to pay off.

Conclusion and Future Direction

Leader is such a legend who understands the problem, takes the first lead to address the problem, and but transformational leader is different from all other forms of leadership who can scan the situation, and lets his followers grow up to feel the same, leads the same to reach their utmost destination by themselves. Muhammad Yunus, a transformational leader, leads the poor (especially the women) by themselves transforming a non-traditional banking system into a full-fledged formal banking system called "Grameen Bank-a bank for the poor." His entrepreneurial vision, social commitment to the poor, devotion to the organization, drive to root-out the grass-root poverty, and desperation of keep going turn his dream into a noble laureate organization and personality.

This study is an exploratory research based on descriptive materials and secondary data. Besides, no quantitative analysis has been chalked out to prove the style of leadership Muhammad Yunus follows. A quantitative analysis might have been done to quantify the leadership traits of Muhammad Yunus. Instruments of different styles of leadership designed under Likert 5 or 7-point scale can be administered to employees of Grameen Bank and urge them to rate Muhammad Yunus against each statement. Statistical analysis through SPSS or Smart PLS might be tried. Eventually, the accurate leadership type can be measured statistically.

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Negative Interest Rate Policy by ECB: A Case Study

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Abstract:

The European Central Bank (ECB) announced several measures to inject life into the Euro zone stagnant economy. One such measure is the decision to cut the deposit rate for the region's commercial banks from zero to minus 0.1 per cent. This is something unusual and has never been heard before. Although the measure brings expectations, it also brings much fear along with it. With the entire Eurozone in economic trouble, ECB's measure is being seen as a gamble. Everyone is watching what the impact of this policy will be? Will it bolster the economy and move it forward or will it hit hard and push it back towards uncertainty? Negative interest rate was present in Nordic countries a few decades ago with minimal effect on expected results. What will happen to Europe, and this policy weather is the best that ECB needs to be consider is for us to see?

Introduction

On June 4, 2014 ECB became the first major central bank in the world to make one of its rates negative. It was an attempt to get credits flowing into the troubled economies. At the same time, the central bank reduced its main interest rate to a new record low of 0.15 per cent, from 0.25 per cent previously. ECB also announced a €400bn (£325bn) liquid funding for the banks with a condition that this amount would be lent only to those companies which were not in the financial sector, and also added that it could not be spent on mortgages. The Euro economy's outlook had already brought the ECB under strong criticism. There was also immense pressure on Draghi in recent times to make available cheaper credit for households and business to boost growth in the 18 member Eurozone.

Why Did ECB cut the intrest rates?

The ECB is unlike the United States Federal Reserve which has the power to generate jobs. The ECB was created with only one objective which was to control inflation in the 18-member Euro zone, Though ECB is only allowed to control rising or falling prices, it can also make sure other economic factors like employment or growth do not affect the inflation rate adversely. The biggest instrument for ECB in this aspect is to control the intrest rates. The main rate here is the 'refinancing rate'. This rate is about how much the ECB can charge for it its loan. ECB also determines how much banks can charge among themselves for loans. The rates for saving accounts and those that are paid on mortgages have links to this. The other interest rate which ECB has control over is the deposit rate, which is what the central bank pays to other banks for holding their deposits overnight. With such a limited scope of area for action, ECB was expected to cut the rate (See Figure 1).

The ECB found that the banks and other financial institutions in Europe have been showing reluctance to lend money to business in the recent past. The Annual growth in M3, the general measure of cash in economy, was hovering around one per cent in the past few quarters. This figure was above 12 per cent in 2007, when the economy was reflourishing. Currently, in April 2014, the figures were abysmally low against one per cent in March 2014. The ECB found that the stressed countries were facing difficulty in their recovery because of credit constraints. Post sovereign crisis, the banks had shown very little interest in lending, therefore, there was little investment and growth in wages.

Euro zone economy in 2013 final quarter

The household financing and financial investment remained unchanged at 0.3 per cent and 1.6 per cent respectively in the last quarter of 2013. In the past one year, thr household gross disposable income was moving around just one per cent. The annual growth rate of household financing was unchanged at 0.3 per cent from the previous quarter, and that of financial investment was unchanged at 1.6 per cent. Household net worth increased at an unchanged annual rate of 0.5 per cent. The annual growth rate of household gross disposable income increased to 1.5 per cent in the fourth quarter of 2013 (third quarter: one per cent). The annual growth rate of household consumption expenditure increased to 1.2 per cent in the fourth quarter, from one per cent in the third quarter while that of household gross saving increased to 3.7 per cent from 1.7 per cent. The household gross saving rate was 13.1 per cent in the fourth quarter of 2013, compared to 13.0 per cent in the fourth quarter of 2012. The annual growth rate of gross fixed capital formation of households was one per cent in the fourth quarter (third quarter 2013, 1.4 per cent). Euro area gross fixed capital formation was unchanged on an annual basis, after decreasing in the 2013 third quarter. The gross capital formation declined on and annual basis (minus 1.8 per cent, from minus 0.1 per cent (See Figure 2).

There had been a sharp decrease in the outstanding amount of debt securities issued by euro area residents. this decreased from point seven per cent in March 2014 to minus one per cent in April. For the outstanding amount of quoted shares issued by euro area residents, the annual growth rate was 2.2 per cent in April 2014, compared with 2.0 per cent in March (See Figure 3).

Other options with ECB

ECB could have initiated the quantitative easing (QE) instrument or a bond buying program. What happens here is that the central bank buys up assets for example. mostly government bonds which is an effort to boost up money supply. The financial institutions who sell these products are expected to respond to the capital boost from ECB by increasing lending throughout the geograpical areas. The quantitative easing has another effect. it increases the demand for sovereign debt, which pushes its price higher and brings its yield down, and therefore it becomes easier for governments to borrow. Though lending is a sign of stronger economy, unfortunately in Europe loans to small and medium size businesses have been falling for the last few quarters. Since no common Euro zone bond exists today, and if ECB buys the sovereign assets of one country, then its risk is the same for the entire region. Moreover the European Union has put a ban on ECB to provide any 'monetary financing'. This means there is virtually no scope for launching a quantitative easing program.

The economy in the Euro zone has also been suffering from slow inflation rates and low economic growth. In the first quarter of 2014, the economy grew by just point two per cent. The inflation rate has rise by 0.7 year-on-year, although this was an uptick then from March 2014 figure, which was 52-month low of point five per cent. Now, if the ECB works like the United States' Federal Reserve by chasing the sovereign debts, there would have been some chance of boosting the figures. This would have pushed lending to corporate as well as households. Thus there would have been inspiration for spending and the risk of deflation mitigated. Though this picture looks rosy, there is no such program existing in ECB mainly because no common Euro zone bond is present.

Another option the ECB had was to allow the commercial banks to parcel together all the loans on their books into asset-backed securities and to sell these to ECB. The ECB buying such instruments would have freed up capital for these financial institutions. But, it should be remembered that the 2008 global economic crisis was catalyzed by rampant trading of these types of instruments. Moreover, Euro zone has a diversified member's economy, assessing the risk and prices of such securities would have been very difficult. The ECB had the final option to cut the deposit rate in pays to the banks to store money with it. The deposit rate was already standing at zero. This negative rate may prompt the banks to stop piling up cash and start lending to the market. The cut on the rates, could also devalue the Euro against dollar. The advantage of the weaker single currency is the costlier currency which makes the export in Euro zone more expensive, thus inhibiting the economic growth in the region.

Negative Interest Rates

The term negative interest means exactly which is what says. In normal practice, banks earn interest on money they put in the central bank reserve. With this particular condition, these banks will be charged by the central bank for keeping money out there. ECB has a positive hope that the banks will stop accumulating money and will start lending more to consumers, busineses or among banks which in turn will boost the economy (See Figure 4). If we look directly at this process it will be like if now I get a positive five percent annual interest rate on my deposit account, fo example I put in $100 and get out $105 a year later. with a negative five percent interest rate, I put in $100 and get out just over $95 one year later. The same holds for bonds. I issue a one-year zero-coupon bond with a minus five percent interest rate and a year later I repay my creditors just $95 for every $100 borrowed through bond issuance. It looks simple, but the question is, will it work and give the desired result. There are several unpredictable consequences. Central banks have no problem whatsoever paying negative interest rates on deposits (reserves) held by banks with them (See Figure 5). Neither is it any more difficult to charge a negative interest rate on collateralized borrowing by commercial banks from the central bank than it is to charge a positive interest rate. The biggest possibility is that the commercial banks may pass the costs they incur for ECB deposits to its customers.

Past Instances of Negative Interest Rates

This is not the first time a central bank has opted for negative interest rate. In July 2009, the Riksbank, Sweden's central bank and the world's oldest central bank cut the interest rates to minus 0.25 per cent. Not only they introduce negative interest rates, butt the also started a program of quantitative easing or printing money. The motive of Riksbank was very clear; they wanted to penalize banks for holding reserve deposits. The deputy governor of the Riksbank Lars Svennson announced that they would devalue the currency and peg the exchange rate. He was known as a person who strongly targeted inflation. His policy was to upward slop short term price levels which were coupled with lower long inflation targets. The moment the short term price levels were achieved the pegs were abandoned. This is one such typical case where a country went after inflation and the liquidity trap and tried to tackle them. The Swedish central bank undertook this policy in 2009, and it is for us to deside what lies in store for the 18 member strong Eurozone. In 2012, Denmark aiming to cap the unwanted rise in this currency brought the interest rates to negative. What happened was that currency was pushed higher. This achived because the investors started looking for safe-havens outside the already crisis hit Euro zone as a result The Danish market was flooded with foreign money. The negative deposit rates did not cause a financial meltdown. The central bank of Denmark issued several warnings. Also, there were no significant changes in the rates charged by the banks for loans. (See Figure 6 and 7)

ECB's Gamble

The ECB in its press release stated that "The European Central Bank's mandate is to ensure price stability by aiming for an inflation rate of below but close to 2 per cent over the medium term." Like most central banks, the ECB influences inflation by setting interest rates. If the central bank wants to act against too high inflation, it generally increases interest rates, making it more expensive to borrow and more attractive to save. By contrast, if it wants to counter too low inflation, it reduces

interest rates. It went on, adding that since Euro area inflation was expected to remain considerably below 2 per cent for a prolonged period, the ECB's Governing Council judged that it needed to lower interest rates. The ECB has three main interest rates on which it can act namely: the marginal lending facility for overnight lending to banks, the main refinancing operations and the deposit facility. The main refinancing rate is the rate at which banks can regularly borrow from the ECB while the deposit rate is the rate which banks receive for funds parked at the central bank. All three rates have been lowered. It also informs that this policy is not going to have any direct impact on savings and only the banks which deposit money at the ECB have to pay. In a market economy, the return on savings is determined by supply and demand. For example, low long-term interest rates are the result of low growth and an insufficient return on capital. The ECB's interest rate decisions will in fact benefit savers in the end because they support growth and thus create a climate in which interest rates can gradually return to higher levels. It also adds that as a central bank, ECB's main business is to make it more or less attractive for households and businesses to save or borrow, but this is not done in the spirit of punishment or reward. By reducing interest rates and thus making it less attractive for people to save and more attractive to borrow, the central bank encourages people to spend money or invest. If, on the other hand, a central bank increases interest rates, the incentive shifts towards more saving and less spending in the aggregate, which can help cool an economy suffering from high inflation.

Silvio Gesell, the great German economist argued for tax on holding money. He stressed the theory of "tax on holding money". His idea was that in hard economic conditions hoarding money is a tendency instead of lending it. Today banks sit on pile got excess liquid assets, thus Gesell's theory holds good. With financial ruins and, several defaults taking place one after another this attitude needs some change. Perhaps this is exactly what Draghi and his men had in mind. If a question of: "what is best way to fight economic downturn and move away from stagnancy?" is asked, Economic downturns result from going down of demands of services and commodities. The immediate solution is that the central bank will come forward and cut the rates. The lowered interest rates will immediately influence consumers and businesses to borrow and spend. The ECB announced several measures to inject life into the Euro zone's stagnant economy. One such measure was the decision to cut the deposit rate for the region's commercial banks from zero to minus 0.1 per cent. This was something unusual and never heard of before negative interest rate policy. It brought expectation but it also resulted in fear as well. Interestingly in Europe, ECB has reduced the interest rates as much as it can in recent times. Now, it seems that the 'negative interest rate' is the best solution to bolster the economy.

The biggest concern that can result is that the fear of withdrawal. With interest rates going negative, the banks will be left with options to either pass these negative interest rates on to consumers, or at least try to do so. They may not explicitly charge a negative interest rate, but they may stop paying interest and start charging a fee for account maintenance. On

the other hand, if the interest rate is only slightly negative, banks may just eat the loss to avoid alienating customers. If they do that, however, it will cut into bank profitability. If the banks opt for the latter it is not going to have much impact on customers. But, if they pass it on to the consumer, a fear of severe withdrawal cannot be ruled out. This is one of the big reasons that the ECB has moved so reluctantly toward a negative interest rate and the Fed, Bank of Japan and Bank of England have not gone in that direction. People keep money in banks with the idea that the amount will increase with the interest it earns over a period of time. But, if they are asked to pay for it, someone will always be there who may withdraw himself or services out of the banking system.

Studies suggest that major banks in the Euro zone collectively deposit $1.0 trillion with the ECB every 24 hours. If this is cut, the banks will definitely end up paying the ECB to hold their funds. The ECB considers that from now on, these banks will reduce accumulating money in ECB's depository and will start rolling them thus making the economy move forward. But catch is, if the EU banks feel that preserving their capital is their most important job, they will still do the same in spite of being asked to pay the penalty. The economy in Europe is too weak and is safer for these banks to lend money in the market rather than keeping it safe. Sweden and Denmark did not get much benefit in 2009 and 2012 by introducing negative interest rates. Moreover, it seems that the central banks have intervened the natural economic cycle of ups and downs. In my opinion what can happen is that the stock markets could go haywire and another bubble might burst. On the whole, a stimulated downturn could take place worldwide. Interestingly, it should be noted that Denmark did not cut rates below zero to boost the economy, but rather to safe-guard the currency peg to the Euro. The excess liquidity in the Euro-zone financial system has recently fallen to €100 billion from a peak of €800 billion. This effectively means that the maximum benefit of a negative interest rate would only be €100 billion, not nearly enough to really boost bank lending and growth and bring down inflation. The addition of extra funds would provide here stronger incentive to increase lending to corporations and households, rather than paying the ECB to deposit the extra cash. Yet, the issue remains with the currency Euro. The shared currency is partly to blame for getting the ECB into this easing mess to start with, even though Draghi & Co. consistently have said the exchange rate is not a policy target. Nevertheless, the strong Euro has hurt inflation and these easing gymnastics could also be seen as a way to drive down the currency.

Basel Committee on Bank Supervision in its BASEL III accord speaks about Liquidity Coverage Ratio. Its aim is to have 30-day liquidity coverage ratio designed to ensure short-term resilience to liquidity disruptions. For that stock of high quality liquid asset for the bank must be greater than the Net Cash Outflows over the next 30 calendar days. The stresses might take place on occasions like run off of a proportion of retail deposits, partial loss of unsecured wholesale funding capacity or unscheduled draws on committed but unused credit and liquidity facilities. High quality assets are defined by BASEL as those which have low credit and market risk or have ease of valuation. These may include cash, central

bank reserves or Central Bank bonds not assigned a zero per cent risk weight. Now, central bank deposit options might not be attractive any more as the banks will be asked to pay for parking cash. So, the safer option would be to buy bills and bonds issued by ECB.

The worst which can happen is that the fate could worse than death. Prices could go up relentlessly, and salaries might lose purchasing power. This is because Mario Draghi spoke about bringing back inflation rates close to 2 per cent. The conditions might hurt customers who struggle for food, and the cost of living might go up enormously. The idea of pushing more liquid money to the economy could do harm by lowering the value of Euro. for example, Credit Suisse lending money to Boeing Corporation for a lucrative project. Boeing the money to shareholders, but they deposit the money in the banks including Credit Suisse. The money is then circulated back where it started. Credit Suisse then deposits the money into the ECB. As They cannot avoid the negative deposit rate. Cash circulation takes place in a loop and this loop cannot be completed without the banking system. The money is transferred from one party to another, but never moves out of the bank. Now, the question is how a bank could reduce its deposit in the central bank? The banks could buy government bonds or treasury bills from the ECB or Federal. when banks buy these they pay ECB. Will the ECB deposit these Euros in commercial banks? The answer is no. So, this is one solution of what the banks could do to avoid the penalty levied for parking cash in ECB. One distant ugly fear is that a parallel economy or banking system. Europe has enough tax-havens and the number of rich people is also not less. There could be a situation when few rich start their own banking system either individually or joining together. What could happen is that such financial institutions lend money at zero percent interest or at positive rate or might even at negative rates but lower than what the commercial banks offer. Perhaps this might fancy the idea that one day such people might become too strong and take control of the economy.

Appendix
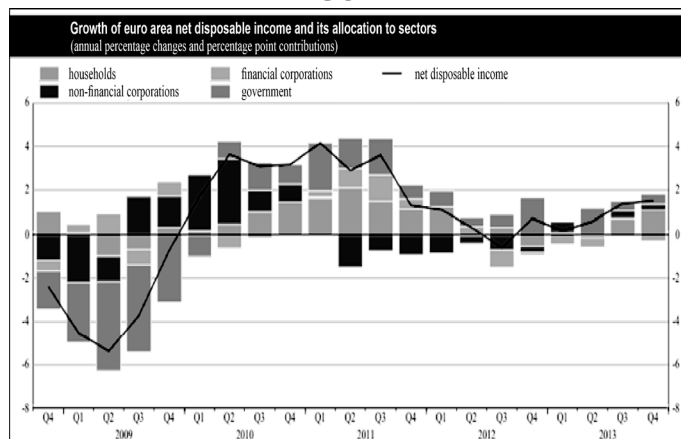
<div align="center">FIGURE 1:</div>

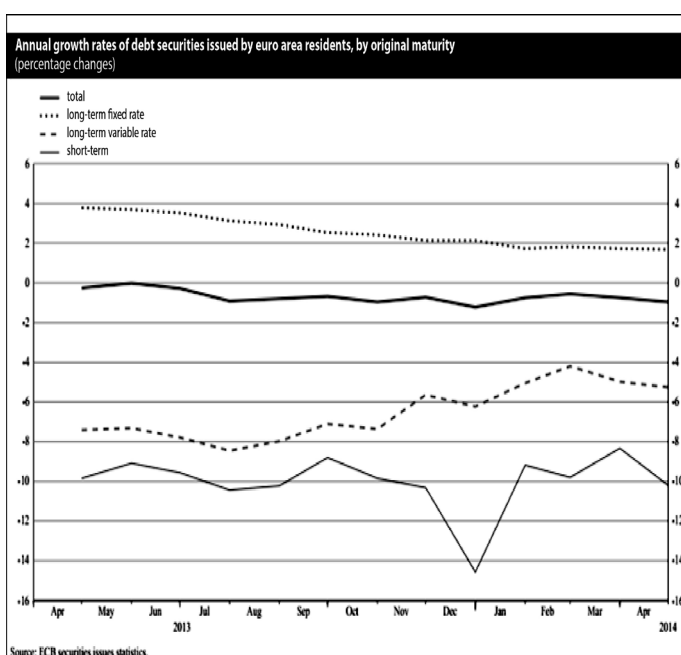Source: European Central Bank

<div align="center">FIGURE 2:</div>
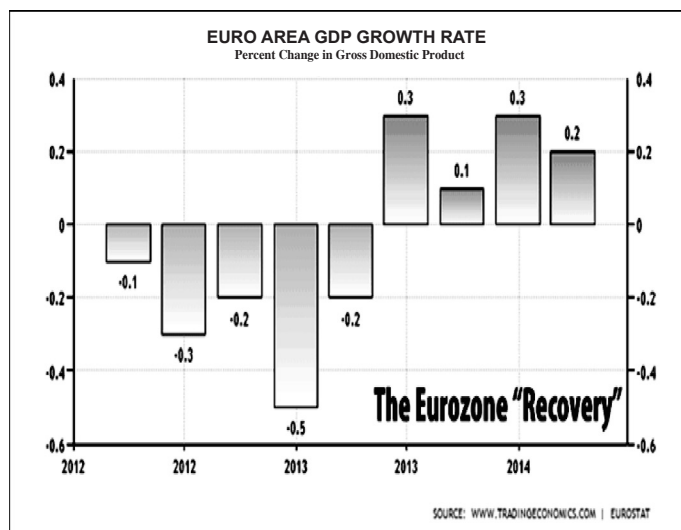

Source: European Central Bank

<div align="center">FIGURE 3:</div>

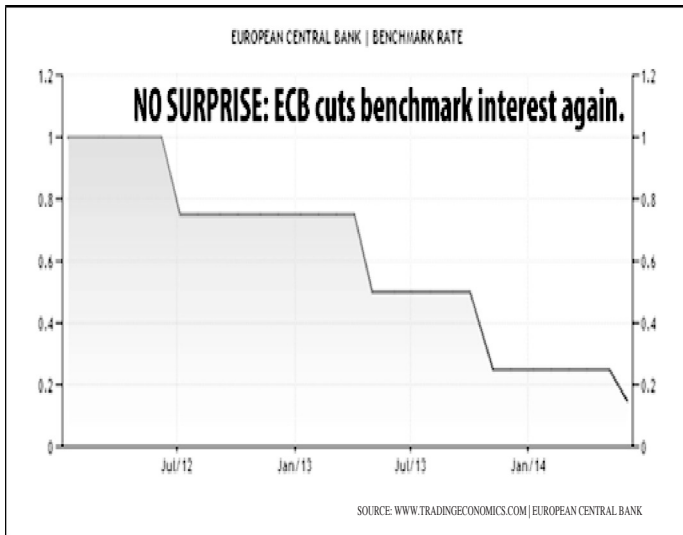

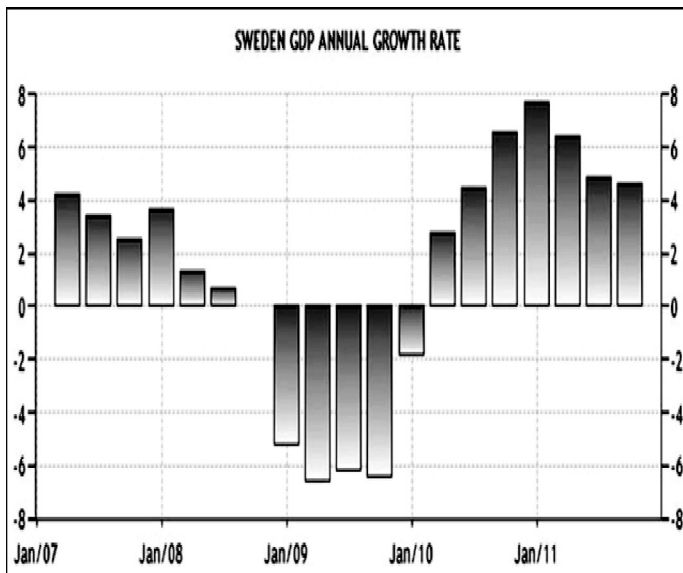Source: European Central Bank

<div align="center">FIGURE 4:</div>
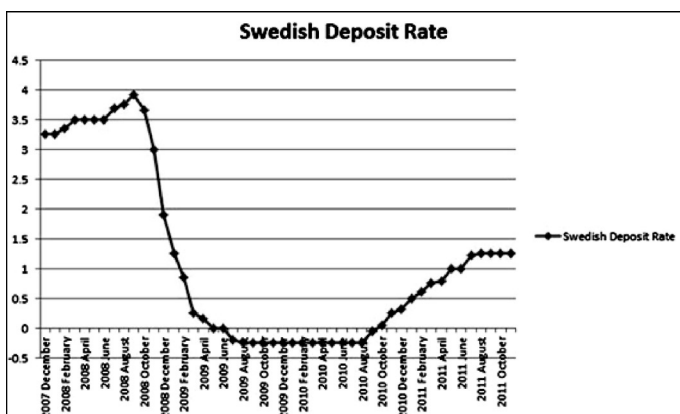

Source: www.tradingeconomics.com

FIGURE 5:

Source: www.tradingeconomics.com

FIGURE 6:

Source: www.tradingeconomics.com

FIGURE 7:

Source: www.tradingeconomics.com

List of questions for discussion:

1. What will happen if the policy fails?
2. Is there any chance that other countries can also implement negative interest rates?
3. What other issues could crop up for the negative interest rate policy?
4. There are far many possible ways other than negative interest rate policies. Discuss
5. What is the difference between sub-prime crisis in US and Euro crisis?

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