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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	SOCIAL NETWORKS IN THE ERA OF MOBILE DEVICES: THE SIMULATION OF PRIVACY <i>ALEX J. CAMACHO-MARTÍNEZ, EDGAR FERRER-MORENO, ISABEL RIVERA-RUIZ & ANGEL OJEDA CASTRO</i>	1
2.	THE BEST PRACTICES FOR SOCIAL MEDIA, THEIR CONSUMERS, AND REGULATORS <i>APPALAYYA MEESALA, VANI, H. & MUTYALU NAIDU, MURRU</i>	5
3.	REVISITING BRIC ECONOMIES: TESTING STOCK MARKET INTERDEPENDENCE: COMPARISON BETWEEN PRE AND POST CRISIS PERIODS <i>TARUNIKA JAIN AGRAWAL & RAHUL AGRAWAL</i>	10
4.	IMPACT OF FDI ON S & P NIFTY INDEX <i>H NANJEGOWDA & ABDUL HALEEM QURAISHI</i>	15
5.	CULTURAL FACTORS INFLUENCE EFFECTIVE KNOWLEDGE MANAGEMENT <i>FASEEHA BEGUM & DR. C. SWARNALATHA</i>	20
6.	ROBOTICS IN NURSING <i>DR. JANET. J</i>	24
7.	COMPOUND EXPONENTIAL LIFETIME DISTRIBUTION-II AND ITS APPLICATIONS <i>G. SIRISHA & R.J.R.SWAMY</i>	28
8.	A STUDY ON ETHICS AND CHALLENGES IN ORGANISED RETAIL IN INDIA <i>DR. MARUTHI RAM.R, MANJUNATHA.N. & VINISH.P</i>	36
9.	UNDERSTANDING HUMAN FACTORS THROUGH HUMAN FACTOR ANALYSIS AND CLASSIFICATION SYSTEM (HFACS) CAUSING AVIATION INCIDENTS / ACCIDENTS <i>DR. ASHUTOSH SHUKLA</i>	39
10.	MERCHANT BANKING: A BOON FOR THE INVESTORS! (WITH REFERENCE TO REGULATIONS AT SEBI IN INDIA) <i>CHALUVADI.B.V.L.SUDHEER, Y.JAYARADHA SANKAR & ISAAC NAVEEN DEEP</i>	43
11.	AN INSIGHT INTO THE RECENT TRENDS IN FDI: AN ANALYTICAL STUDY WITH SPECIAL REFERENCE TO BRICS NATIONS <i>DR. MOHD ASIF KHAN & NISHA KM</i>	46
12.	A COMPREHENSIVE STUDY ON NETWORKING ISSUES <i>R. ANURATHA & DR. M. GANAGA DURGA</i>	54
13.	A STUDY OF THE IMPACT OF MICRO FINANCE ON THE EMPOWERMENT OF RURAL WOMAN IN INDIA <i>DR. P. SEKAR</i>	57
14.	COMPARATIVE ANALYSIS OF BROADBAND SERVICES IN TWIN CITY: AIRTEL Vs. OTHERS <i>DR. S. K. PATIL</i>	60
15.	AN EFFECTIVE STUDY ON CAUSES AND PREVENTIONS OF CURRENCY FLUCTUATION <i>RAJSHEKAR, M.ABDUL RAHAMAN, M.JAMMANNA, M.SRIKANTH & B.VENKATESH</i>	65
16.	AN EMPIRICAL STUDY ON STAY INTERVIEW: A SPECIAL EMPHASIS ON WORKING ENVIRONMENT CASE OF ABC HOTEL HUBLI <i>KIRAN AMBEKAR, DR.RAMANJENEYALU & TEJASWINI PATIL</i>	68
17.	A CRITICAL APPRAISAL OF NIGERIAN CABOTAGE POLICY, REGULATIONAL FRAMEWORK, EMPLOYMENT PROSPECTS AND WAY FORWARD <i>OBED B.C. NDIKOM & BUHARI SODIQ .O</i>	74
18.	FOREIGN DIRECT INVESTMENT INFLOW IN INDIA <i>SARWAN KUMAR</i>	79
19.	ASSESSMENT AND MANAGEMENT OF FLOOD HAZARD, DIGARU RIVER CATCHMENT ARUNACHAL PRADESH <i>RINKIOLU CHAI</i>	85
20.	EVALUATING THE PERFORMANCE APPRAISAL SYSTEM (PAS) OF SENIOR LEVEL EXECUTIVES WITH REFERENCE TO INDIAN CEMENT INDUSTRY <i>SHANKAR K.JHA</i>	90
	REQUEST FOR FEEDBACK & DISCLAIMER	94

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SOCIAL NETWORKS IN THE ERA OF MOBILE DEVICES: THE SIMULATION OF PRIVACY

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ABSTRACT

Online social networks have become ubiquitous in recent years, mostly because of their relevance to various social processes. Social networks' users have been seduced by attractive interfaces and potential social rewards, putting their personal privacy at risk. In online social networking users are responsible of privacy management, which is implemented by configuring and controlling flow of data. However, the inappropriate use of configuration tools can put users in a potentially hazardous situation, making available their information to unauthorized persons. The rapidly increasing adoption of mobile devices, such as smartphones and tablets enables a variety of social networks applications in which the management of privacy is not only set up by controls on social networks software, but also by the access controls of the mobile device. This work researches the awareness of social network users in managing security and privacy. The research is based on an original framework which was built from two known theories, namely, the communication privacy theory (CPM) by Petronio, and the taxonomy of privacy by Solove. The research data were collected through an online questionnaire, considering different aspects of the relationship between mobile and non-mobile devices, individual privacy rules, and possible risks privacy behavior. The findings showed that users prefer mobile devices to access social networks and online exposure represents the largest perceived risk.


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KEYWORDS

communication, privacy, social networks, security.

INTRODUCTION

 Social interactions mediated through interfaces, devices, and social networks represent a paradigm shift around the relationships between individuals and, in turn, how individuals relate to the surrounding objects. New information and communication technologies have emerged and changed the ways of communication and social interaction. The Internet, social networks, and mobile devices have revolutionized the processes employed by humans to interact with each other.

Users, by accepting to be part of a social network, go into a kind of contract or agreement in which they accept to share their personal information. It appears to be a game in which users are seduced by the interfaces and possible perks that come with using social networks. Certainly, privacy and data security is one of the most important elements in the information age (Gehrke, Lui and Pass, 2011). Given this scenario, the protection of personal information requires measures to promote the safe use of these spaces for social interaction.

Social networks are platforms designed to share personal information. In themselves, they provide mechanisms that alter data visibility, allowing administrators to establish to whom and to what certain information can be submitted in order to protect user privacy. Privacy, in the digital age, can be a utopia; however the concept of privacy should be analyzed as a main feature of social life. People decide what circles make up their environment and what information can be managed and distributed to each of them. In this context, these privacy practices are applied to virtual spaces such as the social networks.

This work researches the awareness of social network users in managing security and privacy. The research addresses how social networks users use privacy management controls through mobile devices. In this study it is particularly relevant the use and management of privacy settings to control the flow of personal information. The research sought to fulfill three objectives: (1) analyze the relationship between individual privacy rules and privacy behaviors played in social networks; (2) analyze the relationship between the benefits, the disclosure of personal information, and the risks that users are exposed by the disclosure of personal information in social networks; (3) identify the importance of the use of mobile devices to facilitate the dissemination and publication of personal information of social networks users.

LITERATURE REVIEW

The conceptual framework proposed in this research is supported by the communication privacy management theory (CPM) (Petronio, 2002) and the taxonomy of privacy of Solove (2008). The CPM theory aims to provide an explanation to the process of managing public and private information. In the context of this work, it means to control the flow of information in various forums or spaces where the user is located. The CPM theory explains how people manage their privacy in terms of communication (Mohamed, 2010) and states that people control their privacy by means of rules (Petronio, 2002).

The increase in the use of social media to enhance social interaction involves varying degrees of disclosure and privacy management (Holson, 2010). Users own their personal information, but what happens when that information is distributed through social networks? In such a situation, the user allows, being conscious or unconscious of the results, disclose his or her information. In particular, the data collected in this research were used to analyze the behavior of users' privacy as a result of handling the flow of information or loss of control of personal information once it is broadcasted through social networks.

GENDER AND PRIVACY

Acquisti and Gross (2006) indicated that there are differences in disclosure between men and women. Acquisti and Gross stated that women are less likely to share data such as sexual orientation, phone number, and physical address of residence. Another study found that men report much information that women, specifically email, username and physical address (Taraszow, Aristodemou, Shitta, Laouris and Arsoy, 2010).

According to the communication privacy management theory, motivation can be found through a link between the parties that get the person to share information that otherwise would not share. There are many motivating factors for disseminating information. One of the factors is the need to increase the number of friends in social networks to compensate for low self-esteem (Roselyn Clark, Park and Kwan, 2012). Other authors (Christofides, Muise and Desmarais, 2009) mentioned the need for popularity as a significant indicator to the level of disclosure specifically on Facebook.

The need for affiliation is presented as a motivating factor to disseminate information on social networks. Boraie and Seung (2011) examined the relationship between disclosure and privacy in the context of Facebook. The authors found a direct relationship between the need for affiliation and disclosure.

DISCLOSURE OF PERSONAL INFORMATION

Previous researchers (Taraszow et al, 2010; Christofides et al., 2009; Acquisti and Gross, 2006; Utz and Kramer, 2009) reported that participants are willing to share personal information on social networks, specifically Facebook. The date of birth, e-mail, the town where they reside, the sentimental status, profile picture, school, college or department where they study reflect high levels of disclosure. While the phone number and physical address reflects low levels of disclosure. According to Christofides et al. (2009), it is an important factor for the participants of their study to control the visibility of their profile.

Taraszow et. al. (2010) found that users prefer to use their full name in the user profile and not the first name or a pseudonym. Doing so makes it easy to identify in social networks. Even in previous studies (Tsaoussi, 2011) was considered the positive and negative aspects of using social media, specifically the case of Facebook and how this network has allowed to blur the boundaries between public and private.

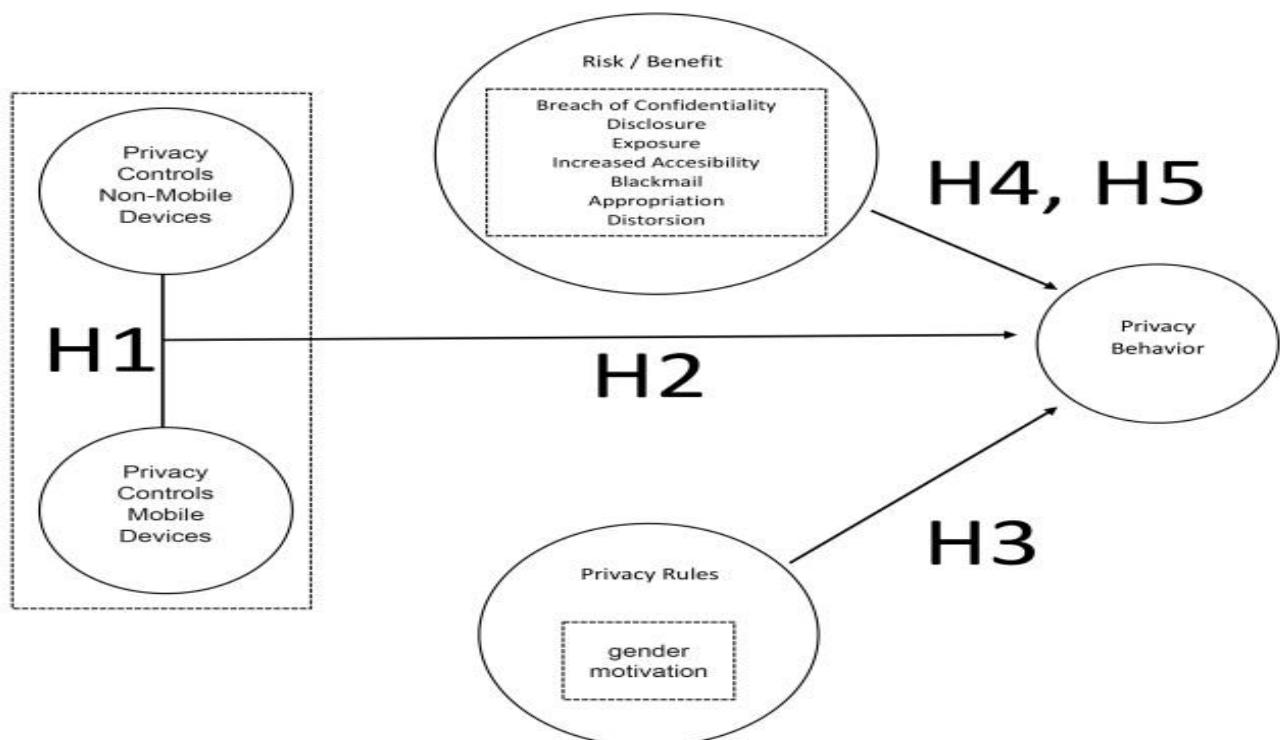
The taxonomy of privacy established by Daniel J. Solove (2008) attempts to identify and understand the different kinds of socially recognized privacy violations. Accordingly, this theory can be used to establish the risks that users may face by security breaches in the handling of information. Solove (2008) developed a Taxonomy of Privacy that recognized as information dissemination the following aspects: confidentiality breaches, violation of confidentiality, disclosure, exposure, increased accessibility, blackmail, appropriation, and distortion. Solove model, although not addressed directly to online social networking, does make mention of information technology and the new dynamics of interaction taking place online. Solove established that public distribution of private life has led to rethinking the current conceptions of what is privacy (Solove, 2008). The results of this research showed how users are concerned about the risks they face when disclosing personal information.

METHODOLOGY

In order to accomplish the research paper, this investigation was non-experimental with an exploratory cross-sectional design where the data were obtained at a given time. This design allowed a deeper understanding of a little-studied analysis in Puerto Rico such as the relationship between privacy, social networks, and mobile devices. The population was undergraduate students enrolled in a public university in Puerto Rico, who have an active account on at least one social network. Individuals who voluntarily participated in the study were university undergraduate students. A questionnaire was administered to 131 students. According to Hernandez, Fernandez, Baptista (2003), a sample should be between 100 and 700 subjects if a regional population is selected.

Figure 1 shows the research model. This study compared the use of privacy controls on mobile and non-mobile devices. It examined the relationship between individual privacy rules; the use of privacy controls on mobile and non-mobile devices; and the risk-benefit ratio in the conduct of privacy.

FIGURE 1: RESEARCH MODEL



The hypotheses of this study are:

- H1: There are not significant differences in the use of privacy controls between mobile devices and non-mobile.
- H2: The privacy controls on mobile and non-mobile devices used by users affect privacy behavior.
- H3: Gender affects the behavior of the individual prone to privacy disclosure.
- H4: Perceived benefits affects users divulge personal information.
- H5: Perceived benefits affects users take precautions to protect your privacy.

The variables of this study were conduct of privacy, corresponding to the dependent variable and the independent variables were the privacy controls exercised by users on mobile devices and non-mobile, privacy rules of the individual, and the risk / benefit. The rules for individual privacy were the dimensions: gender and motivation. The independent variable risk / benefit has de dimensions: violation of confidentiality, disclosure, exposure, increased accessibility, blackmail, appropriation, and distortion.

RESULTS

The study showed that users have a lack of mechanisms to manage their privacy in social networks through mobile devices. These mechanisms would ensure greater security for your personal information. From the perspective of developers and system administrators, a mismatch between the product-service was demonstrated and user awareness of its availability. It then requires more promotion on alternatives for safe social networking experience through mobile enabled devices. Accordingly it can minimize the risks to the security of personal information. The literature reviewed indicated that there were differences in terms of gender in the dissemination of information. However, this study showed no differences between gender and behavior of privacy. It further showed that the most concern was derived from the risk of disclosure of personal information.

Hypothesis One (H1) indicates whether there are significant differences in the use of privacy controls between mobile and non-mobile devices. To test hypothesis one, a Wilcoxon test was performed between the variables of privacy controls on mobile and non-mobile, specifically variable automatic login and password for both mobile and non-mobile. Based on Wilcoxon test the null hypothesis was rejected because the p = 0 value was less than the significance level ($\alpha = 0.05$). The findings showed that there are significant differences between the use of privacy controls between mobile and non-mobile devices. We proceeded to perform the same test using the variable password in mobile and non-mobile devices. In this case, after applying the Wilcoxon test, the null hypothesis was rejected because the p value = 0.016 was less than the significance level ($\alpha = 0.05$). The findings showed that there are significant differences between the use of privacy controls between mobile and non-mobile devices.

The second hypothesis (H2) indicates that the privacy controls on mobile devices and used by non-mobile users have significant effects on the behavior of privacy. Table 1 presents a summary of the results obtained.

TABLE 1: SUMMARY OF SPEARMAN TEST FOR MOBILE AND NON-MOBILE BEHAVIOR AND PRIVACY

Privacy Controls	Type of Device	Privacy Behavior						
		var1	var2	var3	var4	var5	var6	var7
Password	mobile	0.892	1.000	0.650	0.400	0.228	0.238	0.615
	non-mobile	0.634	0.287	0.879	0.216	0.581	0.799	0.316
Automatic login	mobile	0.892	0.063	0.155	0.462	0.180	1.000	0.445
	non-mobile	0.045	0.445	0.695	0.629	0.044	0.500	0.956

var1 = kind of profile; var2 = kind of photo; var3 = to disseminate real name in the email; var4 = disclosing telephone number; var5 = to disseminate physical address of residence; var6 = kind of username; and var7 = disclosing the date of birth.

Hypothesis three (H3) states that individual privacy rules represent factors that promotes behavior prone to privacy disclosure. Within privacy rules is genre, while for privacy conduct included profile type, type of photo, disclose real name in the email, disclose phone number, physical address of residence, name, and disclose the date of birth. Responses were compared using the Spearman test. The summary of the results obtained where presented on Table 2.

TABLE 2: SUMMARY OF SPEARMAN TEST FOR GENDER AND PRIVACY CONDUCT

Privacy Rules	Privacy Conduct						
	var1	var2	var3	var4	var5	var6	var7
Genre	0.491	0.174	0.904	0.271	0.892	0.474	0.124

var1 = profile type; var2 = type of photo; var3 = disclose real name in the email; var4 = disclose phone number; var5 = physical address; var6 = name; y, var7 = disclose the date of birth

The fourth hypothesis (H4) states that the perceived benefits encourage users to disclose large amount of personal information. As perceived benefits data display photos, videos or write about or visited places everyday experiences, participate in discussions or dialogues with friends, find dates or share with actual partner, look for work, play or belong to groups of interest. As for the level of disclosure, data was taken from the type of profile. Responses were compared using the Spearman test (see Table 3).

TABLE 3: SUMMARY OF SPEARMAN TEST OF PERCEIVED BENEFITS AND TYPE OF PROFILE

Disclosure	Perceived benefits / motivation					
	var1	var2	var3	var4	var5	var6
Type of Profile	0.739	0.683	0.042	0.122	0.297	0.776

var1 = show photo, videos or write about or visited places everyday experiences; var2 = participate in discussions or dialogues with friends; var3 = find dates or share with actual partner; var4 = look for work,; var5 = play; y, var6 = belong to groups of interest.

Hypothesis five (H5) established the perception of benefits decreases the precautions taken by users in social networks to protect their privacy. Hypothesis five was tested using the variables of perceived benefits and precautions to protect privacy. The precautions taken by users depend on the level of disclosure of information they disseminated through social networks. Perceived benefits were compared with the behavior of privacy. The effect of the test shows the perception of benefits indicator matchmaking or share with current partner affects users to take precautions to protect their privacy.

LIMITATIONS AND FUTURE STUDIES

The present study was limited to the analysis of the behavior of user privacy in social networks and the influence of mobile and non-mobile devices. An additional limitation was the population was young university undergraduate students. Further investigation can be done using data from several continuous time periods. By conducting this type of study, data can be compared from three continuous years. Also, consider the age of the participants to achieve a population more representative. A further possibility would be to extend the study population to graduate students. Also, should carry out the study in different universities considering several regions and then compare the results.

CONCLUSION

The study identified data relevant to an understanding of the impact of mobile devices on the phenomenon of social networking. The findings in this study allow us to conclude the following:

- 56.5% of participants identified the smartphone as the most used mobile device.

- 81.7% of respondents identified mobile devices as the main method for accessing social networks.
- Facebook is the leading social network used by the participants in the study (91.6%), YouTube (80.9%), Instagram (58.8%), and Twitter (51.9%).
- 61.1% of participants using a semi-public profile on social networks.
- 80.9% of participants used an identifiable photo on their profile.
- 64.9% of participants used an email with your real name.
- 95.4% of participants did not disclose their phone number.
- 97.7% of participants did not disclose the physical address of residence.
- 90.1% of participants used his real name as the username.
- 73.3 of participants disclose your date of birth.
- 49.6% think it is unimportant how many friends or followers on social networks.
- 69.5% are online every day on social networks.
- Perceived benefits in the indicator matchmaking or share with current partner, affects users taking precautions to protect your privacy.
- Perceived benefits in the indicator matchmaking or share with current partner, affects users divulge personal information.
- Gender does not affect the individual's behavior prone to privacy disclosure.
- Significant effect on the type of profile and disclosure of physical residence address on auto login for non-mobile devices.
- There are significant differences in the use of privacy controls between mobile and non-mobile devices.

Finally, the results obtained in this study allowed us to know valuable information about uses of the privacy mechanisms those users in social networks through mobile devices. Various industries, educational, and social institutions in Puerto Rico can use the results of this research as benchmarks for their work, studies or future decisions.

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THE BEST PRACTICES FOR SOCIAL MEDIA, THEIR CONSUMERS, AND REGULATORS

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ABSTRACT

Frequent and compulsive visits by individuals to social media sites have become an essential part of their daily lives. The dominant purpose of this behavior is to be in touch with the members of their circle and learn the things that will help in their lives. But social media companies which have to generate revenues for survival and growth pass the data of the social media consumers to others for commercial gain besides inviting advertisers to post their commercial messages on the social media pages. Social media has given utmost autonomy to individuals for content creation and its posting. In fact, each individual is functionally a journalist and a newspaper. But the social media has to be used most responsibly and cautiously. Most importantly, social media companies are selling the data of their consumers, and thus undermining the privacy of the individuals. Consumers are also exposing themselves to preying behaviors of unscrupulous comen and anti-social elements. Quite a good number of crimes committed on gullible social media users are reported day in day out. Besides, advertisers are raining their messages on the users, interfering with their activity. The society is caught in a quandary- to choose between severely restricted activities of social media, and their freedom to innovate and use the latest technology. This paper is an attempt to review current status of social media use, its down side, the safety provisions available in the social media sites, and privacy settings in the browsers. This paper further presents the best practices for individual users, social media companies, and regulatory agencies. Important among them are privacy by default, informed consent from consumers, contextual integrity, do-not-track options in browsers, posting only authentic information that does not defame others, creation of separate groups, avoiding plagiarism, setting of privacy commissions, cautious legislation that does not trample innovative technologies and so on.

KEYWORDS

Social media, privacy, contextual integrity, Face book, cybercrimes, and content posting.

INTRODUCTION

For a growing number of people, both at home and in the workplace, a quick look into their Facebook account or Twitter, the most popular social media providers, for- being in touch and exchanging information with their important people- is a key part of their daily activity. Average time spent on Facebook per visit is 20 minutes. Social media gives unlimited autonomy to creative audience that was capable of producing high learning and recreation value; this could not be provided by the traditional media (Peirson and Heyman, 2011). Generation Y (persons born after 1981) cohort depends heavily on technology for entertainment, interacting with others, and also for emotional support from others; they are fortunate to be prosperous for a long period and have seen tremendous advances in communication technologies, social networking, and globalization (Park and Gursoy, 2012).

The extent of 'compulsive use' of Facebook testifies to the popularity of social media. Facebook site had 1.28 billion monthly active users as on March 31, 2014; this is equivalent to 128 crores which is the size of the total population of India. Facebook users in India and Brazil are key sources of growth in the first quarter of 2014 relative to the same period in 2013, according to the filing of Facebook with US Securities Exchange Commission; of these account, 5 to 15 million accounts are fake. (Facebook may have 100 million fake accounts globally, 2014).

Five new profiles are created every second. It bears repetition that average time spent on Facebook per visit is 20 minutes. What is the traffic on Facebook? - Every 60 seconds on Facebook, 510 comments are posted, 293,000 statuses are updated, and 136,000 photos are uploaded. Thirty percent of the users are aged 25-34 years and 50% of 18-24 year-olds go on Facebook when they wake up. The users are 53 per cent women and 47 percent men. Twenty percent of page views in USA are of Facebook. Forty-two percent of the marketers opine that Facebook is critical for their businesses (www.zephoria.com, 2014).

Juxtapose it with cybercrimes reported! Cybercrime cases against women in undivided Andhra Pradesh registered a steep increase during 2013. According to National Crime Records Bureau (NCRB), undivided AP recorded 225 cases of eve-teasing and harassment, a 55% jump over 2012's figures. Many vulnerable persons particularly children and unmarried women are falling prey to the persons who take control of personal information and use it for personal gains or with criminal intentions.

The frenetic embracement of social media as being witnessed now vis-à-vis the alarming number of cases of misuse and preying of innocent persons being reported is a matter of great concern for the society. Social media operators, their users, and the regulatory agencies have to act in ways that technology is best used, innovations encouraged, business not smothered and individuals not harmed. This article is an attempt to discuss some best practices for social media operations, its users, and regulatory agencies.

WHAT IS SOCIAL MEDIA?

Social media is defined in simple terms as 'any online service through which users can create and share a variety of content' (Bolton et al., 2013).

According to Ellison, Seinfeld, and Lampe (2006), online social networks are defined as spaces for individuals to meet virtually one another, show their social connections, and establish or continue communications with others; these sites allow members to give personal information, share pictures, and connect with other users with similar interests; users often think that they are free and anonymous.

According to Encyclopedia of Communities of Practice in Information and Knowledge Management, social media is a social system built by a set of actors of certain attributes (age, profession etc.) for certain relations (friendship, exchange of knowledge etc.).

Social media encompasses social networking, internet forums, blogs, wikis, podcasts, video-sharing, file-sharing, and instant messaging. Social media websites include Facebook, MySpace, Twitter, LinkedIn, Blogger, Del.icio.us, Flickr, Photo bucket, WordPress, Skype, YouTube, Yelp, Friend Feed, Snapfish, Google Chat etc.

What happens on 'social media' or 'social computing' can be referred as 'mass self-communication'; it means that communication sent by a single individual can potentially reach massive audience; another feature, importantly, distinguishing this from mass communication is that feedback (response from one or many of the audience back to communicator) is possible with this. To clarify, the reader of a blog can respond with a comment that either agrees or disagrees with the post or add something; similarly, a Facebook friend will say at least 'like' about a post made by another friend as a feedback.

For cultivating relationships and for learning things that enhance life, social media, also called, 'Web 2.0 technology' is godsend manna. In a survey done by IBM Institute for Business Value on 1056 consumers worldwide, it was found that 70 percent of consumers choose social media for "connecting with network of friends and family" while only 23 percent for interacting with brands (Baird, C.H. and Parasnis, G., 2011).

WHY IS SOCIAL MEDIA SO INCREDIBLY POPULAR IN A VERY SHORT SPAN?

The discussion that follows explains why and how individuals, consumers, business firms, marketing managers, academics, and HR departments have accepted social media and have been using it for an advantage in their personal and work-related areas. The study of Whiting, A. and Williams, D. (2013) has been done with the help of 25 in-depth interviews; it has identified ten uses and gratifications for using social media. They are: (a) social interaction, (b) information seeking, (c) pass time, (d) entertainment, (e) relaxation, (f) communicatory utility, (g) convenience utility, (h) expression of opinion, (i) information sharing, and (j) surveillance/knowledge about others. The foregoing benefits mostly relate to individuals and their well-being. The downside of social media from an individual's viewpoint is presented elsewhere later.

Here is a brief discussion on how social media is made use of in businesses. According to Tsionis, G. and Dimitriadis, S. (2014) who interviewed 14 social media managers of their respective companies to study why business firms create brand pages, the main actions are (a) launching prize contests, (b) rolling out of new products and services, (c) interacting with fans, (d) giving advice and useful information, and (e) managing customer service issues. The main reasons driving the use of social media, as shown by their study, include rising popularity of social media, competitors' use of social media, the strategy of their corporate office, and cost reduction pressure. The expected outcomes are interaction with customers, brand awareness, creating and enhancing relationships with customers, customer engagement, promotion of products, and acquisition of new customers.

A qualitative case study (Vuori, 2012) was conducted on a global corporation to understand the main uses of social media; according to the study, internally, social media was used for internal communication and knowledge transfer, and conduct of internal idea crowd-sourcing. Externally, social media was used to enhance communications related to the company brand, to engage with customers, to build communities with various stakeholder groups and to engage external stakeholders in idea generation via a crowd-sourcing platform.

Social media has given the communicative autonomy to its consumers who are naturally consumers of many products and services, the most important constituents of businesses, and thus the balance of power in communications with others would lie with consumers only instead of with media operators; this is different from the case of traditional media like newspapers and TV channel who don't give autonomy to the audience.

Social media channels have facilitated self-expression and grass-root activism of the computer-literate human community; the social media facilitated spawning of commercial ideas, crowd-sourcing, and virtual open collaboration (Ahlqvist et al, 2010).

While social media benefits marketing functions as noted in the foregoing, the HR function too has its fair share of benefits from social media.

SOCIAL MEDIA & HR

According to Madia (2011), organizations must consider adding social media to their overall recruitment strategy to meet the goals of being cost-effective, targeted, and strategic; remaining competitive; and sourcing top talent.

Today's technology-fueled change, often referred to as Web 2.0, is transforming HR's interaction with employees and managers. A key element of Web 2.0 is social media, which can take many different forms, including text, images, audio and video. Similarly, academics too are using social media to their advantage substantially.

The study of Tenopir et al. (2013) on 2000 academics working in UK has shown that academics are supplementing their traditional scholarly material with the content from social media, although the latter cannot be a substitute for traditional scholarly material.

DOWNSIDE OF SOCIAL MEDIA

The growth and adoption of social media driven by the value seen by the media consumers has its downside as well; the media consumers who are swarming to the social media are not aware that they will be preyed upon by the businesses. The social media consumers leave a lot of their personal identification information (PII) which has value for the businesses. This data and their visits to social media platform are the 'merchandise' for social media operators.

PERSONAL INFORMATION OF INDIVIDUALS IS THE GRIST FOR THE MILL OF SOCIAL MEDIA!

Social media operators who are leaving no stone unturned for creating value for its consumer is not for nothing or as a charity; social media bring the users to a common platform so that the platform can be used by the advertisers who will pay for it. In other words, social relations are commoditized, and these social relations platform is sold for advertisements. Advertisements are acceptable to certain tolerable level in that they should be fewer to avoid cluttering of the web page; that apart, the ads should not cause disruption to interaction with the friends. Another source of revenues for social media operators is: selling the members' personal information to research companies, direct marketing companies, and importantly, advertisers who want to precisely target the customers. Those firms which buy personal information may cause disturbance to the persons by contacting them in ways that are to their liking, and invading their privacy. That being the commercial value of personal information and visits to social media sites, unethical stalkers and dishonest personal profit seekers can grab the PII for pursuing their goals. This phenomenon of keeping track of personal data in a way harmful to the person is referred to as 'dataveillance'. Let us walk you through the social media-related crime scenario.

CYBER CRIMES

A look at the following news item that appeared in Times of India, Hyderabad on 07 May, 2014 points to the state of cybercrimes, modus operandi, and the reasons behind such crimes:

Cybercrime cases against women in undivided Andhra Pradesh registered a steep increase during 2013. According to National Crime Records Bureau (NCRB), undivided AP recorded 225 cases of eve-teasing and harassment, a 55% jump over 2012's figures. The state is second to Maharashtra cybercrimes. Of all the registered cases, only six culprits were convicted under IT Act, 2000.

Online cases are perpetrated by strangers to victims. Besides abuse of content on social-media, culprits also create fake profile of a visibly successful individual and post such profiles on matrimonial sites to attract gullible women. There were about 20 women lured to impersonated profiles and got cheated.

A cursory look at the newspaper reports of arrests for cybercrimes shows how common cheat gullible women and youngsters, and how persons fall prey to them. A few cases are listed in the table produced below.

TABLE 1

Caption of the news item	Date and Newspaper/ News agency	Details
Man held for creating fake Facebook profile of a woman	08-09-2011, Indian Express, Sasnagar, Mohali, Punjab	A person called Kanwaljeet Singh created a fake Facebook profile of lady out of enmity and to settle scores; he depicted her as an organizer of musical dance group; this is a case of defamation.
Man held for allegedly creating obscene profile of a girl student on Facebook	19-05-2013, Press Trust of India, Hyderabad	A person called Santosh of Chirala in A.P. created a fake profile of a girl student on Facebook; he posted the girl's morphed picture and obscene and false information about her. He gave her contact numbers also.
Man poses as affable suitor on Facebook, dupes teenage girl	07-11-2012, Press Trust of India, Hyderabad	Rajapathi, 31- year old man, duped a girl of Rs.3.00 lakhs in cash and gold ornaments, promising to marry her; this resulted from his creating a false profile on a social networking site. Although he is a very short person, he morphed his picture and showed himself as a handsome person and created his profile on a couple of networking sites.
Spies create top NATO commander's fake Facebook profile	13-03-2012, Indo-Asian News Service	Some persons have created a Facebook account with a fake profile of NATO's Supreme Allied Commander in Europe Admiral James Stavridis; many Defense personnel accepted his 'friend requests' believing them as true. Evidence points to the Chinese state-sponsored hackers.
19-yr-old created fake Facebook profile of Mumbai top cop	18-05-2012, Mid-day.com, Mumbai	A 19-year old BBA student called Anubhav Bipinkumar Yadav of U.P. created the false Facebook profile of Mumbai City Police Commissioner. He was caught with the help of information from Google and Internet Service Provider.
Man changes gender to befriend, harass woman	11-05-2012, Mid-day.com, Mumbai	A man called Bahekar, a divorced medical shop owner, created a fake Facebook profile as a girl and sent friend requests. A girl called Kalpana accepted the request. Later, her phone number was floated with an ad about free sex. He continuously called her on phone to befriend and harass her.
Man fakes girl's facebook profile, posts obscene content	12-04-2012, Mid-day.com, Mumbai	A 3 rd year B.Com. student called Suraj Ravi Bhat created a fake Facebook profile of a 21-year old girl who refused to talk to him and posted vulgar photos and obscene content about her. He was arrested under IT Act.

What are the social media infractions that land the companies and their users into trouble? Here is brief review of how social media commit follies wittingly or unwittingly.

CONTEXTUAL INTEGRITY

Contextual integrity, which refers to use of information only for the purpose imagined by the provider, is most likely compromised by the social media operator. To clarify, contextual integrity means use of the shared information for the specific intended purpose only, and it should not be used outside the context for which it was originally intended to be used. For example, a physician who has got information about the patient's ailments should use it for determining the steps to be taken for medical treatment only; it can be shared with other medical colleagues also but only for determining the best treatment; but it should not be used for any other purpose. Information provided by an individual or a body to another individual or a boy for a certain intended purpose should be used for it only, and so it is illegitimate to be used for some other purpose. It follows that social media organization which collects personal information from an individual should not pass it to other parties for gain.

PRIVACY

Social media is today seen as infringers of privacy. Privacy, according to Professor Howard Beales of George Washington University, is founded on six principles: (1) individual control over personal information; (2) fair information handling processes; (3) the right to personal solitude, or the right to withdraw; (4) the right to security of the person; (5) the right to liberty of the person; and (6) the right to dignity. The four dimensions of dimensions of privacy, according to Professor Landry, are: (1) preservation of anonymity, (2) freedom from surveillance, (3) preservation of private space, and (4) access to sound management of personal information. The individual, according to Professor Landry, must be able to "control access, circulation, sharing and accuracy of their personal information (Dusseault, 2013)..

INDIAN PRIVACY POLICY

On April 11, 2011, India's Ministry of Communications and Information Technology notified the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011 under the Information Technology Act, 2000.

The law relates to "sensitive personal data or information" (SPD) which covers the following: (a) passwords, (b) financial information such as bank account or credit card or debit card or other payment instrument details; (c) physical, physiological and mental health condition; (d) sexual orientation; (e) medical records and history; and (f) biometric information. Importantly, SPD in this context relates to the information of individuals but not information of businesses. Every business is required to have a privacy policy, to be published on its website, according to these privacy-related rules.

A business cannot collect SPD unless it obtains the prior consent of the provider of the information. The consent has to be provided by letter, fax or email. Further, prior consent is needed for parting with the information to any party other than the government. The business can use personal information only for the purpose for which it was collected. The IT Act requires reasonable security procedures to be maintained in order to escape liability.

The law includes financial information within SPD but a large part of business information relates to finances only. The requirement of consent as a mandatory condition for the use of all SPD restricts the freedom and thus stifles business.

The IT Act was amended in 2008 to provide for the following:

(a) A new civil provision prescribing damages for an entity that is negligent in using "reasonable security practices and procedures" while handling "sensitive personal data or information" resulting in wrongful loss or wrongful gain to any person.

(b) Criminal punishment for a person if (a) he discloses sensitive personal information; (b) does so without the consent of the person or in breach of the relevant contract; and (c) with an intention of, or knowing that the disclosure would cause wrongful loss or gain (mens rea - intention to cause harm).

Breach of confidentiality and privacy is an offence punishable with 2 years' imprisonment and fine up to Ra.1.00 lakh under the Indian IT Act.

In India, privacy is not given the status of fundamental rights but it is an implied obligation. Article 21 of the Constitution which guarantees right to protection of life and personal liberty has implicit reference to right to privacy. .

INTEGRITY RISK

Social media is a wonderful facility to communicate very fast with a massive audience, that too, instantly. But, sometimes, poorly constructed, non-circumspect and hurried responses or first posts can draw flak from several public groups and will expose the person himself or his company to integrity risk. Integrity risk refers to possible injury to certain goals or values of organization or an individual. Consider the case of Nestle which happened in 2011.

In March 2011, an employee of Nestle who was managing the 'Fan Page' of Nestle's Facebook account hurriedly posted a response note in a negative language to a fan's offensive comments. This led to massive negative protest from fans themselves. Nestle's policy is to not give unpleasant or offensive reply to any query, no matter how offensive the stimulus is. Such behaviors, the company believes, will damage or risk Nestle or its reputation. This shows that social media

undermines the integrity of the company. Employee could probably make an offensive reply from his personal account instead of from the official account so as to not injure company's reputation.

TENSION BETWEEN BENEFITS AND NEGATIVE SIDE OF SOCIAL MEDIA

Can the governments tell the society to choose between unrestrained social media and severely restricted social media? Opting severely restricted social media undoubtedly amounts to throwing the baby with bath waters.

In a statement that underscores the importance of consumer data, Ms. Jennifer Barrett Glasgow, the representative of the Axiom, a consumer data-based marketing services company, says that "when consumer data is properly used it can make significant contributions to the economy, and the growth and stability of an economy" (Dusseault, 2013). But privacy protection measures in the form of laws and regulations will result in new technologies not being available to consumers. We have to strike a balance between privacy and economic growth.

BEST PRACTICES RECOMMENDED FOR SOCIAL MEDIA COMPANIES

Social Media operators, in their efforts to fulfill their corporate social responsibility, should come out with a charter encapsulating rights of the social media consumers- default settings of privacy or use of information as consented by the individual.

User empowerment against the misuse of information on users' identity, their tastes and preferences should be ensured; it should not land into exploiters, stalkers, and professional cheats. As said before, a social media consumer has got the autonomy to create content but is likely to walk into trap of surrendering one's privacy for this. Simply stated, does autonomy for content creation and communication mean death knell to privacy?

PRIVACY AS A DEFAULT SETTING (PRIVACY BY DESIGN)

Privacy by design is "all about ensuring that the user has control of their data". Should this be case, the individual social media consumer who posts the information has the choice by default to hold back the whole data or part of it. He or she will part with the data after fully understanding the implications of parting with the data. This way, privacy is embedded in the system. Security of data and the person posting it is complete. There is transparency and visibility of what is happening to the data. Privacy by Design reflects user-centric practice of social media operators. To be clearer, in the current scenario, making personal data public happens by design and so privacy is ensured by effort only. It should be the other round, since the configuring privacy choices in the complex web is difficult for a new user. A new user cannot choose the right privacy settings on the first day of registering with the social media. What he does while joining is not after being well-informed.

FOR SEARCH ENGINES

DO-NOT-TRACK OPTIONS FOR INTERNET BROWSING

Like DND (do not disturb) option on mobile phones, do-not-track option for an individual browser (while viewing web pages) will save him from being tracked. Cookies of a browser, which store the details of a person's visits to a specific website and his preferences can be fraudulently retrieved and misused. Do-not-track option, a personal privacy setting in the browser, should be both robust and easy to configure. Besides, the browser should educate the users of it about this and how it should be used.

FOR INDIVIDUAL USERS OF SOCIAL MEDIA

DEFAMATION

Posting information that could potentially damage the reputation of another person will harm the person who posts it.

One should talk on social media as one does face-to-face. The dialogue initiator should be sensitive to the feelings of the receiving person; one should carefully choose the tone and content of the post. There should be only facts. Professional suggestions or advisory posts should comprise the context, probability of advice not working in certain contexts as expected, and encouraging the reader to take second opinion on the posted suggestion. Abusive language, profanity, lewd and sex-embedded words, stereotypes (for example, people of this area are crude), giving suggestions on an issues over which the one has no mastery or has little or patchy knowledge.

MEDIA ETHICS AND REGULATIONS

The media ethics that apply to journalists do apply to persons creating and posting content on the social media. The Commission on Freedom of Press appointed in 1947 and headed by Robert Hutchins, the then president of University of Chicago formulated guidelines based on two ideas. They are as follows. (1) Whoever enjoys a special measure of freedom, like a professional journalist, has an obligation to society to use their freedoms and powers responsibly. (2) Society's welfare is paramount, more important than individual careers or even individual rights. The lodestar of journalists is to: seek truth and report it. Some of the recommendations of Hutchins Commission for the press include the following. (1) Present meaningful news, accurate and separated from opinion. (2) Serve as a forum for the exchange of comment and criticism and to expand access to diverse points of view. (3) Project a representative picture of the constituent groups in society by avoiding stereotypes by including minority groups. (4) Clarify the goals and values of society; implicit was an appeal to avoid pandering to the lowest common denominator. (5) Give broad coverage of what was known about society.

SEPARATE GROUPS

Messages one sends are a potential source of problems. They may land into wrong hands and will probably be abused. Messages should be specific to groups. Posts which are good for one group may be irrelevant to others. A person's social media audience should be segregated into groups so that specific messages can be addressed to specific groups. Group-targeted posts limit the damage to both the sender and the receiver since receiver knows the value, context and complexity. Non-members are incapable of appreciating it.

The attraction of social media is its wider space and scope for remaining anonymous; but anonymity is just ephemeral and imaginary, and so reckless or predatory posts have the potential to bounce back to harm the person who posts.

CHECK HOW YOU PRESENT YOURSELF!

How one appears online and how others think of him on seeing him online may be completely different from what he first wanted to be. Others who don't know him at all judge him from how he appears. Particularly, the photos and what he writes gives clues about what he is. Highest and impeccable quality of content is critical to the fulfillment of a person's objective set for him as a digital persona. Poor language, inappropriate photos, offensive words, comments not supported by evidence, and suggestions based on half-baked knowledge give a poor impression about him.

POSTING INFORMATION NOT OWNED BY YOU

If one post information which he doesn't own and which is proprietary, he will attract copyright laws. If it is a direct quote from somebody's text, what one pick straightaway should not exceed forty words and the text should be within quotes. Besides this, credit should be given to the person who owns the idea or photos or picture. This will exonerate him from the charges of plagiarism and copyright law violations.

CONFLICT OF INTEREST

Recommending the use of some product in a professional capacity should not benefit him because he has interest in its sales, which is referred to as 'conflict of interest'. When people buy a product recommended by a professional and the product does not perform satisfactorily, the professional will be sued for breach of trust. Suppose a physician has recommended a particular treatment from a nursing home in which the physician has an ownership share, and treatment was not effective, the physician will be held for breach of trust under Section 406 of Indian Penal Code.

SOCIAL MEDIA INFORMATION AS EVIDENCE IN THE COURT OF LAW

The information on the social media can be used as evidence against a person's conduct; when a person, for example, is a facing serious criminal allegation, the prosecution authorities can use his profile information or previous posts as evidence to support the charges against him.

CONCLUSION

Use of social media in India is growing by leaps and bounds. Facebook users in India and Brazil are key sources of growth for Facebook. Social media companies are selling the data of their consumers, and thus undermining the privacy of the individuals. Consumers are also exposing themselves to preying behaviors of unscrupulous conmen and anti-social elements. Quite a good number of crimes committed on gullible social media users are reported day in day out. Besides, advertisers are raining their messages on the users, interfering with their activity. The society is caught in a quandary- to choose between severely restricted activities of social media, and their freedom to innovate and use the latest technology.

Social media companies and browsers should educate and empower the users about the privacy provisions available with the sites. Users should be guided to give informed consent only. Privacy provision in the social media sites should be by default but not by choice. Browsers should have do-not-track option. Users should be cautious while parting with their personal information. They should set their privacy choices cautiously. Users should post and share content taking into account the provisions in copyright and defamation laws. Regulators should not smother the technological innovations and business opportunities.

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REVISITING BRIC ECONOMIES: TESTING STOCK MARKET INTERDEPENDENCE: COMPARISON BETWEEN PRE AND POST CRISIS PERIODS

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ABSTRACT

This study investigates the dynamic interdependence of the BRIC markets. Using data of end-of-day stock price indexes ranging from 9 January 2007 to 31 December 2012, we examine the stock market indexes of Brazil, Russia, India, and China. The index level series are tested for stationarity. We also apply the granger causality test to observe the lead lag relationship between the BRIC markets. Test for co-integration analysis and vector auto regressions (VAR) techniques were applied to model the interdependencies between the stock market of these 4 economies. We conduct the variance decomposition analysis to find the interdependencies between the markets under study. The results are robust to sensitivity tests based on partitioning the sample into periods before and after the global financial crises of 2008, after testing for structural break using the Chow breakpoint test & Quandt-Andrews unknown breakpoint test. Our results have important implications for the investors, so they can benefit from diversifying their portfolios by buying stocks in the BRIC countries.

KEYWORDS

Stock market inter-linkages, Stationarity, Granger Causality, Vector Auto Regression Model, Variance Decomposition Analysis, Portfolio diversification.

JEL CLASSIFICATION

F30, G15, F15

INTRODUCTION

Finance theory predicts that there are potential gains from international portfolio diversification if returns from investment in different national stock markets are not perfectly correlated and the correlation structure is stable. This has led economists and finance specialists to investigate the interdependencies among international share price indexes in some considerable detail. Previous empirical studies of the interrelationship of the major world stock price indexes have not provided consistent results. The results vary, depending on the choice of markets, the sample period chosen, the frequency of observations (daily, weekly or monthly), and the different methodologies employed to investigate the interdependence of stock markets. Most research has concentrated on mature stock markets and there are comparatively few studies of interdependencies among emerging markets. Given the divergent conclusions of the researches in this field, further insights should be obtainable through an investigation of an alternative set of financial markets, in particular, a set of emerging markets. Emerging markets present a separate data source because of their low correlations with more developed markets

In recent years, globalization and information technology revolution has had a tremendous impact on the structure of financial markets with the quick diffusion of information and the substantial deregulation and harmonization which led to increasing free flow of capital across markets that has fostered integration (Gallo & Otrando, 2007). Another finding in the literature is that linkages are variable over time and generally major events (like 1973 and 1979 oil price shocks, 1987 stock market crash, 1991 Gulf) affect the linkages significantly.

In economics, BRIC is a grouping and acronym that refers to the countries of Brazil, Russia, India and China, which are all deemed to be at a similar stage of newly advanced economic development. It is typically rendered as "the BRIC countries" or the "Big Four". The acronym was coined by Goldman Sachs global economist Jim O'Neill, in a 2001 paper entitled "Building Better Global Economic BRICs". The acronym has come into widespread use as a symbol of the shift in global economic power away from the developed G7 economies towards the developing world.

There are several reasons why these countries' stock prices may have a significant long-run relationship. The presence of strong economic ties and policy coordination between the relevant countries can indirectly link their stock prices over time. With technological and financial innovation, the advancement of international finance and trade, and deliberate regional and global co-operation, the geographical divide among various national stock markets are less obvious (Gelos and Sahay, 2000). The major financial markets crisis during the time frame of our study is the global financial crisis of 2008. This crisis had a major effect on global securities markets.

There are studies that concentrate on linkages among BRIC markets but none has attempted to study the effects of global crisis of 2008 on these inter-linkages. This has become the motivation of the study. In particular, we investigate the extent to which index returns are independent of one another and how this interdependence changes over the crisis period.

The organization of the rest of the paper is as follows: Section 2 presents the survey of the existing literature. Section 3 discusses the methodology and data used. The empirical results are presented in Section 4 and Section 5 provides a summary and conclusions of this study.

REVIEW OF LITERATURE

Numerous studies have examined the inter-linkages among the developed markets. In this paper, however, we shall not be presenting the detailed review of the researches undertaken to study the linkages between stock markets of the developed nations.

Agarwal (2000), with a correlation coefficient of 0.01 between India and developed markets, concluded that there is a lot of scope for the Indian stock market to integrate with the world market.

R. Masih and Masih (2001) investigated the dynamic causal linkages among nine major international stock price indexes using the vector error-correction modelling and level vector autoregressive models. The empirical results supported the significant interdependencies between the established OECD and the Asian markets, and also the leadership of the U.S. and U.K. markets over the short and long run.

Mishra (2002) investigated the international integration of India's domestic financial market with the U.S. stock market. By applying the ordinary least squares (OLS) method and cointegration technique, he found a positive correlation between NASDAQ and BSE. He concluded that BSE was influenced by the movements of NASDAQ. But there is no cointegrating vector between BSE and NASDAQ indexes, which shows that there is no long-run relationship between these two stock exchanges.

Besides, the study of Kumar and Mukhopadhyay (2002) examined the short-run dynamic linkages between NSE Nifty and NASDAQ Composite during the period 1999-2001. The study supported a unidirectional Granger causality running from the U.S. stock market to Indian stock market.

Nath and Verma (2003) studied the transmission of market movements among the three major stock markets in the Asian region, namely, India, Singapore, and Taiwan. The results proved that there was no long-term interrelationship, and thus, international investors could achieve long-term gains by investing in the stock markets because of the independencies of the stock markets.

By using the BSE-200 index, Wong, Agarwal, and Du (2005) found that the Indian stock market is integrated with the matured markets of the world.

Moreover, Hoque (2007) found the evidence that stock prices of Bangladesh, the United States, Japan, and India share a common stochastic trend.

Phylaktis and Ravazzolo (2007) examined stock market linkages of a group of Pacific-Basin countries with the United States and Japan by estimating the multivariate cointegration model over the period 1980-1998. Their results showed that the stock market integrations were found to be significant in the 1990s.

Li and Majerowska (2008) analyzed the linkages between the emerging stock markets in Warsaw and Budapest and the established markets in Frankfurt and the United States. They found that the emerging markets are weakly linked to the developed markets.

Menon, Subha, and Sagar (2009) examined whether the stock markets in the Indian subcontinent have any link with the major stock markets in China, Singapore, America, and Hong Kong. They found that the Indian markets are cointegrated to some of the markets around the world.

Bastos and Caiado (2010) found the evidence of integration and interdependence between the stock market returns of 46 developed and emerging countries for the period 1995-2009. Similarly, Park (2010) found strong co-movement between Asian markets. Among those, the countries with more developed financial systems (i.e., Japan, Singapore, and Hong Kong in Asia) exhibited stronger linkages to the rest of the Asian markets.

Using the time-series data ranging from June 2, 2005, to April 2, 2008, Arouri and Nguyen (2010) established no significant association between stock exchange of Gulf countries and the world stock markets.

Subhani, Hasan, Mehar, and Osman (2011) identified the linkage of stock prices of Karachi Stock Exchange with the stock prices of Nepal and Bombay stock exchanges except Dhaka stock exchange.

Samitas and Kenourgios (2011) supported the existence of long-term relationship among Balkan stock markets and developed markets (the United States, the United Kingdom, Germany).

Besides, Sakhivel and Kamaiah (2012) attempted to investigate the dynamic interlinkages among the Asian, European, and U.S. stock markets for the period January 1998 to June 2010. They showed that the U.S. and some of the European and Asian stock markets lead the Indian stock market.

Horvath and Petrovski (2012) examined the international stock market comovements between Western Europe vis-à-vis Central (the Czech Republic, Hungary, and Poland) and South Eastern Europe (Croatia, Macedonia, and Serbia) and found that the degree of co-movements is much higher for Central Europe and the correlation of South Eastern European stock markets with developed markets is essentially zero.

Tripathi and Sethi (2012) examined the short-run and long-run interlinkages of the Indian stock market with those of advanced emerging markets, viz., Brazil, Hungary, Taiwan, Mexico, Poland, and South Africa over the period ranging from January 1, 1992, to December 31, 2009. They showed that the short-run and long-run interlinkages of the Indian stock market with other markets have increased over the study period.

NEED/IMPORTANCE OF THE STUDY

In a country like India where the stock market is undergoing significant transformation with liberalization measures, and the analysis of the nature of integration with other developed and emerging markets would not only give an idea of the possible gains to be reaped out of portfolio diversification from Indian market, but may also provide some indication of the vulnerability of the country's stock market in case of a regional financial crisis and consequent reversal of capital flows from the region. In this context the study examines the integration of the stock market among the BRIC (Brazil, Russia, India and China) economies.

STATEMENT OF THE PROBLEM

In the course of our study we try to answer the following questions for both pre- and post-crisis periods: are the BRIC markets interlinked? Which market appears to be the most influential in the region? How much of the movements in one stock market can be explained by innovations in other markets? How rapidly are the stock price movements in one market transmitted to other markets?

OBJECTIVES

The study aims to achieve the following objectives:

1. To study the return patterns in the equity markets of Brazil, Russia, India and China
2. To find out the linkages between the stock exchanges under study; and
3. To observe whether there exist enough opportunities for diversification among the stock exchanges of Brazil, Russia, India, China

RESEARCH METHODOLOGY

In attempting to answer the above questions, cointegration analysis, Granger causality tests are conducted to examine the co-movements among the pair-wise stock prices and returns. In addition, we also estimate vector-autoregressive models for both pre- and post-crisis periods to deal with the endogeneity problem. Given the wide popularity of these techniques, we refrain from rehashing the algebra of this methodology.

The time series used in this study are daily stock market indexes at closing time, in terms of local currencies. The secondary data is sourced from Bloomberg. The representative stock indexes are taken for all the 4 BRIC markets: Bovespa Brasil Sao Paulo Stock Exchange Index (Brazil), Russian Trading System Standard Index (Russia), National Stock Exchange CNX Nifty Index (India), Shanghai Stock Exchange Composite Index (China) for a period beginning on 1st January 2007 through 31st December 2012 is considered the reference period. In this way, data of total 60 months are taken for the purpose of the study. Out of the time for which data is taken, we find that on few days, one or two of the exchanges were open while other(s) was (were) closed. We took the data for all the days on which all the three stock exchanges were open. Data have been analysed using econometric tools.

To examine the stability of the results we conduct analysis for the whole sample period (January 2007–December 2012) and for two sub-periods based on the dates of major financial crises. The sub-sample periods are January 2007 to October 2008 (prior to the global financial crisis); and from September 2008 to December 2012 (post the crisis). The partitioning of the period is done on the basis of the structural break test. Both Chow breakpoint test and Quandt-Andrews unknown breakpoint test were conducted on the stock return series of all the 4 markets.

To test for a unit root (or the difference stationary process), we employ both the augmented Dickey–Fuller (ADF) test (Dickey and Fuller, 1979) and the Phillips–Perron (P–P) test (1988).

In order to make the series stationary, we take the log of the four series and arrive at the daily return of the two series. All the remaining analysis is performed at the daily return (log of the series) of the four exchanges. We name these variables as RBrazil, RRussia, RIndia, RChina. At the stationary log series of the four stock exchanges, we perform the Granger's causality model in order to observe whether the return at each stock exchange Granger causes the return at the stock exchanges. The null hypothesis is that x does not Granger-cause y in the first regression and that y does not Granger-cause x in the second regression.

Cointegration analysis is used to investigate long term relationship between the stock markets of BRIC economies.

The popular time series technique of VAR is due to the seminal work of Sims (1980). It is used to study the dynamic interrelations between n different variables. Many studies of stock markets have used VAR models to study inter-linkages. The analysis of variance decomposition reveal how much variance of market i is determined by the innovations of market j in the period.

To determine the appropriate lag length, we use Akaike's Information Criterion (AIC). In our case, the optimum lag length has been found out to be 8 for the full sample period, 9 for the pre-crisis period and 2 for the post crisis period.

RESULTS & DISCUSSION

The benefit of international diversification is limited when national equity markets are cointegrated because the presence of common factors limits the amount of independent variation. If two or more variables are cointegrated, then stationary linear combinations of the variables may exist even though the variables themselves are individually non-stationary. Thus, variables that are cointegrated exhibit stable long run relations. In the short run, financial time series across countries may deviate from each other, but investors' tastes and preferences, market forces and government regulations will bring them back to their equilibrium. A lack of cointegration suggests that such variables have no long-run link and variables can wander arbitrarily far away from each other. Cointegration among national equity markets implies that there are fewer assets available to investors than a simple count of the number. The theory of cointegration has been used to examine equity markets in different countries.

The stock index is an I (1) process and the series can be modeled by co-integration analysis. Johansen co-integration test is applied. The trace test and the maximal eigenvalues test indicate that the null hypothesis (no co-integration) is not rejected

The evidence suggests there is no cointegration in very recent stock price data. Thus, an analysis of the long-run co-movement of national stock prices with that of overseas stock prices and the short-run temporal relationship between the two is important for managing an international portfolio.

In the absence of long - run relationships between the stock prices of India and its major trading partners, the Granger causality test is used to examine the pair - wise short - run interactions between BRIC stock markets.

The structural break identified using chow breakpoint test and Quandt-Andrews unknown breakpoint test is tabulated for all the 4 markets.

TABLE 1

Country	Breakpoint Date
Brazil	(10/28/2008)
China	(10/28/2008)
India	(10/28/2008)
Russia	(10/27/2008)

TABLE 2

Null Hypothesis	P value (Full Sample Period)	P value (Pre crisis period)	P value(Post crisis period)
RCHINA does not Granger Cause RBRAZIL	0.385300	0.8112	0.1094
RBRAZIL does not Granger Cause RCHINA	0.000000*	0.0016*	0.0000*
RINDIA does not Granger Cause RBRAZIL	0.011300**	0.0973***	0.0004*
RBRAZIL does not Granger Cause RINDIA	0.000000*	0.0000*	0.0000*
RRUSSIA does not Granger Cause RBRAZIL	0.000400*	0.0000*	0.0137**
RBRAZIL does not Granger Cause RRUSSIA	0.000000*	0.0000*	0.0000*
RINDIA does not Granger Cause RCHINA	0.000200*	0.0163**	0.2605
RCHINA does not Granger Cause RINDIA	0.001300*	0.1324	0.0761***
RRUSSIA does not Granger Cause RCHINA	0.000300*	0.3914	0.0304**
RCHINA does not Granger Cause RRUSSIA	0.157700	0.5156	0.2362
RRUSSIA does not Granger Cause RINDIA	0.000006*	0.0000*	0.0132**
RINDIA does not Granger Cause RRUSSIA	0.000000*	0.1105	0.0000*

***, ** and * mean significant at 10, 5 and 1%, respectively.

Results of Granger causality test indicates that there exists bidirectional Granger causality between India and Brazil, and Russia and Brazil for the full sample period and in both the pre-crisis and post crisis period. Also Brazil granger causes China in the full sample period and in both the pre-crisis and post crisis period. Unidirectional causality is running from Russia to India in the pre-crisis period. Bidirectional causality exists between Russia and India, and Russia and China only in post crisis period. Bidirectional Granger causality exists between India and China throughout the study period, but pre crisis India granger caused China and post crisis China granger causes India. Unidirectional causality is running from Russia to India and Brazil to china in the pre-crisis period.

VAR ANALYSIS

The tables in the appendix shows the result of VAR, IRF analysis.

In all cases the biggest shocks to each market come from its own innovations.

Specifically shocks to Brazil market come from its own innovations, followed by the shocks from India and Russia on the next day. Most of the transmission is completed within 5 days. In the pre-crisis period Russia has a stronger impact on Brazil which completely disappears post crisis when India impacts the Brazil market with a lag of 1 day.

The China stock market, before the crisis, is affected by India and Brazil and its own effect is only visible by the 8th day. The other markets do not seem to have much effect on it. After the crisis, we notice that the shock in Brazil is the only effect on China market. The effects of other markets disappear after the crisis. Therefore throughout the study period results suggests that only Brazil and India are the market affecting China.

In case of both Russia and India, the markets are affected by the shocks in all the other markets with the effect getting absorbed in a weeks' time.

During the pre-crisis India shows no effect on its own innovations and post crisis the shocks in Russia have zero effect on India. Similarly china has no effect on Russia pre crisis but post crisis the shocks in china shows impact with a lag of 1 day.

VARIANCE DECOMPOSITION ANALYSIS (2007-2012)

In the case of Brazil stock exchange table decomposes the variance of returns and reveals that by and large, the return at the exchange is composed by the previous days' levels/returns. Indian stock exchange and RTS shows a visible impact on Brazil stock exchange. In the case of China stock exchange table shows that the return at the China Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange show a large impact on the China stock exchange Indian stock exchange shows a visible impact on China stock exchange. In the case of Indian stock exchange table shows that the return at the Indian Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange also put the large impact on the Indian stock exchange, on the other hand the China stock exchange and RTS show a visible impact on Indian stock exchange. In case of Russian stock exchange table shows that the return at the Russian Stock Exchange is influenced by the return at the Russian exchange in the periods 1 to 10. China Stock exchange and Indian stock exchange leaves a visible impact on the RTS and the Brazil stock exchange also put the large impact on the Russian stock exchange.

PRE CRISIS PERIOD

In the case of Brazil stock exchange table decomposes the variance of returns at and reveals that by and large, the return at the exchange is composed by the previous days' levels/returns at the same. RTS shows a large impact on Brazil stock exchange. China stock exchange and Indian stock exchange show a visible impact on Brazil stock exchange. In the case of China stock exchange table shows that the return at the China Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange also show the large impact on the China stock exchange. Indian stock exchange also shows a visible impact on China stock exchange. In the case of Indian stock exchange table shows that the return at the Indian Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange also put the large impact on the Indian stock exchange, on the other hand the China stock exchange and RTS also show a visible impact on Indian stock exchange. In case of Russian stock exchange table shows that the return at the Russian Stock Exchange is influenced by the return at the Russian exchange in the periods 1 to 10. China Stock exchange and Indian stock exchange leaves a visible impact on the RTS and the Brazil stock exchange also put the large impact on the Russian stock exchange

POST CRISIS PERIOD

In the case of Brazil stock exchange table decomposes the variance of returns and reveals that by and large, the return at the exchange is composed by the previous days' levels/returns. Indian stock exchange shows a visible impact on Brazil stock exchange. In the case of China stock exchange table shows that the return at the China Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange also show the visible impact on the China stock exchange. None of the remaining two exchanges seem to have any visible impact on the China Stock Exchange for any of the periods. In the case of Indian stock exchange table shows that the return at the Indian Stock Exchange is composed by the exchange itself for the periods 1 to 10. And the Brazil stock exchange also put the large impact on the Indian stock exchange, on the other hand the China stock exchange also shows a visible impact on Indian stock exchange. In case of Russian stock exchange table shows that the return at the Russian Stock Exchange is influenced by the return at the Russian exchange in the periods 1 to 10. China Stock exchange and Indian stock exchange leaves a visible impact on the RTS and the Brazil stock exchange also put the large impact on the Russian stock exchange.

Overall the crisis has impact the dynamics in which the BRIC markets affect each other in terms of the direction and magnitude also.

RECOMMENDATIONS/SUGGESTIONS

This study examines the long - run and short - run relationships between the stock prices of BRIC (BRAZIL, RUSSIA, INDIA and CHINA), using daily data for the period April 2000 to March 2010. Based on the cointegration results, no evidence of long - run relationships was found between the stock price indices of BRIC partners before and after the financial crisis except Brazil. After the global financial crisis period there was no cointegration between India and Brazil. The policy implication of this finding for international investors is quite straightforward: in the long run, there are potential gains which can be leveraged by astute investors through portfolio diversification across BRIC markets.

Second, in terms of short - run movements of BRIC stock market returns, there is bidirectional Granger causality exists between India and Brazil, and India and China for the full sample period and the pre-crisis period but not in the post crisis period. Unidirectional causality is running from Russia to India in the pre-crisis period. Bidirectional relationship exists between India and Brazil and India and China throughout the study period. But the degree of causality was very high in the post crisis period. The empirical results presented in this paper support the view that international investors have long-run opportunities for portfolio diversification by acquiring stocks from these BRIC countries. However, in the short-run the scope of these opportunities is rather limited due to global financial crisis which are inherent to stock markets as evidenced by the causality test results.

Thus, these findings may be of interest to portfolio managers, private and institutional investors as well as funds that are active in emerging markets. The current study contributes to the literature in numerous ways. First, this is the study concentrating on the stock markets of BRIC and studies the linkages within these rather than with the developed world. Secondly, it uses a combination of the various methods used empirically to analyze the data.

CONCLUSIONS

In this paper, the inter-linkages among daily returns in 4 BRIC markets are examined for pre- and post-crisis periods separately, by using Granger causality tests, cointegration and VAR models. It is found that BRIC markets are closely linked with one another.

Here, there is no statistical support for cointegration and so there is no evidence of a single underlying equilibrium relationship. This result implies investors can diversify their portfolios by buying stocks in these 4 countries.

Our results add to the literature on dependencies in stock market indexes across national markets. While developed markets have received a lot of attention, research on emerging stock markets is relatively scant. The very different business environments of developing economies, combined with the lack of consensus in prior research, implies the results from studies on developed markets cannot be automatically extrapolated to emerging markets. We choose BRIC economies as the focus of our study because of its rapid economic growth and its opening up as a market for foreign investors.

Our findings have important implications for international portfolio management. Solnik (1974), Eun and Resnick (1984) and Errunza (1983) recommend that stock portfolios be diversified internationally to reduce systematic local risk.

The subprime crisis, October 2008 do not have a dramatic impact on the statistical dependencies across BRIC markets. There is no statistical support for cointegration and so there is no evidence of a single underlying equilibrium relationship, hence investors can benefit from diversifying their portfolios by buying stocks in the BRIC countries. Results indicate that for all the markets and in all the periods, a large proportion of the stock market index variance is explained by Brazil stock exchange. Russian stock exchange (RTS) shows more linkages than the other three stock exchanges as per the results.

SCOPE FOR FURTHER RESEARCH

The study can be extended further and the effect of Eurozone debt crisis can be analysed too. The number of markets studied can be increased to also include the other emerging markets of South Africa, Indonesia and South Korea (BRIICKS)

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APPENDIX

VAR IRF (2007 -2012)

<p>RBRAZIL = 0.0003-0.0795*RBRAZIL(-1) -0.1054*RBRAZIL(-2)-0.1072*RBRAZIL(-3)-0.0142*RBRAZIL(-4)-0.0412*RBRAZIL(-5)-0.0242*RBRAZIL(-6)-0.0681*RBRAZIL(-7)+0.0060*RBRAZIL(-8)+0.0125*RCHINA (-1)-0.0113*RCHINA (-2)+ 0.0106*RCHINA (-3) + -0.0256*RCHINA (-4) + -0.0377*RCHINA (-5) + -0.0229*RCHINA (-6) +0.0244*RCHINA (-7) + -0.0486*RCHINA (-8) +0.0944*RINDIA (-1) +0.0490*RINDIA (-2) + -0.0062*RINDIA (-3) +0.0044*RINDIA (-4) +0.0701*RINDIA (-5) + -0.0392*RINDIA (-6) + -0.0184*RINDIA (-7) +0.0528*RINDIA (-8) +0.0557*RRUSSIA(-1) +0.0322*RRUSSIA(-2) +0.0220*RRUSSIA(-3) +0.0470*RRUSSIA(-4) + -0.0761*RRUSSIA(-5) + -0.0031*RRUSSIA(-6) +0.0481*RRUSSIA(-7) + -0.0147*RRUSSIA(-8)</p>
<p>RCHINA = 0.1782*RBRAZIL(-1)-0.0385*RBRAZIL(-2)-0.0248*RBRAZIL(-3)+0.0807*RBRAZIL(-4)+0.0158* RBRAZIL(-5) +0.0548* RBRAZIL(-6)+0.0290* RBRAZIL(-7)+0.0182* RBRAZIL(-8)-0.0606*RCHINA (-1)+0.0043*RCHINA (-2)+0.0502*RCHINA (-3)+0.0251*RCHINA (-4)-0.0269* RCHINA (-6)-0.0467* RCHINA (-7)-0.0023* RCHINA (-8)-0.0711*RINDIA (-1) +0.0368*RINDIA (-2)-0.0004*RINDIA (-3)-0.0307*RINDIA (-4)-0.0151*RINDIA (-5)+0.0537* RINDIA (-6)-0.0305* RINDIA (-7) +0.0247* RINDIA (-8)+0.1024*RRUSSIA(-1)+0.0170*RRUSSIA(-2)+0.0177*RRUSSIA(-3)-0.0346*RRUSSIA(-4) +0.0054*RRUSSIA(-5)-0.0083 RRUSSIA(-6) +0.0065 RRUSSIA(-7)+0.0261 RRUSSIA(-7)-0.0228 RRUSSIA(-8)-0.0003</p>
<p>RINDIA = 0.0002+0.2327*RBRAZIL(-1)+0.0581*RBRAZIL(-2)+0.0654* RBRAZIL(-3)+0.0403*RBRAZIL(-4) +0.0138*RBRAZIL(-5)+0.0696*RBRAZIL(-6)-0.0116*RBRAZIL(-7)+0.0418*RBRAZIL(-8)-0.0844*RCHINA (-1)-0.0029*RCHINA (-2)+0.0577*RCHINA (-3)-0.0659*RCHINA (-4)-0.0647*RCHINA (-5)-0.0010*RCHINA (-6) +0.0331*RCHINA (-7) +0.0024*RCHINA(-8) -0.0647*RINDIA (-1)-0.0589*RINDIA (-2)-0.0816*RINDIA (-3) +0.0133*RINDIA (-4) +0.0111*RINDIA (-5)-0.0824*RINDIA (-6)-0.0291*RINDIA (-7)+0.0060*RINDIA (-8)-0.0030*RRUSSIA(-1)+0.0516*RRUSSIA(-2)-0.0212*RRUSSIA(-3)+0.0282*RRUSSIA(-4)-0.0164*RRUSSIA(-5)-0.0152*RRUSSIA(-6)+0.0654*RRUSSIA(-7)+0.0006*RRUSSIA(-8)</p>
<p>RRUSSIA = -0.0004 +0.3337* RBRAZIL(-1)+0.0297*RBRAZIL(-2)-0.0194*RBRAZIL(-3) +0.1451*RBRAZIL(-4) +0.1579*RBRAZIL(-5)+0.0798*RBRAZIL(-6)-0.0109*RBRAZIL(-7) +0.1480*RBRAZIL(-8)-0.1360*RCHINA (-1) +0.0221*RCHINA (-2)+0.0379*RCHINA (-3) -0.0298*RCHINA (-4) -0.1249*RCHINA (-5)+0.0266*RCHINA (-6) +0.0121*RCHINA (-7)-0.0057*RCHINA (-8)+0.1463*RINDIA (-1)+0.1143*RINDIA (-2)-0.1095*RINDIA (-3)-0.0614*RINDIA (-4)+0.0476*RINDIA (-5)-0.0471*RINDIA (-6)-0.0168*RINDIA (-7)+0.1290*RINDIA (-8)-0.1035*RRUSSIA(-1)-0.0586*RRUSSIA(-2)-0.0497*RRUSSIA(-3)-0.0537*RRUSSIA(-4)-0.0777*RRUSSIA(-5)-0.1116*RRUSSIA(-6)+0.0477*RRUSSIA(-7)-0.1473*RRUSSIA(-8)</p>

VAR IRF (Pre-crisis period)

<p>RBRAZIL = -0.0164*RBRAZIL(-1) - 0.233*RBRAZIL(-2) - 0.147*RBRAZIL(-3) + 0.059*RBRAZIL(-4) - 0.0308*RBRAZIL(-5) + 0.0042*RBRAZIL(-6) - 0.0941*RBRAZIL(-7) - 0.201*RBRAZIL(-8) - 0.1749*RBRAZIL(-9) + 0.0287*RCHINA(-1) + 0.0177*RCHINA(-2) - 0.0193*RCHINA(-3) -0.0618*RCHINA(-4) - 0.032*RCHINA(-5) - 0.0266*RCHINA(-6) - 0.0187*RCHINA(-7) - 0.038*RCHINA(-8) + 6.8626-05*RCHINA(-9) + 0.0352*RINDIA(-1) + 0.117*RINDIA(-2) - 0.0122*RINDIA(-3) + 0.0796*RINDIA(-4) + 0.0817*RINDIA(-5) - 0.0461*RINDIA(-6) + 0.055*RINDIA(-7) + 0.092*RINDIA(-8) - 0.0091*RINDIA(-9) + 0.0636*RRUSSIA(-1) + 0.139*RRUSSIA(-2) + 0.0049*RRUSSIA(-3) + 0.122*RRUSSIA(-4) - 0.0786*RRUSSIA(-5) - 0.136*RRUSSIA(-6) + 0.176*RRUSSIA(-7) + 0.126*RRUSSIA(-8) + 0.103*RRUSSIA(-9) + 0.00019</p>
<p>RCHINA = 0.2047*RBRAZIL(-1) - 0.1547*RBRAZIL(-2) + 0.0090*RBRAZIL(-3) + 0.1044*RBRAZIL(-4) + 0.0537*RBRAZIL(-5) + 0.129*RBRAZIL(-6) + 0.0725*RBRAZIL(-7) + 0.0226*RBRAZIL(-8) + 0.0131*RBRAZIL(-9) - 0.0637*RCHINA(-1) + 0.00139*RCHINA(-2) + 0.0653*RCHINA(-3) + 0.0769*RCHINA(-4) - 0.0354*RCHINA(-5) - 0.0465*RCHINA(-6) - 0.01745*RCHINA(-7) - 0.1219*RCHINA(-8) - 0.01454*RCHINA(-9) + 0.1303*RINDIA(-1) + 0.0274*RINDIA(-2) - 0.1338*RINDIA(-3) - 0.0485*RINDIA(-4) + 0.0563*RINDIA(-5) - 0.07049*RINDIA(-6) + 0.08229*RINDIA(-7) + 0.1755*RINDIA(-8) - 0.0804*RINDIA(-9) + 0.0280*RRUSSIA(-1) + 0.0288*RRUSSIA(-2) - 0.04344*RRUSSIA(-3) + 0.0556*RRUSSIA(-4) - 0.08235*RRUSSIA(-5) + 0.00077*RRUSSIA(-6) - 0.0084*RRUSSIA(-7) - 0.104*RRUSSIA(-8) + 0.0180*RRUSSIA(-9) - 0.001173</p>
<p>RINDIA = 0.3195*RBRAZIL(-1) - 0.0309*RBRAZIL(-2) + 0.176*RBRAZIL(-3) + 0.0584*RBRAZIL(-4) + 0.0578*RBRAZIL(-5) + 0.108*RBRAZIL(-6) + 0.0666*RBRAZIL(-7) - 0.0199*RBRAZIL(-8) - 0.0648*RBRAZIL(-9) - 0.0775*RCHINA(-1) - 0.00136*RCHINA(-2) + 0.0267*RCHINA(-3) - 0.04588*RCHINA(-4) - 0.089*RCHINA(-5) - 0.00064*RCHINA(-6) + 0.0230*RCHINA(-7) + 0.0388*RCHINA(-8) - 0.0162*RCHINA(-9) - 0.0158*RINDIA(-1) + 0.0548*RINDIA(-2) - 0.0937*RINDIA(-3) - 0.0416*RINDIA(-4) + 0.0623*RINDIA(-5) - 0.0339*RINDIA(-6) + 0.0262*RINDIA(-7) - 0.0717*RINDIA(-8) - 0.0223*RINDIA(-9) - 0.010*RRUSSIA(-1) + 0.037*RRUSSIA(-2) - 0.112*RRUSSIA(-3) + 0.1179*RRUSSIA(-4) - 0.0804*RRUSSIA(-5) - 0.115*RRUSSIA(-6) + 0.133*RRUSSIA(-7) + 0.065*RRUSSIA(-8) + 0.0757*RRUSSIA(-9) - 0.0007</p>
<p>RRUSSIA = 0.4115*RBRAZIL(-1) - 0.0521*RBRAZIL(-2) - 0.0997*RBRAZIL(-3) + 0.2499*RBRAZIL(-4) + 0.2818*RBRAZIL(-5) + 0.0862*RBRAZIL(-6) + 0.0211*RBRAZIL(-7) + 0.0013*RBRAZIL(-8) - 0.1415*RBRAZIL(-9) - 0.0903*RCHINA(-1) + 0.0443*RCHINA(-2) + 0.025*RCHINA(-3) - 0.09308*RCHINA(-4) - 0.1606*RCHINA(-5) + 0.03979*RCHINA(-6) + 0.00719*RCHINA(-7) - 0.00259*RCHINA(-8) + 0.05428*RCHINA(-9) + 0.0803*RINDIA(-1) + 0.131*RINDIA(-2) - 0.0584*RINDIA(-3) - 0.0358*RINDIA(-4) + 0.0605*RINDIA(-5) + 0.0054*RINDIA(-6) - 0.0215*RINDIA(-7) + 0.1235*RINDIA(-8) - 0.139*RINDIA(-9) - 0.189*RRUSSIA(-1) + 0.1143*RRUSSIA(-2) - 0.0672*RRUSSIA(-3) - 0.0551*RRUSSIA(-4) - 0.0674*RRUSSIA(-5) - 0.2501*RRUSSIA(-6) + 0.108*RRUSSIA(-7) + 0.128*RRUSSIA(-8) + 0.345*RRUSSIA(-9) - 0.00253</p>

VAR IRF (Post-crisis period)

<p>BRAZILR = -0.1373*BRAZILR(-1) + 0.0003*BRAZILR(-2) + 0.0222*CHINAR(-1) -0.0387*CHINAR(-2) + 0.1308*INDIAR(-1) + 0.0386*INDIAR(-2)+ 0.0393*RUSSIAR(-1) -0.0395*RUSSIAR(-2) + 0.0004</p>
<p>CHINAR = 0.1930*BRAZILR(-1) + 0.0102*BRAZILR(-2) -0.0444*CHINAR(-1) + 0.0093*CHINAR(-2) -0.0383*INDIAR(-1) -0.0576*INDIAR(-2) + 0.0106*RUSSIAR(-1) + 0.0057*RUSSIAR(-2) + 0.0002</p>
<p>INDIAR = 0.1980*BRAZILR(-1) + 0.1215*BRAZILR(-2) -0.1094*CHINAR(-1) +0.0029*CHINAR(-2)-0.0527*INDIAR(-1) -0.1092*INDIAR(-2) + -0.0183*RUSSIAR(-1) + 0.0331*RUSSIAR(-2) + 0.0007</p>
<p>RUSSIAR = 0.2061*BRAZILR(-1) + 0.0317*BRAZILR(-2)-0.1280*CHINAR(-1) + 0.0128*CHINAR(-2) + 0.1642*INDIAR(-1) + 0.1286*INDIAR(-2) -0.0850*RUSSIAR(-1) - 0.1390*RUSSIAR(-2) + 0.0007</p>

IMPACT OF FDI ON S & P NIFTY INDEX

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ABSTRACT

The paper investigates the impact of FDI on S & P Nifty Index. This paper employs Unit Root Test to test at which order of integration the variables turn to be stationery. Secondly the Granger Causality Test is employed to test the causation, thirdly the Co integration analyses is done to test the long run relationship between the variables and Vector Error Correction Model is used to check the short run relationship between the variables. Lastly the impact is analysed by employing Regression Analysis. The secondary time series data is collected from RBI hand book of statistics ranging from 1995-04 to 2014-03 being used for the analyses. And finds the macro economic variable fdi & nifty turn stationary at order nifty(0) & fdi (1). the fdi granger cause nifty at lag 20 months while their exist no long run relationship between nifty & fdi, further vecm discloses that their exist short run relationship between nifty & fdi. finally regression results reveal that their exist negative impact and the impact of fdi on nifty is insignificant.

KEYWORDS

FDI, NIFTY, unit root test, granger causality, VECM, regression analysis.

1. INTRODUCTION

The Efficient capital markets are essential for economic growth and prosperity. An integral part of capital market is the stock market, the development of which is linked with the country's level of savings, investment and the rate of economic growth. India's stock market has been classified as one of the fastest growing markets. India is the biggest and most liquid exchange in India and is a major source of capital formation in India. Local and foreign investor's confidence in the investment environment of India has boosted the stock market index in recent years. The developing countries are witnessing changes in the composition of capital flows in their economies because of the expansion and integration of the world equity market. The stock markets are also experiencing this change. Foreign direct investments (FDIs) are becoming important source of finance in developing countries including India. It is generally recognized that a strong financial system guarantees the economic growth and stability. Stock market is an integral part of the financial system of the economy. It is a source of financing a new venture based on its expected profitability. The stock market is replica of the economic strength of any country. To boost investment, savings and economic growth, the development of stock market is imperative and cannot be ignored in any economy. In the era of globalization, FDI is a major source of capital inflow in most of developing economies where it bridges the gap of capital, technology, managerial skill, human capital formation and more competitive business environment.

The paper investigates the impact of FDI on S & P Nifty Index. This paper employs Unit Root Test to test at which order of integration the variables turn to be stationery. Secondly the Granger Causality Test is employed to test the causation, thirdly the Co integration analyses is done to test the long run relationship between the variables and Vector Error Correction Model is used to check the short run relationship between the variables. Lastly the impact is analysed by employing Regression Analysis. The secondary time series data is collected from RBI hand book of statistics ranging from 1995-04 to 2014-03 being used for the analyses.

The paper as customary is divided into different sections. Section 11 provides a brief overview of the literature, Section III highlights on research gap, Section IV need of the study, Section V importance of the study, Section VI scope of the study, Section VII research methodology, Section VIII objectives, Section IX Hypothesis, Section X data analysis and interpretation, Section XI finding, suggestion and conclusion. Section XII bibliography.

2. LITERATURE REVIEW

- Anokye M. Adam and George Tweneboah (2008)** examine the impact of Foreign Direct Investment (FDI) on stock market development in Ghana. The paper finds long-run relationship between FDI and stock market development in Ghana. The increase in FDI significantly influence the development of stock market in Ghana
- Ravi Subramanian et.al (2010)** The paper draws on the "eclectic" paradigm to study the impact of ownership, location and internalization variables on India's foreign investment. A sector wise analysis of mode of entry, intent of entry and geographic concentration has been performed. At an aggregate level, it has been found that acquisitions have been the predominant mode of entry for Indian firms investing abroad and seeking new markets the primary intent of investment. A regression model was also developed to understand the impact and relative importance of ownership variables such as distribution system, need for resources, factor of production, post sales service requirement, presence of IP and brand on foreign investment from India. It was found that high distribution expenses and need for resources had a very positive influence on foreign investment. The paper also discusses the key policy changes that impacted outward FDI from India in the last decade and relationship of outward FDI with other macroeconomic indicators such as GDP and Fischer Open Differential
- R.Karthik and N.Kannan (2011)** Results suggest positive impact of all macro economic variables on the stock market development of India. Among these are economic growth, domestic savings, and inflation rate.
- Syed Tabassum Sultana and S Pardhasaradhi (2012)** examine the relationship and impact of FDI & FII on Indian stock market using correlation and multi regression. Sensex and Nifty were considered as the representative of stock market as they are the most popular Indian stock market indices. Based on 11 years data starting from 2001 to 2011, it is evident that there is a strong positive correlation between FDI & sensex and FDI & nifty and moderate positive correlation between FII & sensex and Using Multi regression two significant models emerged. In the first model Sensex as a dependent variable, both FDI and FII were found to be significant predictor. Similar results were obtained for second model Nifty as a dependent variable. Hence it can be concluded that the impact of flow of FDI & FII on Indian stock market is significant.
- Ali Raza et.al (2012)** The purpose of this study was to investigate the effect of foreign direct investment along with domestic savings, exchange rate and inflation in developing Pakistan stock markets in a rapidly changing political environment. This study applies Ordinary Least Square (OLS) method of

- regression by using annual time series data for the period 1988-2009 in case of Pakistan to estimate empirical relationships among variables. The results disclose a positive impact of foreign direct investment along with other explanatory variables in developing Stock markets of Pakistan.
6. **Pooja Singh (2013)** examines the trend and pattern of FII and FDI flow in India. And also examines the relationship between FII and FDI with Sensex and Nifty. it is evident that there is a strong positive correlation between FDI and Sensex and FDI and Nifty. And moderate positive relation between FII and Sensex and FII and NIFTY
 7. **Rahul Dhiman and Preeti Sharma (2013)**, it is evident that there is strong degree of correlation between FDI & Sensex, and FDI & Nifty. regression analysis has proved the significant impact of the inflow of FDI on capital market. The study concluded that flow of FDI in India determines the trend of Indian Stock Market.
 8. **Santosh Chauhan (2013)**, attempt to find out the impacts of FDI, FIIs, and FPIs inflows on the movement of BSE and NSE. The study was purely based on secondary data which were analyzed through Regression (OLS Model), Karl Pearson's correlation, Analysis of Variance, etc., and found that FDI affects the most both Sensex and Nifty up to 61 per cent and 86 per cent respectively and is associated highly and positively with both the markets with a score of 0.78 and 0.92 respectively according to the Karl Pearson's coefficient of correlation. However, the FPIs showed a very low impact on Sensex and a comparative high impact on NSE. During the study period the least significant factor with lowest impact on sensex and nifty was FIIs.
 9. **Vladimir arcabic et.al (2013)** The aim of this paper was to investigate the existence and characteristics of both the long- and short-term relationships between FDI and the stock market in Croatia. However, in the short run, upward movement on the stock market positively affects Croatian FDI stock, as events on the stock market signalize the vitality and investment climate of the domestic market to foreign investors. The long-term connection is tested by two cointegration approaches; the results of both models suggest the absence of a long-term relationship among observed variables, which may be explained by the lack of connection between FDI and economic growth in Croatia. The short-run relationship is investigated by a two-variable VAR model, and the results obtained are consistent with the theoretical assumptions, as the stock market did prove to be an important short-term determinant of FDI in Croatia.
 10. **YOGENDRA SAMEER YADAV (2013)** concluded that FII do have any significant impact on the Indian Stock Market. There is a positive correlation between stock indices and FDIs but FIIs didn't have any significant impact on Indian Stock Market. It showed the absence of linear relation between FII and stock index. This does not mean that there is no relation between them. One of the reasons for absence of any linear relation can also be due to the sample data. The data was taken on monthly basis.

3. RESEARCH GAP

Many researchers have employed many tools and analysed it, but with a different outlook here we have analysed a combined effect using unit root, granger causality, johansen co integration, vector error correction model and regression analyses to give an insight of a detailed technical analyses with empirical results.

4. NEED OF THE STUDY

To determine how the impact factor analyses helps in determining the stock index movements and earn speculative profits, facilitate in formulating policies.

5. SIGNIFICANCE OF THE STUDY

The analyse of the impact between FDI & NIFTY helps in determining the stock index movements and earn speculative profits, facilitate in formulating policies.

6. SCOPE OF THE STUDY

The study takes into consideration the time series secondary data of FDI and S&P NIFTY INDEX collected from RBI hand book of statistics and the period of study is from 1995-04 to 2014-03.

7. RESEARCH METHODOLOGY

This paper employs Unit Root Test to test at which order of integration the variables turn to be stationery. Secondly the Granger Causality Test is employed to test the causation, thirdly the Co integration analyses is done to test the long run relationship between the variables and Vector Error Correction Model is used to check the short run relationship between the variables. Lastly the impact is analysed by employing Regression Analysis. The secondary time series data is collected from RBI hand book of statistics ranging from 1995-04 to 2014-03 being used for the analyses.

8. OBJECTIVES OF THE STUDY

1. To investigate the causality between the FDI and S & P Nifty Index.
2. To analyse the long run relationship between FDI and S & P Nifty Index.
3. To determine the short run relationship between FDI and S & P Nifty Index.
4. To study the impact of FDI on S & P Nifty Index.

9. HYPOTHESIS OF THE STUDY

- | | |
|----------------|--|
| H ₁ | FDI Granger cause S & P Nifty Index. |
| H ₀ | FDI does not Granger cause S & P Nifty Index. |
| H ₂ | Their exist a long run relationship between FDI and S & P Nifty Index. |
| H ₀ | Their do not exist a long run relationship between FDI and S & P Nifty Index. |
| H ₃ | Their exist a short run relationship between FDI and S & P Nifty Index. |
| H ₀ | Their do not exist a short run relationship between FDI and S & P Nifty Index. |
| H ₄ | Their is a positive impact of FDI on S & P Nifty Index. |
| H ₀ | Their is no positive impact of FDI on S & P Nifty Index. |

10. DATA ANALYSES AND INTERPRETATION

In this section data analyses and interpretation is done using unit root test, granger causality, johansen cointegration test, vector error correction model and regression analysis done in the following section.

UNIT ROOT TEST

AUGMENTED DICHY FULLER TEST (ADF)							
Description		LEVEL					
		NONE		INTERCEPT		INTERCEPT WITH TREND	
Sl no	Variable	t statistic	p value	t statistic	p value	t statistic	p value
1	NIFTY	-2.228874	0.0252	-3.539362	0.078	-5.968256	0.0000
2	FDI	1.131719	0.9333	-0.213003	0.9335	-2.601103	0.2803

PILLIP PERRON TEST (PP)							
Description		LEVEL					
		NONE		INTERCEPT		INTERCEPT WITH TREND	
Sl no	Variable	t statistic	p value	t statistic	p value	t statistic	p value
1	NIFTY	-3.418061	0.0007	-6.361459	0.0000	-10.31036	0.0000
2	FDI	1.204943	0.9415	-0.159300	0.9401	-2.546444	0.3056

(KPSS)					
Description		LEVEL			
Sl no	Variable	LM statistic	critical value	LM statistic	critical value
1	NIFTY	1.60242	0.463000	0.285539	0.146000
2	FDI	1.813419	0.463000	0.303289	0.146000

AUGMENTED DICHY FULLER TEST (ADF)							
Description		FIRST DIFFERENCE					
		NONE		INTERCEPT		INTERCEPT WITH TREND	
Sl no	Variable	t statistic	p value	t statistic	p value	t statistic	p value
1	FDI	-11.57921	0.0000	-11.70981	0.0000	-11.73562	0.0000

PILLIP PERRON TEST (PP)							
Description		FIRST DIFFERENCE					
		NONE		INTERCEPT		INTERCEPT WITH TREND	
Sl no	Variable	t statistic	p value	t statistic	p value	t statistic	p value
1	FDI	-11.58477	0.0000	-11.65913	0.0000	-11.67793	0.0000

(KPSS)					
Description		FIRST DIFFERENCE			
Sl no	Variable	LM statistic	critical value	LM statistic	critical value
1	FDI	0.118193	0.463000	0.33407	0.146000

from the above analyses it is clear that the variables are stationary at order nifty (0) and fdi (1).

GRANGER CAUSALITY BETWEEN NIFTY & FDI

Pairwise Granger Causality Tests		
Sample: 1995M04 2014M03		
Lags: 20		
Null Hypothesis:	Obs	F-Statistic
FDI does not Granger Cause NIFTY	208	2.80370
NIFTY does not Granger Cause FDI	1.08377	0.3708

GRANGER CAUSALITY BETWEEN NIFTY & FDI

The granger causality test has been conducted to identify the causation. It has been found from the test that there is unidirectional causation & FDI does cause NIFTY. Therefore the present value of NIFTY has been caused by lag 20 value of FDI.

JOHANSEN CO INTEGRATION TEST

Sample (adjusted): 1995M09 2014M03				
Included observations: 223 after adjustments				
Trend assumption: Linear deterministic trend				
Series: NIFTY FDI				
Lags interval (in first differences): 1 to 4				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized	Trace	0.05		
No. Of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.124363	29.73058	15.49471	0.0002
At most 1	0.000517	0.115391	3.841466	0.7341
1 Cointegrating Equation(s):		Log likelihood	-3263.885	
Normalized cointegrating coefficients (standard error in parentheses)				
NIFTY	FDI			
1.000000	-0.500112			
	(0.04518)			

JOHANSEN CO INTEGRATION TEST

Even though that the test results reveals spurious results as it does not satisfy the rule of testing same ordered variables, to substantiate the results a cointegration analyses is done and it is found from the cointegration test that NIFTY & FDI do not have long run relationship at five percent significance level. If NIFTY index is increased by one time FDI will decrease by 0.500112 times. Therefore their is a inverse relationship between NIFTY & FDI.

VECTOR ERROR CORRECTION MODEL

Vector Error Correction Estimates		
Sample (adjusted): 1995M07 2014M03		
Included observations: 225 after adjustments		
Standard errors in () & t-statistics in []		
Cointegrating Eq:	CointEq1	
NIFTY(-1)	1.000000	
FDI(-1)	-0.497918	
	(0.04282)	
	[-11.6292]	
C	362.0079	
Error Correction:	D(NIFTY)	D(FDI)
CointEq1	-0.603123	-0.027616
	(0.08918)	(0.02280)
	[-6.76324]	[-1.21129]

VECTOR ERROR CORRECTION MODEL

it has been found from the results that the short run disturbance in long run relationship between NIFTY & FDI have been corrected in short period. The variable nifty & fdi identified as adjusting variables since sign of the variables is negative.

REGRESSION FDI ON NIFTY

$$\text{Nifty} = \beta_0 + \beta_1 \text{FDI}_t + U_t$$

Where

Nifty = Standard and Poor Nifty Index

FDI = Foreign Direct Investment

β_0 = Constant

β_1 = Slope parameter

U_t = Error term

$$\text{Nifty} = 2838.556 - 0.013 \text{ FDI}$$

$$t = (22.322) \quad (-0.202)$$

$$\text{Sig} = 0.000 \quad 0.840$$

$$R_2 = 0.000$$

VARIABLES			
Model	Variables Entered	Variables Removed	Method
1	DIFF(FDI,1)	.	Enter

- a. All requested variables entered.
- b. Dependent Variable: S P NIFTY INDEX

MODEL SUMMARY				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.013	.000	-.004	1915.88865

- a. Predictors: (Constant), DIFF(FDI,1)

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	149155.283	1	149155.283	.041	.840
	Residual	8.259E8	225	3670629.319		
	Total	8.260E8	226			

- a. Predictors: (Constant), DIFF(FDI,1)
- b. Dependent Variable: S P NIFTY INDEX

COEFFICIENTS						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	2838.556	127.163		22.322	.000
	DIFF(FDI,1)	-.139	.690	-.013	-.202	.840

a. Dependent Variable: S P NIFTY INDEX

REGRESSION FDI ON NIFTY

it is found from the results that the model is not good fitted. the impact of fdi is negative, if fdi increases by one time the nifty will decreased by 0.013 times. since the β_1 is not significant, the impact of fdi on nifty is not significant.

11. FINDINGS, SUGGESTIONS & CONCLUSION

FINDINGS

1. The Unitroot test states that fdi & nifty turn stationary at order nifty(0) & fdi (1).
2. The Granger causality conceal that fdi granger cause nifty at lag 20 months.
3. The vecm discloses that their exist short run relationship between nifty & fdi.
4. The Regression results reveal that their exist negative impact and the impact of fdi on nifty is insignificant.

SUGGESTION

The government can encourage FDI in India by taking various steps.

1. First and foremost measure may be the assurance of political stability in the country..
2. If the government seriously targets these macro economic variables, the stock market development will boost.
3. The study findings can be used to help government policy makers to encourage FDI and take various steps to provide incentives
4. Helps in formulating monetary policy
5. Domestic savings must also be encouraged in the country through appropriate and encouraging saving policies.
6. Policy makers should devise strategies to increase the FDI stock (retain FDI) and offer incentive for long investing and listing on the stock market.

CONCLUSION

the macro economic variable fdi & nifty turn stationary at order nifty(0) & fdi (1). the fdi granger cause nifty at lag 20 months while their exist no long run relationship between nifty & fdi, further vecm discloses that their exist short run relationship between nifty & fdi. finally regression results reveal that their exist negative impact and the impact of fdi on nifty is insignificant.

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CULTURAL FACTORS INFLUENCE EFFECTIVE KNOWLEDGE MANAGEMENT

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ABSTRACT

This study emphasis on effective factors responsible for the improvement of knowledge management pertaining to the cultural aspect, considering the cultural factors like attitude, belief, values, custom religion, language, tradition and so on. Moreover, these factors lead to the co-ordination, trust, learning and knowledge sharing makes the huge impact on knowledge management. In this study 100 respondents were chosen from the various organizations and also from experts who shared their experiences and views in the account of pilot test. Random sampling technique is used to extract the information with the help of questionnaire. This questionnaire is further used to draw the actual findings and conclusions for the study. The conclusion of the study is that every organization must be adaptable for change by providing the right culture and value the communication from the members of the organization, for the free flow of knowledge and explores the creative knowledge which becomes the greatest significant for the organization .

KEYWORDS

culture, knowledge, performance, organizational effectiveness.

INTRODUCTION

In today's competitive era where knowledge is the key issue in organizations are in the greater race, it is considered as the important factor for the success of any organization. Knowledge is an important asset for any organization in improving its efficiency and agility. Managing the knowledge in effective manner in developing the effective decision is a competitive advantage. Knowledge management plays a crucial role in an organization in decision making and strategic building. It deals with creation of information, storing it and disseminating it to the various levels in the organization. Adapting the knowledge and its effective utilization is completely depended on the organizational culture which has greater impact on knowledge management in improving the organizational performance. Various factors can be considered like collaboration, trust, knowledge sharing, and learning are the few factors that form the basis for the organizational culture. It plays the critical role in knowledge generation and knowledge sharing. Organizational culture also acts as the major motivator for knowledge management in an organization. In this paper we analyze the influence of cultural factors on knowledge management and its effectiveness in improving the organizational performance.

Culture refers to the individual values, beliefs, attitude, and understanding, behavior and feelings of individuals. Organizational culture is the job environment where the above culture factors play the vital role in interaction and relationship among the employees at workplace. This helps in knowing the behavior of the individual in an organization. The organizational culture involves individual experiences and their willingness in knowledge sharing and knowledge management. It has the greater impact on the developing of knowledge and disseminating the same to others that affects the organizational change as well. It can be considered as the important factor as it has the great effect on the adaptation from external and internal change by individuals. The organizational culture becomes the base in understanding, in terms of relationship among the employees, communication, interaction, practices and policies of an organization. Hence this has the positive impact on the knowledge sharing and the knowledge management.

REVIEW OF LITERATURE

M.M.M. Snyman, R. Davel (2005) proposed that the most strategic resource considered in organizations is Knowledge and innovation. As a result, the creative use of existing knowledge and its utilization leads to the development of new knowledge have become significant to any organization's competitive advantage. It is important for any organization to maintain the type of culture residing within an organization, since the cultural habits of employees of an organization affect the way in which knowledge managed. As a result of this it can be stated that whether an organization's culture could persuade or discourage individuals to generate, codify and share knowledge

Ronald Mullerm Hans-J Lenz and Myra Spiliopoulou (2005) viewed that the knowledge management is the key challenge in motivating the people in sharing the knowledge with other members in an organization. In most MNC's the culture is most difficult aspect to be considered. **Basit, tayab (2010) et. al** proposed that the knowledge is the talent of identification, creation and the dissemination of the information. They also investigated that cultural factors affect the collaboration, learning and trust related to knowledge management. Hence the management must take it as the challenging issue in larger organization as well to gain its competitive advantage.

Jan Auernhammer , Hazel Hall (2013) proposed that the organizations that encourages the knowledge creation, creativity and innovation should must be adaptable in providing the free space for the flow of communication and must also welcome the ideas generated by the members in order to motivate the staff to during the process of knowledge management. The management of the organization should consider the values of the individual in sharing the ideas to provide the challenging opportunities for the further innovation.

Chang, Christina (2002) viewed that the organizations are becoming the extension of the information science the knowledge has become the primary source in the present era. So there is a necessity that the knowledge must be managed effective in order to lead the benefits. It is the organization value that considers the organizational impact on km or not that may be having a negative or a positive significant which effects to the organization. So it is the individual intention in managing the knowledge to their levels.

LAVI, MARYAM; KAYWORTH, TIMOTHY R.; LEIDNER, DOROTHY E. (2005) examined that knowledge management is the art of creation, storage, transfer, and application of knowledge in organization. Organizational culture consists of the values and the beliefs that are the integral part to be considered in knowledge management. it determines the reality of individuals perceive the things or their willingness in knowledge sharing that enhances the individuals reputation and also determines the need for the further return on the knowledge they share . Hence the knowledge they share will influenced by these collectives' views. So this organizational culture may be considered as one of the barrier in sharing knowledge.

OBJECTIVES OF THE STUDY

1. To know the cultural factors and their influencing e on knowledge management.
2. To understand the impact of culture on organizational effectiveness.

HYPOTHESIS

H0: There is a no effect of cultural factors on knowledge management

H1: There is an effect of cultural factors on knowledge management.

RESEARCH METHODOLOGY

Type of Research: A descriptive study was conducted to know whether there is a impact of culture on knowledge management in an organization. And also to know the various facts which are majorly responsible for it.

Sample Design: The data collection, sample size and the method of data collection adopted for the study.

Sample size of 100 was chosen from the various organizations for data collection including the employees with different designation and the sampling method was used for data collection. The sampling procedure was judgmental.

Data collection: the questionnaire was prepared based on the Pilot study and about 5 employees were considered for the Pilot study.

Primary data: The questionnaire was prepared to conduct the research and the data was collected by using same. The questionnaire prepared consists of 4 set of questions. Each set comprises of 6 sub questions and these questions are distributed to various organizations/ employees to extract the accurate information and even the direct face to face interaction with the employees are also took place to extract the more information.

Secondary data: Data was collected through the magazines, journals and various articles as well through related websites. The outcome (information) is analyzed by using correlation as the statistical tools to draw the findings and the conclusion.

Tools for Analysis: Cluster analysis was used as the tool for the analysis of the data and SYSTAT version 11 was used to draw the results and the conclusion..

HYPOTHESIS TESTING

H0: *There is a no effect of cultural factors on knowledge management*

TABLE: 1: INFLUENCING FACTORS OF CULTURE ON KNOWLEDGE MANAGEMENT

Sl. No	PARTICULARS	SA	A	NAND	D	SD
1.	believe working alone enhances the great knowledge	16	26	32	16	10
2.	trust among the members leads to effectiveness in sharing knowledge	32	40	22	6	0
3.	Great deal of learning take place in working with team	42	44	8	4	2
4.	value oriented organization provide more market opportunities and challenges	32	42	24	0	2
5.	social interaction and communication among the members of organization leads to knowledge transfer	40	48	8	2	2
6.	Common organizational language enables the effective communication among employee	38	40	12	10	0
7.	collaborative engagement individuals are reluctant to share their information for fear of being criticized for their ideas	14	32	38	12	4
8.	absence of supervision results in lack of control on individual	32	40	16	12	4
9.	understanding the cultural difference make the professional success	24	32	28	8	8
10.	Interaction among the team members leads to less confusion and more success for individual?	34	24	22	16	4
11.	Interaction among the team members leads to less confusion and more success for individual?	10	32	38	16	4
12.	Allocation of assignment should be based on community references?	12	22	24	32	10
13.	willingness of individual is responsible in sharing their own knowledge with others	28	34	16	2	0
14.	common language should be used at the time of interaction	22	38	22	12	6
15.	members among the group take the advantage of other knowledge and experience in their personal goals	12	58	22	4	4
16.	personal information can be shared with coworker with trust	18	18	36	22	6
17.	Employee commitment to the job leads to greater efficiency and improved job performance?	36	34	24	4	0
18.	communication in local language takes less time in delivering the information	24	44	18	14	0
19.	communicating with others helps in improving your views and ideas better	34	44	18	4	0
20.	there will be free flow of knowledge in community oriented organization	26	26	14	12	1

Here the data is collected from a sample of 100 respondents with the help of questionnaire containing 20 questions with 5 different scales as strongly agree, agree, neither agree nor disagree, disagree and strongly disagree mentioned in above table.

DISTANCE METRIC IS EUCLIDEAN DISTANCE

K-means splitting cases into 2 groups

TABLE: 2 SUMMARY STATISTICS FOR ALL CASES

Variable	Between SS	df	Within SS	df	F ratio
STRONGAGREE	691.695	1	1222.505	18	10.184
AGREE	937.163	1	890.637	18	18.940
NAND	880.635	1	635.165	18	24.956
DISAGREE	532.009	1	624.791	18	15.327
STRONGDISAGR	111.759	1	92.791	18	21.679
TOTAL	3153.260	5	3465.890	90	

TABLE: 3 CLUSTER 1 OF 2 CONTAINS 13 CASES

Members	Variable	Minimum	Mean	Maximum	sd
Case distance	STRONGAGREE	12.00	30.62	42.00	8.22
	AGREE	26.00	40.92	58.00	7.64
Case 2	NAND	8.00	17.23	24.00	5.57
Case 3	DISAGREE	0.00	6.62	14.00	4.72
Case 4	STRONGDISAGR	0.00	1.62	6.00	1.98
Case 5					
Case 6					
Case 8					
Case 13					
Case 14					
Case 15					
Case 17					
Case 18					
Case 19					
Case 20					

TABLE: 4 CLUSTER 2 OF 2 CONTAINS 7 CASES

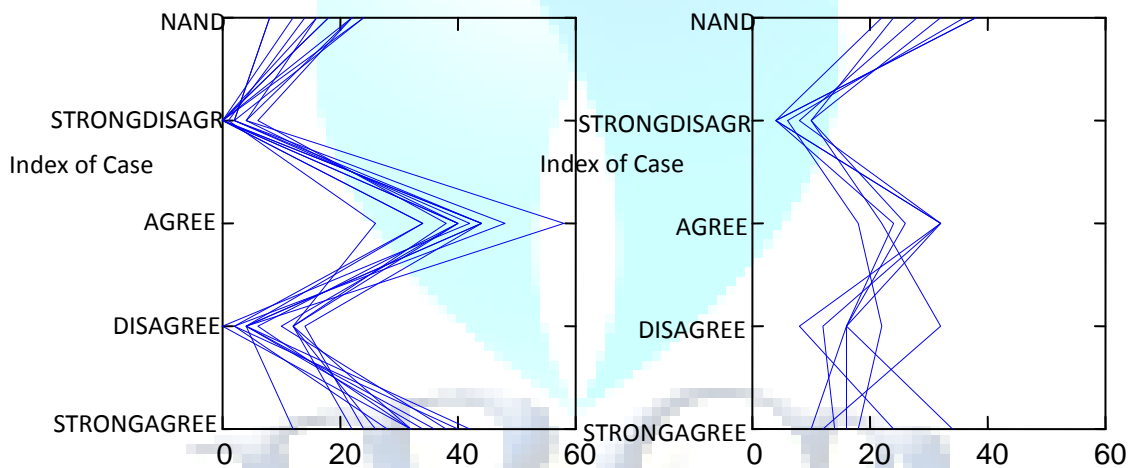
Members	Variable	Minimum	Mean	Maximum	sd
Case distance	STRONGAGREE	10.00	18.29	34.00	8.28
	AGREE	18.00	26.57	32.00	5.62
Case 1	NAND	22.00	31.14	38.00	6.62
Case 7	DISAGREE	8.00	17.43	32.00	7.72
Case 9	STRONGDISAGR	4.00	6.57	10.00	2.76
Case10					
Case11					
Case12					
Case16					

Analysis: from the above analysis it is proved that cultural factor do not affect the knowledge management. Therefore Null hypothesis is accepted.

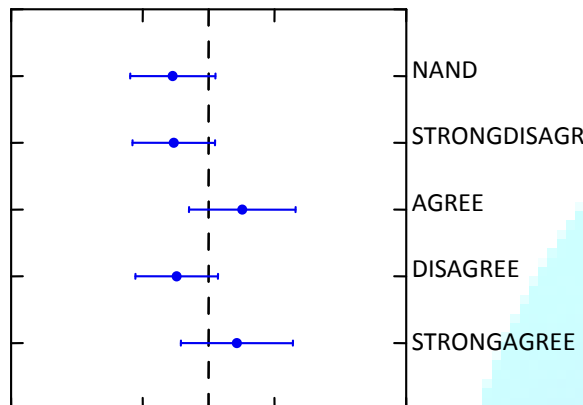
CLUSTER PARALLEL COORDINATE PLOTS

Graph 1

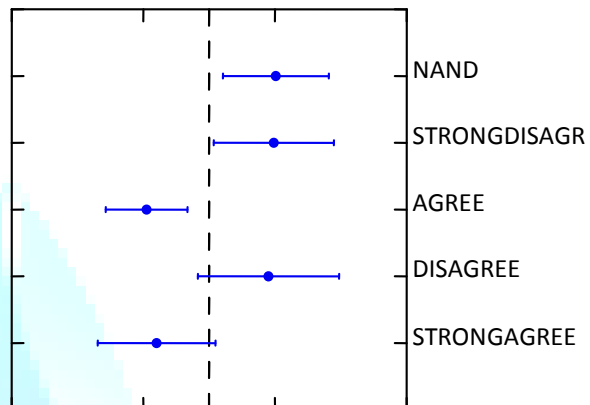
Graph 2



Graph 3



Graph 4



FINDINGS

From the above analysis, it was found that the most of the employees states that the cultural factors do not effect knowledge management in an organization; hence there is no impact of culture on knowledge management. Knowledge sharing can take place in an organization without considering the cultural factors and it do not act as the barrier in sharing the knowledge. Hence the individual's attitude, values do not play a crucial role in an organization in effective knowledge management.

Individual effort does not enhance the knowledge comparing to the group work. As the group work or the team leads to a great collaboration in sharing the knowledge and knowledge can be improved to the maximum level. It not only helps in collaboration but also provides the most challenging tasks preparing individuals in becoming more competitive leading to greater efficiency and improved job performance. If the cultural factors are considered then it may act as hurdle in achieving the individual growth as well as the organizations.

It can be observed from the above analysis that there must be common flow of information among the members of the organization so as to develop the effective knowledge management enhancing the individuals in gaining more knowledge and the learning. Hence the cultural factors should not be considered as the medium in delivering the information in an organization among the members at its various levels.

CONCLUSION

As the organization is workplace where most of time is spent with different employees from the various region, culture, language and tradition, helps in knowing each other with different knowledge, skills and information. A collaborative environment is necessity where it does not create any limit to the individuals in sharing their experiences and learning so as to make the organization a better place to work with more enthusiasm and the excitement in knowing each other knowledge and information without any hurdles.

Hence it can be concluded that management must provide such a workplace where the individuals can easily share their ideas and opinions with each other so to utilize them effectively in their career growth that not only benefits to the individuals but also the improving organizational performance and its efficiency. Hence the organization should not entertain the cultural factors in aspects of knowledge management.

LIMITATIONS

1. This study gives evidence only to cultural factors.
2. This study restricted to only Bangalore city however huge sample can be drawn from other metropolitan cities.

SCOPE FOR FURTHER RESEARCH

It provides the initial understanding of how the cultural aspect has the impact on the knowledge management in an organizational sectors, at the same it also helps the researchers for further research in understanding the better role of the organizational culture and its impact on the knowledge management and provide the pave for the organization in better implementation of it in the organizational settings.

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ROBOTICS IN NURSING**DR. JANET. J****PROFESSOR****SI-MET COLLEGE OF NURSING
MALAMPUZHA, PALAKKAD, KERALA****ABSTRACT**

Advances in technology just over the horizon will permit an individual to consult a computer much as one now consults a physician for diagnosis, recommendations, instructions, and treatment. Only a step beyond this is the development of robots who can do a better surgical job than a human being. What is missing from this scenario? Tender loving care. That is the nurse's job, and it is something that computers cannot do because it involves feelings and human communication that are beyond mere technology. Consequently, nurses will be needed long after physicians have passed into limbo. The practical lesson of this look into the future is that, although nurses certainly must remain in touch with the cutting edge of technology, their primary purpose will be to retain and sharpen the skills that Florence Nightingale introduced. Human response will never be replaced by technology, and the unchanging need for the nurses' caring function will assure their future. Nurses want to make patients feel human again, and not like a disease. Most doctors and nurses just don't have time to talk to patients anymore. The lack of communication and lack of empathy from care providers has frustrated many patients and has led to numerous complaints. The robots are highly skilled and once programmed with a diagnosis, they will be able to explain all details regarding the patient's condition and offer support.

KEYWORDS

robotics, nursing.

INTRODUCTION

There is a lot of demands in nursing profession and the world is already facing a shortage in the nursing industry. As per the US census Bureau, the number of seniors and the elderly is going to increase and soon it will double than the normal younger population. This phenomenon may set off more activity in the health and medical field creating a severe dearth of medical professionals. The world is not prepared for such a circumstance and there is very little anyone can do about it. Nurses are required in several fields of the hospital industry like for hospital care, personal care, old age homes, psychiatric nursing care, Child health nursing, community health nursing care and many more. Given the current scenario, there is already a shortage of nurses and this shortage is only likely to increase further. Will robotics help to come up with solutions for the shortage of nurses in the health industry is one question that is being put by the medical professionals. It is difficult to say because robots can do certain kind of jobs well but they definitely are not yet prepared to take over the role of a nurse. However, the robotics technology can be used to ease the responsibilities of a nurse. Robotic nurses hold the promise of becoming more of a reality now than science fiction. Imagine having a robot around the house to do all your chores, administer medicine, and do all your checkups without you having to step out of your house at all. This is what robotic nurses or nurse bots are programmed to do, and the rate at which research is underway on this project, robotic nurses may soon become a common household feature for all those who can afford it. Robots are being used actively in medical and welfare industry because of the shortage of manpower in this industry. The main reason for this kind of deficit is the falling birth rate and the increasing aging population. The deficit cannot be filled and it is only going to increase. In the medical industry all over the world, there is a severe dearth of nurses. This dearth is being faced to a much higher level by some of the developed nations. Nurses are hard to find and hospitals that are always running full house most of the time need people in this category to a large extent. Robots are the best way to fill this gap and increase efficiency at the same time. There are several innovative methods through which the robots can take the place of a nurse.

DEFINITIONS OF ROBOT

The Ministry of Economy, Trade and Industry (METI) defines a robot as an intelligent mechanical system that incorporates three technological elements: sensing, intelligence and control, and drive.

"A reprogrammable, multifunctional manipulator designed to move material, parts, tools, or specialized devices through various programmed motions for the performance of a variety of task." Robot Institute of America, 1979.

"An automatic device that performs functions normally ascribed to humans or a machine in the form of a human." Webster's Dictionary

ROBOT

Robots are further categorized by their use into industrial robots, which are used in factories, and service robots, which are used in the areas of medical care and welfare, livelihood support, and amusement. Anticipating a reduction in Japan's workforce due to the declining birthrate and aging population, and the improvement of the quality of products and services, METI is implementing various measures for the development of robot technologies of the next generation and for the creation of new industry.

WHAT IS ROBOTICS?

Robotics is a field of engineering that deal with design and application of robots and the use of computer for their manipulation and processing. Robots are used in industries for speeding up the manufacturing process. They are also used in the field of nuclear science, sea-exploration, servicing of transmission electric signals, designing of bio-medical equipments etc. Robotics requires the application of computer integrated manufacturing, mechanical engineering, electrical engineering, biological mechanics, software engineering and the like. Robots have come a long way since the day the first robot was built in 1927. Nowadays, these machines are used as surgery robots, service robots, and military robots. It is startling to learn that scientists are now trying to make robots human-like by infusing emotions and expressions onto them. The word robot comes from the Czech word 'roboto' or 'labour'. A robot is a machine/servant/slave. The word android derives from the ancient Greek for 'man of the species'. The terms "robot" (a "mechanical" being) and cyborg (a being that is partly organic and partly mechanical), a cyborg is a combo of artificial parts in an organic body. We have cyborgs among us even as we speak. We have people with artificial hearing devices that hook directly to their brain. We have people with pacemakers to keep their hearts beating. We have people with artificial heart valves to allow the flow of blood. We have some artificial limbs that hook up to a person's nervous system and actually move when the person "thinks" about it. So, you don't have to go to the movies to see cyborgs. Chances are you walked by a cyborg a few minutes ago. The word "android" has been used in literature and other media to denote several different kinds of artificially constructed beings:

- A robot that closely resembles a human
- An artificially or synthetically created being that closely resembles a human; also referred to in many series (mostly anime) as Bio Android.
- Any machine that mimics a human.

An Android to be a human-like robot, whereas a Robot can be any sort of shape or form - for example, there are robots which are used in car manufacture but they look nothing like people - usually they are long mechanical arms that can perform complex tasks, but don't have any legs, body, head etc. Robots can also

be round discs which run around the floor too. The robot, that can also recognise faces and voices and respond to up to 30 spoken commands, may be seen in hospitals and retirement homes within three years.

INSTITUTES IN INDIA OFFERING COURSES IN ROBOTICS

Indian Institute of Technology Kanpur, Uttar Pradesh, National Institute of Technology, the University of Hyderabad- M.Tech in Artificial Intelligence and Robotics, Jadavpur University, Kolkata, Birla Institute of Technology and Science, Pilani, Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam, Tamil Nadu- M.Tech, PSG College of Technology, Coimbatore (Tamil Nadu) Mechanical (Robotics as an elective subject) and Innobuzz Knowledge Solutions, Pitampura, New Delhi.

DEVELOPMENT AND HISTORY OF ROBOTICS

A robot is a self controlled device that is built using electronic, electrical and mechanical units. The robot is designed to carry out a specific set of instructions that it is programmed for regularly. Robots can do the same task several times without getting bored with it and getting tired of it. Bots were initially used in industries to handle radioactive material because they were harmful to people. Here is a brief history and the time line of robots. Robots mainly gained popularity in the 20th century and after that, the development in this segment of science was rapid. What was called a science fiction actually turned into reality?!!!

- In early 270 B.C., a Greek engineer called Ctesibus made small robots with water clocks and organs.
- In 1818, Frankenstein became popular, a character created by Mary Shelley. He was actually an evil robot.
- Robots have come a long way since the day the first robot was built in 1927. Nowadays, these machines are used as surgery robots, service robots, and military robots. It is startling to learn that scientists are now trying to make robots human-like by infusing emotions and expressions onto them.
- In 1941, Isaac Asimov used the word robot to describe the automatic device. Isaac Asimov also created the three laws for robots which involved the facts that robots should not be designed to harm humans and they should be primarily made to obey orders given by humans.
- In 1956, two people named George Devol and Joseph Engelberger found the world's first robot company.
- In 1959, MIT developed a lab based robot which worked on a computer assisted model.
- In 1961, the first robot was launched successfully by General Motors in New Jersey.

After that the concept of robots has been consistently developing and today we have robots that can act as house maids and servants.

ADVANTAGES OF ROBOTICS

Robotics is actually not a new invention but it has existed ever since there have been puppets and mechanized puppets. Initially when robots were being made, they had limited functionality and were mostly used by the toy industry. However, the concepts has been developed to an extent where we have human-like robots today performing advanced functions. The usage of robots is being contemplated by several industries including the medical and hospital industry. Robotics is being used widely by electronic, shipment, automotive and aircraft industries by large. They are used to automatically assemble microchips and other advanced features in gadgets and vehicles. However, in the hospital industry robotics is more dependants on humans for operability.

WHAT ARE ADVANTAGES OF ROBOTICS TO HUMANS?

There are several advantages of robotics for human beings. They can perform tasks more accurately and the chances of error are minimized to a great extent. They can do routine jobs with the closest accuracy, speed and efficiency. Robots can be controlled by humans and computers. They can carry out a set of instructions without any faults. The error-free nature of robots is valuable to many industries like aircraft and machine assembly units. Professions that are hazardous and harmful to human beings like chemical exposure and nuclear plant exposure can actually be mechanized and robots can be used instead. Heavy industry work which is harmful for the physical strength of humans can also be mechanized using robots. Robots can perform a task of 10 humans at one time in the same amount of time. Assistive devices that are being made using the robotics technology can empower the disabled people and make them less dependent. That is one area of application where the medical industry can get some breathing space. Assistive devices are also helping people with cognitive disorders lead an independent life. Nurses are required in many areas like personal care to hospital care. Robots are doing several things today like helping people to walk, bathe, groom, recreation, and much more. So robots are efficient enough to handle a nurse's functionality also. Once the baby boomer generation takes full control, then the demand for robots is also going to go up tremendously. A robot will be required then to take care of several daily needs of patients like feeding and grooming. Also, the robots can be controlled by the user which is an advantage to the user over a nurse actually.

ROLE OF ROBOTIC NURSES

Though the name suggests otherwise, robotic nurses are not meant to be a substitute for professional nurses, but are simply meant to add to the number of caregivers available. This technology is developed keeping in mind the care required by elderly people and those suffering from mobility issues on a daily basis. With the improvement in healthcare and medical services, the average life span of individuals is increasing, and this demographic shift calls for an improvement and expansion of the present care giving force struggling to meet the demands of society. There has to be a solution that suits all- proper care provided to those who need it without the extra burden on healthcare. With the rising cost of healthcare, the thought of having robotic nurses in homes and hospitals is both an exciting and a comforting proposition.

THE EXPECTED DUTIES THAT ROBOTIC NURSES ARE BEING TRAINED TO PERFORM INCLUDE:

- Live in the homes of elderly people as well as Chronically sick people and help with chores like opening the refrigerator or other appliances, and fetching small objects for them.
- Reminding patients to take their medicines, visit the doctor, or even take their meals on time.
- Reducing need for contact with doctors by connecting them with professional caregivers via the internet provide much needed social interaction.

ROBOTS BECOME NURSES' VALUABLE ASSISTANTS: RESEARCH REVIEW

Being a Nurse Let's be clear about one thing: Robots will never replace nurses. Even the most optimistic roboticists recognize that no combination of metallic parts, microchips, and binary files could ever replace the empathetic touch or clinical intuition of a human nurse. But researchers who believe that R2-D2 and C-3PO of "Star Wars" fame and the rogue humanoids in the movie "I, Robot" are more than just fantasy say robotic devices will one day help nurses work more efficiently and may even help them remain in the profession as they age.

"Robots are going to be your friend," says Charlie Kemp, PhD, assistant professor in the department of biomedical engineering at Georgia Tech and Emory University and director of the Center for Healthcare Robotics in Atlanta. "There is an enormous opportunity for robots in health care, with many ways for them to increase efficiency and quality across the board. Helping nurses do their job is one of those ways"(2008). Robots have difficulty operating in complex and unpredictable work environments such as hospitals. Current research focuses on designing robots that will do many of the routine and often mundane — but essential — tasks associated with nursing care, such as feeding and lifting patients. Future robots may one day be able to take and monitor patients' vital signs instead of a nurse, but they are far from having a nurse's ability to synthesize the information, clinically assess what it means, and physically take action. Instead of acting on their own, robots will serve as assistants and enable nurses to lend their expertise to remote areas without physically traveling to those locations. Already, courier robots resembling small, mobile cabinets or carts are ferrying linens, medications, laboratory samples, supplies, and other equipment

throughout hospitals without bumping into patients, visitors, or healthcare staff. They go by the names TUG, RoboCart, and HelpMate. The U.S. Department of Defense approved a contract to develop a multitasking robotic nursing assistant (RNAs). The robot would be able to lift combat-wounded soldiers out of bed, deliver supplies, and offer telepresence capabilities for off-site healthcare staff. "The nurse would guide the robot and tell it when to start and stop," says Aaron Edsinger, PhD, a roboticist working with the companies designing the Phase I prototype for the Army. Other researchers are exploring whether robots can help people who have had strokes perform their physical therapy more effectively to improve their muscle strength and flexibility.

The arena in which healthcare robots have been most successful thus far is the OR and includes the use of the well-known DaVinci surgical robotic system. Robotics help surgeons perform laparoscopic and thoracoscopic surgeries and, in recent years. The advantages of using robots in surgeries includes decreased pain, faster recovery, shorter hospital stays, fewer complications, and reduced costs.

Researcher Judith T. Matthews, RN, PhD, a nursing professor at the University of Pittsburgh, is determining whether robots can make life easier for residents in long-term care facilities and the elderly and disabled who are living at home.

"This is about robotic assistive technology to help older adults and persons with disabilities manage their everyday lives," says Matthews. "That's a role nurses typically don't play. Robots, may help offset a worsening shortage of nurses and nurses aides projected for long-term care. At the Center for Healthcare Robotics in Atlanta, Kemp is researching how robots can help people with their activities of daily living, from picking up dropped objects to feeding them to giving them a sponge bath.

The inspiration for the robot came from helper monkeys and service dogs who care for people with spinal cord injuries.

Debi Sampsel, RN, MSN, executive director of the Nursing Institute of West Central Ohio, believes robots have a place in health care and that the futuristic blend of nursing and technology offers a solution to today's nursing shortage. Sampsel says aging and physically impaired nurses can extend their careers by partnering with remote presence robots, such as the RP-7 from In Touch Health that is already being used by physicians. The RP-7 is a wireless, mobile robot whose "head" is a flat-screen monitor. It operates under the direct control of a nurse or other healthcare provider seated at a control station and using a keyboard and joy stick. It moves undeterred, allowing the nurse to interact from anywhere with patients, family members, students, and hospital staff. The healthcare provider is able to see the patient and the patient is able to see the healthcare professional's face projected onto the monitor, which is positioned where the robot's head would be. "Remote presence robots hold out hope for extending career opportunities for nurses who might otherwise leave the profession," says Sampsel, who has spent years exploring potential solutions to the aging workforce.

In remote robot form, the faculty member was able to move about the skills lab to view the actions of the students, and also robot can able to debrief the class and talk to individual students who needed further assistance. Robots at this point can't think like a person, and it could be a very long time before they do but they're going to eventually be better than science fiction because they're going to lend real value to nursing."

FUTURE OF ROBOTIC NURSES

Scientists predict a surge of robotic nurses by the year 2010. A few robots were already introduced to be tested to see how they are better in helping patients with mobility issues. For example, the robot El-E, developed by the Center for Healthcare Robotics in the Health Systems Institute at the Georgia Institute of Technology and Emory University, is designed to aid people with everyday tasks such as fetching small objects around the house. Pearl Nurse bot developed in collaboration by four schools in the United States- University of Michigan, Pittsburgh, Carnegie Mellon and Stanford is undergoing field testing at the Longwood Retirement Community in Oakmont, Pa. RIBA, developed by researchers at Japan's Institute of Physical and Chemical Research it is designed to help nurses lift and carry patients weighing up to 61 Kgs. Now, robot nurse to give patients sponge baths. Washington. Nov. 14, Scientist have developed a robot that can help patients maintains personal hygiene. The researcher at the Georgia Tech's Health care Robotics Lab have developed the robo named Cody reports live science. Cody has demonstrated its ability to clean a patients arm and legs. It has limb with reduced stiffness in case of accidental bumping, and is designed to extra a very low amount of pressure while sponging down a patient. There also stop button ready for humans to press just in case. The robots would be fitted with sensors and cameras allowing them to avoid collisions while travelling through wards and corridors. High-speed lanes could allow them to move from place to place quickly. The robots would also employ face and voice recognition technology to communicate with patients and spot un authorized visitors. "The human-robot interaction will be tricky, as the robots will have to be able to deal with people with different injuries and disabilities as well as the elderly and seriously ill patients. They could also distribute medicines and even monitor the temperature of patients remotely with laser thermometers. Working in teams, the intelligent robots will be able to communicate with each other and co-ordinate their duties (2007).

NURSING IN 2020

Here are some of the technologies that have changed the nursing career in the past century.

1. Electronic IV monitors
2. Portable defibrillators
3. Computer stations
4. Hands-free communication devices including remote call badges
5. Portable IT devices
6. Drug management technology to regulate dosage of medications.

Yet with all these advances, there is an nursing shortage in many parts of the world. By the year 2020, it is estimated there will be a shortage of 8,00,000 nurses. (Buerhaus, JAMA, 2000). Some robots gives command, taking food to patients and gives comment after entering the elevator for the particular floor. According to the new technology Robot nurses could be in hospitals by 2020 (Warwick University Engineering Dept, UK).

DISADVANTAGES OF THE NURSE ROBOTS

1. Robots can't respond properly at the times of emergency and danger
2. They are expensive
3. They have limited duties. They can do what have been ordered to do
4. Human touch should not be substitute with machine
5. Demands electrical charging system
6. Patient may feel fear and anxiety
7. Small scale hospital could not be afford
8. Robots not having kindness to the patients
9. Ordered nursing procedure only it will be carrying out

CONCLUSION

To conclude Mahatma Gandhi said that robots are welcome as long as they help human beings to be more productive and creative, but they should not make human beings their slaves. Robots are pleasant for the work of human nurses, but whether is it show the intimacy, kindness, Dedication and love as real nurse towards our clients ?!... Nurses are obviously the cream of humanity. So if robots can do the work of the finest humans, where will it all end? Nurses will be replaced by evil robots or Noble robots - Nurses as well as Student nurses have to be warned. **Is it Trend or Tragedy in Nursing ???**

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COMPOUND EXPONENTIAL LIFETIME DISTRIBUTION-II AND ITS APPLICATIONS

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ABSTRACT

The thrust of the paper is to emphasize and bridge a cause and effect relationship between statistical quality control and reliability aspects of industrial practice. Based on process capability analysis, and the effects of certain trial and error fine-tuning manoeuvres on the part of the producer, leading to certain shifts in process mean (target value), the lifetime distribution of the manufactured product will no more adhere to the conventional models like exponential, gamma, Weibull, etc., discussed in the literature. The results obtained in this paper pertain to the derivation of a new lifetime model, taking into consideration such modifications and manoeuvres. In This model the shifts in process mean are assumed to be triangularly distributed. The theoretical results obtained are illustrated with appropriate practical examples.

KEYWORDS

Compound Distribution, Life Distribution, Process Capability, Reliability and Statistical Quality Control.

INTRODUCTION

In industrial practice, the application of techniques of statistical quality control (SQC) and reliability analysis play a vital role. SQC deals with the maintenance and improvement in the quality of manufactured product, whereas reliability analysis deals with the chance of survival of manufactured product up to specified time. Quality of manufactured product is assessed by defining a suitable quality characteristic. The variation in the quality characteristic of different items manufactured by a production process is characterized by its probability law. The duration of time (lifetime) in which a manufactured product (unit) functions, before it fails, is also a random variable of continuous type, supported on the positive half of the real line.

A synthesis of the two arms of the methodology is not much dealt with, in the literature. One can view these two aspects as the hardware and the software of a manufacturing process, which, both the producer and the consumer should be concerned about.

MODIFIED CONTROL LIMITS

Modified control limits are used in situations where the 6-sigma spread of the process is smaller than the spread in the specification limits. All the results obtained in the paper are based on this premise. In such situations the process mean μ is allowed to vary over an interval $\mu_L \leq \mu \leq \mu_U$, where μ_L and μ_U are obtained in such a way that the process is still capable of producing items that meet the specification limits. In other words, certain amount of shift in the parameter μ is permissible on either side of the target value of μ . Correspondingly, the upper and lower control limits for the control chart, called the modified control limits, are determined for the statistic.

In the framework of modified control limits discussed above under the assumption that $U - L > 6\sigma$, where U, L are the specification limits, a new life time distribution is derived from the point of view of reliability of the manufactured product.

RELIABILITY ANALYSIS

Important characteristics of reliability theory.

Reliability function:- The probability that the component survives until specified sometime 't' is called as the reliability function (and is denoted by $R(t)$) of the component. Mathematically, $R(t)$ is expressed as

$$R(t) = P(X > t) = 1 - F(t).$$

where 'T' is the lifetime or time to failure of a component, $F(t)$ is the distribution function of the lifetime T of the component.

Instantaneous failure rate:- The conditional probability that a component surviving to age 't' will fail in the interval $(t, t + \Delta t)$ is $h(t) \Delta t$, where $h(t)$ is the instantaneous failure rate at time 't' and is defined as

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{R(t) - R(t + \Delta t)}{\Delta t R(t)} = \frac{f(t)}{R(t)}$$

The function $h(t)$ is also known as hazard rate, intensity rate, mortality rate. If the above $h(t)$ is an increasing function of t , for $t \geq 0$, the corresponding distribution function $F(t)$ is known as an IFR (increasing failure rate) distribution. If $h(t)$ is a decreasing function of t , then the corresponding distribution is a DFR (decreasing failure rate) distribution.

The Cumulative Failure rate: The cumulative failure rate $H(t)$ is defined as,

$$H(t) = \int_0^t h(x) dx$$

and is also known as the cumulative hazard. Also $R(t)$ in terms of $H(t)$ can be expressed as

$$R(t) = e^{-H(t)}$$

COMPOUND DISTRIBUTIONS

In applications of statistics, one generally has some apriori information regarding variation in one or more of the parameters of the probability model under consideration such variation also is specified by means of a probability distribution on an appropriate support. When this information about the parameter(s) is made effective and is super imposed on the basic model, and the probability density function is derived, as a marginal, the resulting distribution is termed as the compound distribution of the basic model.

Compound exponential lifetime distribution –ICELD-II) Model

Basic assumptions required for the derivation of the model are

Assumption 1.1The lifetime (T) of a product is exponential with density f(t) given by

$$f(t) = \begin{cases} \theta e^{-\theta t} & ; 0 < t < \infty, \\ 0 & ; \textit{elsewhere} \end{cases} \quad \dots \quad (1.1)$$

Assumption 1.2 The measurable quality characteristic X of the product is normally distributed with mean μ and variance σ^2 i.e., $X \sim N(\mu, \sigma^2)$, in which, σ^2 is known.

Let U, L represent the upper and lower specification limits prescribed by the designing department. Based on the observation of the production process over time, suppose it is concluded that $U-L > 6\sigma$, implying that the process is capable of producing better products, meeting the specifications.

Under this framework, suppose the manufacturer decides to relax certain constraints on the process by fine-tuning the operations of either one or more of the three M's (material, men and machines).

Assumption 1.3 The shift in μ resulting out of fine-tuning follows triangular distribution in $[\mu_L, \mu_U]$, where

$$\begin{cases} \mu_U = U - 3\sigma \\ \mu_L = L + 3\sigma \end{cases} \quad \dots \quad (1.2)$$

It can be observed that the greater the shift in μ which results in a greater deviation from the process mean μ_o , will cause a reduction in the lifetime of the product. This, in turn, results in a reduction in the expected lifetime of the product.

Assumption 1.4 The increase in the absolute deviation of μ from μ_o results in an increase in θ , and the same is represented by the relation

$$\theta = C + mU ; \quad c, m > 0 \quad \dots \quad (1.3)$$

where $U = |\mu - \mu_o|$

which represents absolute deviation of μ from μ_o .

In this context, one has the following.

Lemma 1.1: The variation in the random variable U is specified by the probability density function $g^*(U)$ where

$$g^*(u) = \begin{cases} 2(\delta - u)\delta^{-2} & ; 0 < u < \delta, \\ 0 & ; \textit{elsewhere}. \end{cases} \quad (1.4)$$

Proof From Assumption 1.3, the pdf of μ is

$$g(\mu) = \begin{cases} 2(\mu_U - \mu_L)^{-1}(\mu - \mu_L)(\mu_o - \mu_L)^{-1} & ; \mu_L \leq \mu \leq \mu_o, \\ 2(\mu_U - \mu_L)^{-1}(\mu_U - \mu)(\mu_U - \mu_o)^{-1} & ; \mu_o \leq \mu \leq \mu_U, \\ 0 & ; \textit{elsewhere} \end{cases} \quad (1.5)$$

where $\mu_o = 2^{-1}(\mu_U + \mu_L)$ and $\delta = 2^{-1}(\mu_U - \mu_L)$.

Due to the symmetry of the triangular distribution around μ_o , $(\mu - \mu_o)$ has a triangular distribution on $[-\delta, \delta]$.

Hence, U in (6.3) will be folded triangular distribution with density

$$g^*(u) = \begin{cases} 2(\delta - u)\delta^{-2} & ; 0 < u < \delta, \\ 0 & ; \textit{elsewhere}. \end{cases}$$

The modified life time distribution of the product is derived in the following

Theorem 1.1 The distribution of the lifetime T under the framework, as explained above, is given by the compound distribution with density $f^*(t)$ given by

$$f^*(t) = \begin{cases} 2(m\delta)^{-2} \int_c^{c+m\delta} v(c + m\delta - v)e^{-vt} dv & ; 0 < t < \infty, \\ 0 & ; \textit{elsewhere} \end{cases} \quad (1.6)$$

Proof Using the Lemma 1.1, and affecting the transformation

$\theta = c + mU = V$, (say) one has

$$f_1(v) = \begin{cases} 2(m\delta + c - v)(m\delta)^{-2} & ; c < v < c + m\delta, \\ 0 & ; \textit{elsewhere}. \end{cases} \quad (1.7)$$

From the theory of compound distributions, one has the joint density function of V and T, $h(u, t)$ of the compound distribution as $h(u, t) = f_1(u) \cdot f(t/u)$

$$= \begin{cases} 2(m\delta + c - v)(m\delta)^{-2} \cdot v e^{-vt} & ; 0 < t < \infty, \\ 0 & ; c < v < c + m\delta, \\ 0 & ; \textit{elsewhere} \end{cases} \quad (1.8)$$

Thus, the lifetime density of T in (1.6) is obtained as the marginal density, by integrating $h(u, t)$ w.r.t. u, in the appropriate range.

Lemma 1.2 The function $f^*(t)$ defined in (1.6) is a proper probability density function.

Proof : Follows from (i) $f^*(t)$ should be non-negative, which is obvious, since the integrand in $f^*(t)$ is positive as, c, m, δ , u, $(c+m\delta-u)$ are positive.

(ii) Total probability is given by

$$\int_0^{\infty} f^*(t) dt = \int_0^{\infty} 2(m\delta)^{-2} \left[\int_c^{c+m\delta} v(c+m\delta-v)e^{-vt} dv \right] dt$$

Which leads to 1 on simplification.

PROPERTIES OF CELD-II

Lemma 2.1 The expected value of T for the new distribution (CELD-II) is given by

$$E^*(T) = 2(m\delta)^{-2} [(c+m\delta) \log(1+m\delta c^{-1}) - m\delta] \tag{2.1}$$

Proof From the definition of mathematical expectation, one has

$$E^*(T) = \int_0^{\infty} f^*(t) t dt = \int_0^{\infty} 2t(m\delta)^{-2} \left[\int_c^{c+m\delta} v(c+m\delta-v)e^{-vt} dv \right] dt.$$

By changing the order of integration and $ut = \omega$; $dt = d\omega u^{-1}$

$E^*(T)$ on simplification yields (2.1).

Lemma 2.2 Expected lifetime of the CELD-II is less than the expected lifetime c^{-1} of the conventional exponential model.

Proof : From (2.1)

$$E^*(T) = 2(m\delta)^{-2} \left[(c+m\delta) \log\left(1 + \frac{m\delta}{c}\right) - m\delta \right]$$

$$= 2(m\delta)^{-2} [m\delta - m^2 \delta^2 (2c)^{-1} + (m\delta)^3 (3c^2)^{-1} \dots - m\delta]$$

$$= \frac{1}{c} - (3c)^{-1} \log(1+m\delta/c).$$

Since $E(T) = c^{-1}$, one has

$$E^*(T) - E(T) = -\frac{1}{3c} \log(1+m\delta/c) < 0.$$

Hence, the assertion.

Lemma 2.3: Variance of T for CELD-II is

$$V^*(T) = 4(m\delta c)^{-1} - 4(m\delta)^2 \log(1+m\delta c^{-1}) - 4(m\delta)^{-4} [(c+m\delta) \log(1+m\delta c^{-1}) - m\delta]^2 \tag{2.2}$$

Proof $V^*(T) = E^*(T^2) - (E^*(T))^2$, one has

$$E^*(T^2) = \int_0^{\infty} t^2 f^*(t) dt = \int_0^{\infty} t^2 2(m\delta)^{-2} \left[\int_c^{c+m\delta} v(c+m\delta-v)e^{-vt} dv \right] dt$$

By changing the order of integration, one has

$$E^*(T^2) = 2(m\delta)^{-2} \int_c^{c+m\delta} v(c+m\delta-v) \left[\int_0^{\infty} t^2 e^{-vt} dt \right] dv = 4(m\delta c)^{-1} - 4(m\delta)^{-2} \log(1+m\delta c^{-1}). \tag{2.3}$$

Hence, (2.2) follows from (2.3) and (2.1)

Lemma 2.4: The distribution function $F^*(t)$ of the CELD-II is given by

$$F^*(t) = 1 + 2(m\delta)^{-2} [e^{-ct} t^{-2} (1 - e^{-m\delta t}) - m\delta e^{-ct} t^{-1}] \tag{2.4}$$

Proof : $F^*(t) = \int_0^t f^*(x) dx$

which on simplification yields (2.4).

RELIABILITY ASPECTS OF CELD-II

In the following section, certain properties of the lifetime distribution with particular reference to reliability are obtained.

Lemma 3.1 The reliability function $R^*(t)$ corresponding to CELD-II is given by

$$R^*(t) = 2(m\delta)^{-2} [m\delta e^{-ct} t^{-1} - e^{-ct} t^{-2} (1 - e^{-m\delta t})] \tag{3.1}$$

The Proof follows from , $R^*(t) = 1 - F^*(t)$.

Lemma 3.2 The hazard function of the CELD-II is given by

$$h^*(t) = C + \frac{1}{t} + \frac{(tm\delta + 1 - e^{-m\delta t})e^{-m\delta t}}{t(tm\delta - 1 + e^{-m\delta t})} \tag{3.2}$$

Proof $h^*(t) = f^*(t) R^*(t)^{-1}$

$$= 2(m\delta)^{-2} [m\delta e^{-ct} t^{-1} - e^{-ct} t^{-2} (1 - e^{-m\delta t})]^{-1} 2(m\delta)^{-2} \left[\int_c^{c+m\delta} v(c+m\delta-v)e^{-vt} dv \right]$$

$$= C + \frac{1}{t} + \frac{(tm\delta + 1 - e^{-m\delta t})e^{-m\delta t}}{t(tm\delta - 1 + e^{-m\delta t})}$$

Lemma 3.3 The cumulative hazard function $H^*(t)$ of CELD-II is given by

$$H^*(t) = \int_0^t \left(C + \frac{1}{x} + \frac{(xm\delta + 1 - e^{-m\delta x})e^{-m\delta x}}{x(xm\delta - 1 + e^{-m\delta x})} \right) dx \tag{3.3}$$

Proof the cumulative hazard function is given by

$$H^*(t) = \int_0^t h^*(x) dx = \int_0^t \left(C + \frac{1}{x} + \frac{(xm\delta + 1 - e^{-m\delta x})e^{-m\delta x}}{x(xm\delta - 1 + e^{-m\delta x})} \right) dx$$

EXAMPLE

The case of manufacturing piston rings for an automotive engine by using certain forging process (Montgomery [6], pp.213) is taken for the purpose of illustration of the theory developed in the preceding sections.

The inside diameter of the ring manufactured by the process is the measurable quality characteristic X , assumed to be normally distributed with mean μ , variance σ^2 . The upper and lower specification limits U and L , respectively, are $U = 75$ mm, $L = 73$ mm with the process, the target value $\mu_0 = 74.001$ mm and the estimated value of $\sigma = 0.00989$ mm.

Thus, the process is observed to use up only about 60% of the specification band. Using the theory of modified control charts the following values are obtained.

$$\left. \begin{aligned} \mu_U &= 74.97033 \text{ mm} \\ &\text{and} \\ \mu_L &= 73.02967 \text{ mm} \end{aligned} \right\} \tag{4.1}$$

Hence, as discussed in the previous sections,

$$\delta = \frac{\mu_U - \mu_L}{2} = \frac{74.97033 - 73.02967}{2} = 0.97033 \text{ mm} \tag{4.2}$$

TABLE 4.1: EXPECTED LIFETIME $M^*=E^*(T)$ OF THE CELD-II

c	c^m	0.5	1	1.5	2	2.5	3	$M = E(T) = 1/c$
0.5		1.5546	1.3076	1.1435	1.0242	0.9323	0.8587	2
1		0.8688	0.7773	0.7083	0.6538	0.6092	0.5718	1
1.5		0.6043	0.5567	0.5181	0.4862	0.4592	0.4358	0.6666
2		0.4638	0.4344	0.4097	0.3886	0.3703	0.3541	0.5
2.5		0.3763	0.3564	0.3392	0.3242	0.3109	0.2990	0.4
3		0.3166	0.3022	0.2896	0.2783	0.2682	0.2591	0.3333

From the Table 4.1, it can be observed that the values of expected lifetime under CELD-II are smaller when compared to that of the exponential lifetime distribution. It can also be observed that the rate of this fall in the expected lifetime is decreasing as either each of c or m is increasing (along rows and along columns). f^* , F^* , R^* , h^* , f , F , R , h represent the characteristics density function, distribution function, reliability function and hazard function for CELD-II and conventional Exponential Lifetime Distribution respectively and are tabulated in Tables 4.2, 4.3, 4.4 for the example considered. Further, their respective graphs are also presented in figures 4.1,4.2,4.3, 4.4.

TABLE 4.2: COMPOUND EXPONENTIAL LIFE DISTRIBUTION-II AND EXPONENTIAL (c=0.500000 and m=1.000000)

T	f*	F*	R*	h*	f	F	R	h
0.1	0.7538	0.0788	0.9212	0.8182	0.4756	0.0488	0.9512	0.5
0.2	0.6904	0.151	0.849	0.8131	0.4524	0.0952	0.9048	0.5
0.3	0.6327	0.2171	0.7829	0.8081	0.4304	0.1393	0.8607	0.5
0.4	0.5801	0.2777	0.7223	0.8031	0.4094	0.1813	0.8187	0.5
0.5	0.5322	0.3332	0.6668	0.7982	0.3894	0.2212	0.7788	0.5
0.6	0.4885	0.3842	0.6158	0.7933	0.3704	0.2592	0.7408	0.5
0.7	0.4486	0.4311	0.5689	0.7886	0.3523	0.2953	0.7047	0.5
0.8	0.4123	0.4741	0.5259	0.7839	0.3352	0.3297	0.6703	0.5
0.9	0.379	0.5136	0.4864	0.7793	0.3188	0.3624	0.6376	0.5
1	0.3486	0.55	0.45	0.7747	0.3033	0.3935	0.6065	0.5
2	0.1554	0.7882	0.2118	0.7336	0.1839	0.6321	0.3679	0.5
3	0.0724	0.8965	0.1035	0.6998	0.1116	0.7769	0.2231	0.5
4	0.0351	0.9479	0.0521	0.6725	0.0677	0.8647	0.1353	0.5
5	0.0175	0.9731	0.0269	0.6505	0.041	0.9179	0.0821	0.5
6	0.009	0.9858	0.0142	0.6328	0.0249	0.9502	0.0498	0.5
7	0.0047	0.9924	0.0076	0.6184	0.0151	0.9698	0.0302	0.5
8	0.0025	0.9959	0.0041	0.6066	0.0092	0.9817	0.0183	0.5
9	0.0013	0.9977	0.0023	0.5968	0.0056	0.9889	0.0111	0.5
10	0.0007	0.9988	0.0012	0.5885	0.0034	0.9933	0.0067	0.5
15	0	0.9999	0.0001	0.5617	9	0.0013	0.0006	0.5
20	0	1	0	0.5473	0	1	0	0.5
25	0	1	0	0.5383	0	1	0	0.5
30	0	1	0	0.5321	0	1	0	0.5
35	0	1	0	0.5277	0	1	0	0.5
40	0	1	0	0.5243	0	1	0	0.5
45	0	1	0	0.5217	0	1	0	0.5
50	0	1	0	0.5196	0	1	0	0.5
60	0	1	0	0.5164	0	1	0	0.5
70	0	1	0	0.5141	0	1	0	0.5
80	0	1	0	0.5123	0	1	0	0.5
90	0	1	0	0.511	0	1	0	0.5
100	0	1	0	0.5099	0	1	0	0.5
150	0	1	0	0.5066	0	1	0	0.5
200	0	1	0	0.505	0	1	0	0.5

TABLE 4.3: COMPOUND EXPONENTIAL LIFE DISTRIBUTION-II AND EXPONENTIAL (c=1.500000 and m=1.500000)

t	f*	F*	R*	h*	f	F	R	h
0.1	1.6191	0.1796	0.8204	1.9735	1.2911	0.1393	0.8607	1.5
0.2	1.3222	0.3261	0.6739	1.9621	1.1112	0.2592	0.7408	1.5
0.3	1.0811	0.4459	0.5541	1.9509	0.9564	0.3624	0.6376	1.5
0.4	0.885	0.5438	0.4562	1.94	0.8232	0.4512	0.5488	1.5
0.5	0.7253	0.6241	0.3759	1.9293	0.7085	0.5276	0.4724	1.5
0.6	0.5951	0.6899	0.3101	1.9189	0.6099	0.5934	0.4066	1.5
0.7	0.4888	0.7439	0.2561	1.9087	0.5249	0.6501	0.3499	1.5
0.8	0.402	0.7883	0.2117	1.8988	0.4518	0.6988	0.3012	1.5
0.9	0.331	0.8248	0.1752	1.8892	0.3889	0.7408	0.2592	1.5
1	0.2727	0.8549	0.1451	1.8798	0.3347	0.7769	0.2231	1.5
2	0.0416	0.9769	0.0231	1.7997	0.0747	0.9502	0.0498	1.5
3	0.0069	0.9961	0.0039	1.7414	0.0167	0.9889	0.0111	1.5
4	0.0012	0.9993	0.0007	1.6992	0.0037	0.9975	0.0025	1.5
5	0.0002	0.9999	0.0001	1.6683	0.0008	0.9994	0.0006	1.5
6	0	1	0	1.6451	0.0002	0.9999	0.0001	1.5
7	0	1	0	1.6273	0	1	0	1.5
8	0	1	0	1.6133	0	1	0	1.5
9	0	1	0	1.6019	0	1	0	1.5
10	0	1	0	1.5926	0	1	0	1.5
15	0	1	0	1.5635	0	1	0	1.5
20	0	1	0	1.5482	0	1	0	1.5
25	0	1	0	1.5389	0	1	0	1.5
30	0	1	0	1.5326	0	1	0	1.5
35	0	1	0	1.528	0	1	0	1.5
40	0	1	0	1.5246	0	1	0	1.5
45	0	1	0	1.5219	0	1	0	1.5
50	0	1	0	1.5197	0	1	0	1.5
60	0	1	0	1.5165	0	1	0	1.5
70	0	1	0	1.5141	0	1	0	1.5
80	0	1	0	1.5124	0	1	0	1.5
90	0	1	0	1.511	0	1	0	1.5
100	0	1	0	1.5099	0	1	0	1.5
150	0	1	0	1.5066	0	1	0	1.5
200	0	1	0	1.505	0	1	0	1.5

TABLE 4.4 : COMPOUND EXPONENTIAL LIFE DISTRIBUTION-II AND EXPONENTIAL (c=2.500000 and m=2.000000)

T	f*	F*	R*	h*	F	F	R	h
0.1	2.2846	0.2692	0.7308	3.1262	1.947	0.2212	0.7788	2.5
0.2	1.6622	0.4649	0.5351	3.1062	1.5163	0.3935	0.6065	2.5
0.3	1.2119	0.6074	0.3926	3.0867	1.1809	0.5276	0.4724	2.5
0.4	0.8854	0.7114	0.2886	3.0678	0.9197	0.6321	0.3679	2.5
0.5	0.6482	0.7874	0.2126	3.0495	0.7163	0.7135	0.2865	2.5
0.6	0.4755	0.8432	0.1568	3.0318	0.5578	0.7769	0.2231	2.5
0.7	0.3495	0.8841	0.1159	3.0147	0.4344	0.8262	0.1738	2.5
0.8	0.2573	0.9142	0.0858	2.9983	0.3383	0.8647	0.1353	2.5
0.9	0.1898	0.9364	0.0636	2.9824	0.2635	0.8946	0.1054	2.5
1	0.1402	0.9527	0.0473	2.9672	0.2052	0.9179	0.0821	2.5
2	0.0074	0.9974	0.0026	2.845	0.0168	0.9933	0.0067	2.5
3	0.0004	0.9998	0.0002	2.7656	0.0014	0.9994	0.0006	2.5
4	0	1	0	2.7132	0.0001	1	0	2.5
5	0	1	0	2.677	0	1	0	2.5
6	0	1	0	2.651	0	1	0	2.5
7	0	1	0	2.6315	0	1	0	2.5
8	0	1	0	2.6164	0	1	0	2.5
9	0	1	0	2.6044	0	1	0	2.5
10	0	1	0	2.5946	0	1	0	2.5
15	0	1	0	2.5643	0	1	0	2.5
20	0	1	0	2.5487	0	1	0	2.5
25	0	1	0	2.5392	0	1	0	2.5
30	0	1	0	2.5328	0	1	0	2.5
35	0	1	0	2.5281	0	1	0	2.5
40	0	1	0	2.5247	0	1	0	2.5
45	0	1	0	2.522	0	1	0	2.5
50	0	1	0	2.5198	0	1	0	2.5
60	0	1	0	2.5165	0	1	0	2.5
70	0	1	0	2.5142	0	1	0	2.5
80	0	1	0	2.5124	0	1	0	2.5
90	0	1	0	2.511	0	1	0	2.5
100	0	1	0	2.5099	0	1	0	2.5
150	0	1	0	2.5066	0	1	0	2.5
200	0	1	0	2.505	0	1	0	2.5

FIG. 4.1

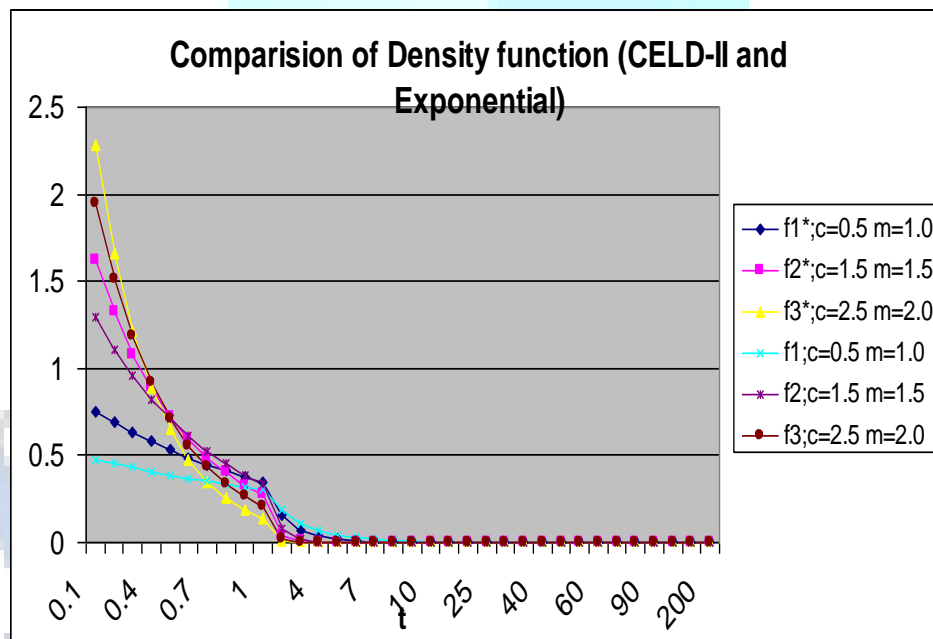


FIG. 4.2

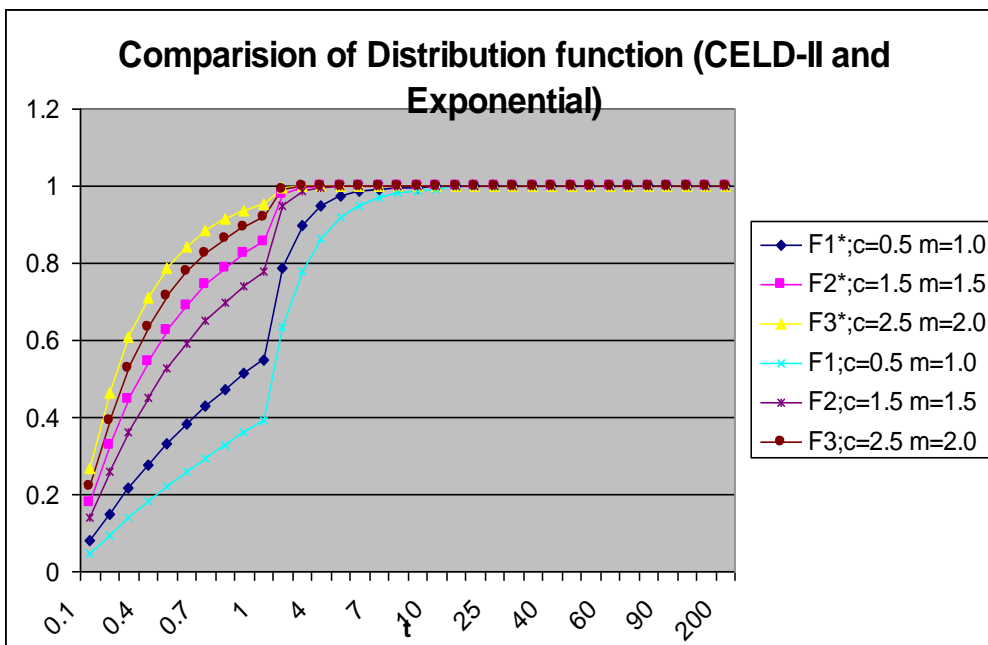


FIG. 4.3

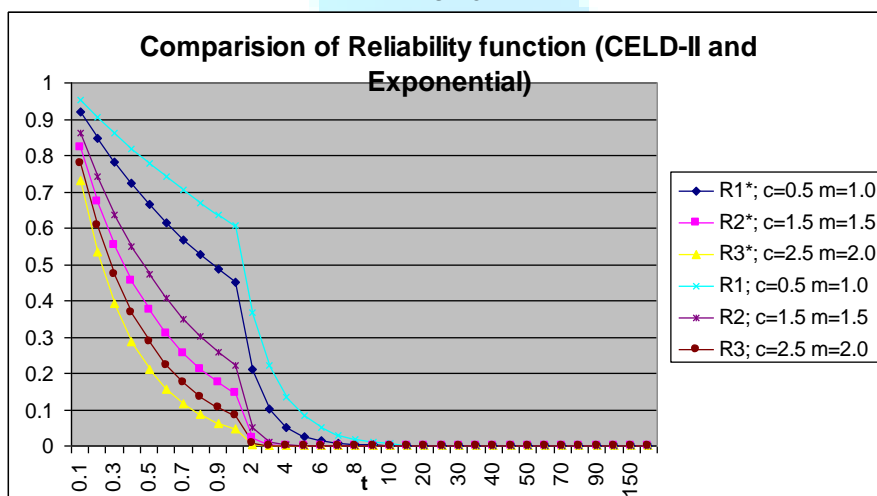
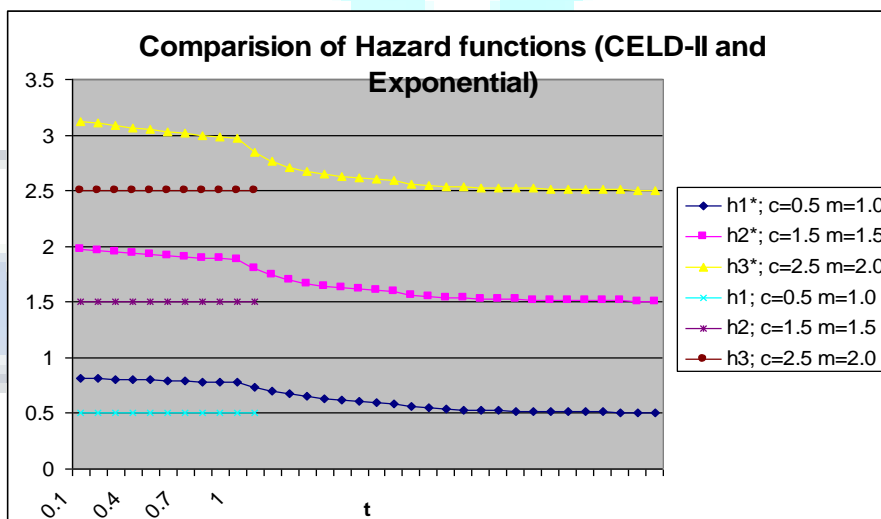


FIG. 4.4



From the graphs and tables one can observe that CELD-II in the example considered above, the life distribution has DFR. Similar study is carried out, when

- The lifetime of the conventional model is Rayleigh Distribution, the shift in μ is Uniform Distribution, then the resulting new lifetime is CRLD-I.
- The lifetime of the conventional model is Rayleigh Distribution, the shift in μ is Triangular Distribution, then the resulting new lifetime is CRLD-II.
- The lifetime of the conventional model is Weibull Distribution, the shift in μ is Uniform Distribution, then the resulting new lifetime is CWLD-I.

- The lifetime of the conventional model is Weibull Distribution, the shift in μ is Triangular Distribution, then the resulting new lifetime is CWLD-II. The reliability aspects of all the above models have been obtained and will be published in sequel.

CONCLUSION

Generally, any manufacturer would like to relax the conditions imposed on three M's (material, machines and men) in a situation where there is a possibility of doing so, viz., $U-L > 6\sigma$.

In the process, one may ignore the effect it has on the lifetime of the product, in terms of the product reliability. This, in turn, leads to loss to the customer and to the manufacturer in terms of the number of complaints on warranty period. Hence, a proper lifetime distribution to be used under situation would be the compound lifetime distributions rather than the conventional one, in the derivation of all characteristics for studying the aspects of reliability. This is demonstrated through the example.

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A STUDY ON ETHICS AND CHALLENGES IN ORGANISED RETAIL IN INDIA**DR. MARUTHI RAM.R****PROFESSOR****DAYANANDA SAGAR ACADEMY OF TECHNOLOGY & MANAGEMENT****BENGALURU****MANJUNATHA.N.****ASST. PROFESSOR****ACHARYA INSTITUTE OF TECHNOLOGY & MANAGEMENT****BENGALURU****VINISH.P****ASST. PROFESSOR****GLOBAL ACADEMY OF TECHNOLOGY****BENGALURU****ABSTRACT**

India as a country has been identified with a strong history of its own and is very strong with its basics in ethics, governance, CSR, economy, finance, social life, knowledge, art and culture etc. Though this country has various geographical regions with diversified culture and the beliefs it lives in the mantra "Unity in diversity". The Country has roots of ethics, economy and business since some thousands of years. The Chanakya's artha shastra is more than enough to explain the glory of Indian economic strengths and the insights. The business has been very consistent in the country even from the barter system. Though the country has seen the vagaries of business life cycles it has been very consistent in its approach to correct the pit falls. The new economic policy of 1991 is an example to it. Ever since the country got into the reforms mode it has been showing a political will and the attitude to sustain the same. In this aspect India is being watched by the economists and the Management gurus all over the world. The simple reason being the way it is showing to the whole world that it cannot be ignored at any cost. The Industry which has shown the sustainable signs of growth is the Organised Retail sector. The recent passing of the FDI bill has added flavour to the business. This study takes a deeper look into the ethics and challenges of sustainability of the organized retail business in India.

KEYWORDS

ethics, Organised Retail business, Challenges, Sustainability, Growth.

INTRODUCTION

India and China have been showing to the world that they are the two fastest growing economy in the world. When it comes to India it is supposed to be the second largest behind China. It is third largest economy in the world in terms of GDP and fourth largest economy in terms of Purchasing Power Parity. India presents a huge opportunity to the world at age, to use as a hub. Standing on the threshold of a retail revolution and witnessing a fast changing retail landscape, India is all set to experience the phenomenon of global village.

India is the "promised land" for global brands and Indian retailers A "Vibrant economy". India tops in the list of emerging market for global retailer and India's retail sector is expanding and modernizing rapidly in line with India's economic growth. The future is promising; the market is growing, government policies are becoming more favorable and emerging technologies are facilitating operations. This has further strengthened by the 100 per cent FDI bill being passed recently in the parliament.

Retailing in India is gradually inching its way toward becoming the next boom industry. The whole concept of shopping has altered in terms of format and consumer buying behavior, ushering in a revolution in shopping in India. Modern retail has entered India as seen in sprawling shopping centers, multi-storied malls and huge complexes offer shopping, entertainment and food all under one roof. The Indian retailing sector is at an inflexion point, where the growth of organized retailing and growth in the consumption by the Indian population has been the focal point of discussion.

LITERATURE REVIEW

Shahid Akhter and Iftekhhar Eqbal (2012) opine that Retail trade has emerged as one of the largest industry contributing to employment generation, revenue generation, increased turn over and many more. They express that organized retailing is showing signs of enormous creativity. It has emerged as one of the most dynamic and fast paced industries with several players entering the market. As a matter of fact retailing in India is gradually edge its way towards becoming the next boom industry.

Aparna Prakash (2012), states that Green marketing is a phenomenon which has developed particular important in the modern market. This concept has enabled for the re-marketing and packaging of existing products which already adhere to such guidelines.

Additionally, the development of green marketing has opened the door of opportunity for companies to co-brand their products into separate line, lauding the green-friendliness of some while ignoring that of others.

Rahul Thathoo and Rahil Kacheria (2007), state that the Indian government does not recognize retail as an industry. In India 98% of the retail sector consists of counter-stores and street-vendors, with no large players, inadequate infrastructure and a small affording population that believed in saving rather than spending, Indian retail never attracted the interest of large corporations. That was till they realized that retail in India is a USD 320 billion dollar industry.

K. Ramakrishnan (2010), in his article states that competitive behaviour is comprehended in terms of patterns of retail functional and business strategies, in further classifying the retailers into strategic groups, and finally by assessing the performance of these clusters. The author further implies that there is a presence of distinct strategies, strategic groups, and the positive impact on small retail performance of adopting distinct retail functional and business strategies. According to the author the food and grocery retail sectors in India, constituting 70 percent of the retail pie, have attracted the attention of most business groups.

Anusha Chari and Madhav Raghavan (2011), opine that despite encouraging signs, India's retail market remains largely off-limits to large international retailers like Wal-Mart and Carrefour. Opposition to liberalizing FDI in this sector raises concerns about employment losses, unfair competition resulting in large-scale exit of incumbent domestic retailers and infant industry arguments to protect the organized domestic retail sector that is at a nascent stage. They further state that the technical know-how from foreign firms, such as warehousing technologies and distribution systems can improve supply chain efficiency in India, in particular for agricultural produce. They also state that there will be better linkages between demand and supply and have the potential to improve the price signals that farmers receive and also serve to enhance agricultural and other exports.

Goel et al (2011), opine that the share of organized retail in total retail market in India is growing at a faster rate. They further opine that many domestic and international players are already in the arena. Due to intensive competition the authors feel that the focus should be on retaining the consumer by understanding his preferences.

INDIAN ORGANISED INDUSTRY AN OVERVIEW

India represents an economic opportunity both as a global base and as a domestic market. According to the reports the real GDP is expected to grow at 8-10 percent per annum in the next five years and consuming class with annual Household incomes above Rs. 90,000 is expected to rise from about 370 million in 2006-07 to 620 million in 2012-13. India's vast middle class and its almost untapped retail industry are key attractions for global retail giants wanting to enter newer markets.

The size of Indian retail industry is more than US \$350 billion but it is highly unorganized. The organized sector has started developing in the past few years. Many International brands have entered the market. With the growth in organized retailing, unorganized retailers are fast changing their business models.

RECENT TRENDS

Retailing in India is witnessing a huge revamping exercise as can be seen in the graph India is rated the fifth most attractive emerging retail market: a potential goldmine. Estimated to be US\$ 200 billion, of which organized retailing (i.e. modern trade) makes up 3 percent of US\$ 6.4 billion.

As per a report by KPMG the annual growth of department stores is estimated at 24% Ranked second in a Global Retail Development Index of 30 developing countries drawn up by AT Kearney.

Multiple drivers leading to a consumption boom are as follows:

- Favorable demographics
- Growth in income
- Increasing population of women
- Raising aspirations: Value added goods sales

Food and apparel retailing key drivers of growth Organized retailing in India has been largely an urban Phenomenon with affluent classes and growing number of double-income households.

ETHICS AND ITS IMPORTANCE IN ORGANISED RETAIL

The philosophy that deals with values relating to human conduct, with respect to right or good and wrong or bad actions is called as ethics. Here ethics relates to retailers moral principles and values.

Ethics is derived from the Greek word 'ethos' which means character. Ethics in retailing pose certain critical issues. Retailing plays a vital role in the economy. The retail industry is the first link in the distribution chain, from the customer's point of view. It is therefore vital for retailers to act in an ethical manner because they affect the lives of many people.

In the normal course the unethical practices used by the retailers towards consumers are:

1. They charge full price for a sale item without the customers' knowledge.
2. Don't tell the complete truth to a customer about the characteristics of a product.

In the process of discussing about the ethics in retail businesses following points are considered.

- Ethical practice towards consumers
- Ethical practice towards investors/shareholders
- Ethical practices towards employees

ETHICAL PRACTICE TOWARDS CONSUMERS

There has been a need for the retailers to charge fair price for the products offered to the consumers. The consumers have the right to get correct and precise knowledge about the products sold to them in respect of warranty, guaranty, price, usage, ingredients etc. Ethics is essential for the long run of the business. Ethical business is essential in today's competitive and dynamic environment.

ETHICAL PRACTICE TOWARDS INVESTORS/SHAREHOLDERS

The shareholders are the owners of the business. Shareholders must be given fair returns on their investment at regular intervals. The share holders should be disclosed with correct information about the financial status of the business organization. The business organization must act in the interest of the shareholders.

ETHICAL PRACTICES TOWARDS EMPLOYEES

Ethical practices must also be followed towards the employees. The retail industry employs large volume of retail staff. Therefore proper policies and procedures must be framed for the employees regarding recruitment, selection, training, promotion, welfare etc.

Negative issues relating employment relations in the work place can lead to loss of reputation and customers, it leads to poor staff morale, low productivity, and high labour turnover. To avoid these confrontations the retail manager should follow ethical practices towards employees.

However there are many challenges the organised retail face in the course of doing business. These are discussed here in detail.

CHALLENGES

Organized sector has only recently emerged from its nascent stage and yet has to become a preferred career option for most of India's educated class. The roadblocks in the success of organized sector are:-

1. Talent shortage & lack of trained manpower.
2. Supply chains are not yet so efficient and the kind of quality that customers demand is not being provided yet.
3. There are too many intermediaries. These long intermediaries' chains are in turn driving up their costs.
4. A plethora of clearances are required for setting up retail outlet. It limits the expansion of retail outlets at a faster pace.
5. Inadequate infrastructure, such as roads, electricity, cord chains and posts, hampers going for a pan-India network of supplies. Due to this, retailers have to resort to multiple vendors for their requirements which is raising their costs and prices.
6. Organized sector does not have industry status. It is further making it difficult for the players to raise funds for their expansion plans.

THE FUTURE OF ORGANISED RETAIL IN INDIA

There has been conviction that bringing in the big retail chains will unleash a wave of employment in rural and urban areas. The fears of the Left, on the other hand, are that the entry of retail giants will mean job losses as small mom-and-pop retailers get pushed out of existence. The fact is there is merit in both arguments. On the plus side, it is clear that agriculture is not providing enough jobs for the economy and there is an unprecedented wave of migration to urban areas. The entry of retail chains, which buy straight from the farmer, is bound to bring about greater purchasing power as the producer will get much better prices. This has already been felt in parts of the country like Jharkhand where farmers have held demonstrations protesting the withdrawal of Reliance Retail by the state government. Similarly, this gives a bonanza to the consumer who gets food products sourced directly from the farmer without having to pay the middleman's commission. Clearly, a win-win situation for all.

There is worry that the 15 million small retailers in the country may be forced out of existence. India has the largest retail economy in the world, according to a study by the CII (Confederation of Indian Industry) and A.T. Kearney. It pegs the size of the retail industry currently at about \$270 billion with the Closure of the countless tiny retail outlets that dot the countryside can mean severe hardship for the families working in them. At the same time, as the saying goes, no one

can stop an idea whose time has come. And the time has certainly come for retail chains to enter this country. The process has been gradual, as mentioned earlier, but even so large retail has made a dramatic impact in the areas where it has been allowed to make an entry.

In the long run, it is clear that the entry of large retail chains will benefit the agricultural sector, which is in dire need of resuscitation. They will also have a long-term effect on agricultural unemployment, which is the big worry for policymakers right now. Besides, Indian consumers are not likely to desert their neighborhood grocers en masse immediately. Therefore the hue and cry over loss of jobs is somewhat premature. Domestic retail chains have already been allowed to set up business and it is now merely a matter of allowing bigger foreign players into the country. Multinational giants like Walmart and Carrefour also have deep pockets and their huge investible funds are meant for sourcing products from rural areas, which in turn will provide more jobs. The thinking in the commerce ministry right now seems to be that the existing policy of allowing only single brand retailing can be extended in a phased manner to multi-brand retailers. Incidentally, as much as 96 percent of the Indian retail economy remains in the unorganized sector.

CONCLUSION

Though the world economy has been fluctuating there are very healthy signs about the Indian economy. It has been stable and sustaining all the pressures of the international fluctuations and the threats. The multi brand organised retail though is a new format to the country it has all the signs to accept it over a period of time. Several emerging market economies have gone ahead and reaped the benefits of modern retail. Politics is an unfortunate reality that has been coming in the way of success of organized sector and ultimately the overall retail sector. The hue and cry created by unorganized sector against Reliance Fresh, Wal-Mart in several parts of the country, it may not be the major hindrance in the growth of retail sector. There is need of balanced approach to organised retail. The FDI bill passed by the central Government recently is the encouraging thing to be noticed here. This will in play a very vital role in shaping the retail's future course.

Though tradition retail has been performing a vital function in the economy, but it has to shed off its shortcomings and inefficiencies and this is actually happening. Considering the vast spread of the Indian unorganized retail market all over the country it has little worry to think about when it comes to the competition. Thus, the organized sector is not only impacting the other sectors positively but also it has benefited its own competition i.e. unorganized sector. So, organized sector becomes the growth mantra of Retail sector specially in the urban sector.

Apart from the above there has been an absolute need for the transparency and clarity in the operations because that is the order of today. The organised retail sector in its endeavor to be very successful and make an impact on the country's economy, it needs to consider the ethics and implementations of the same seriously. If this is done the success will have its meaning.

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WORLD

UNDERSTANDING HUMAN FACTORS THROUGH HUMAN FACTOR ANALYSIS AND CLASSIFICATION SYSTEM (HFACS) CAUSING AVIATION INCIDENTS / ACCIDENTS

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ABSTRACT

In an era where a large portion of aviation incidents / accidents attributed to human error, it is critical to understand why people did what they did, rather than judging them for not doing what we now know they should have done. The prevailing means of understanding / investigating human error in aviation incidents / accidents remains the analysis of aviation incident / accident data. Unfortunately, most aviation incidents / accidents reporting systems are not designed around any theoretical frame work of human error. The Human Factor Analysis and Classification System (HFACS) is a general human error framework originally developed and tested within the U.S. military as a tool for investigating and analyzing the human causes of aviation incidents / accidents. Based upon Reason's (1990) model of latent and active failures, HFACS addresses human error at all levels of the system, including the condition of aircrew and organizational factors.

KEYWORDS

Human Error, Aviation, Incidents, Accidents, Causes.

INTRODUCTION

Nobody is perfect in this world. To err is human. If people stop committing mistakes (mistakes committed unknowingly) they will become GOD. People say even GOD commits mistakes, and our religious scriptures are testimony to this. Mistakes are inevitable part of human life, therefore it should come as no surprise that human error has been implicated in a variety of occupational accidents, including 70% to 80% of those in civil and military aviation (Yacavone, 1993; Batt, Wiggins, Morrison & O'Hare, 1994; Wiegmann & Shappell, 1999).

According to many aviation safety experts, the aircraft incidents and accidents almost always result from a series of events, each of which is associated with one or more cause factors. "Causes" are actions, omissions, events, conditions or a combination thereof, that lead to an accident or incident. "Accidents" are occurrences associated with the operation of aircraft, from the time person boards an aircraft with the intention of flight until the time all persons have disembarked, that results in either the aircraft sustaining damage/ structural failure that adversely affects the structural strength, performance or flight characteristics of the aircraft and would normally require major repair or replacement of the affected component or the aircraft is missing/ completely inaccessible, or a person is fatally/seriously injured. Whereas "Incidents" are occurrences, other than accidents associated with the operation of aircraft that affect or could affect the safety of operation.

The definition of cause given above takes into account the many events involved in an accident or incident. These events can be viewed as links in a chain. Subdividing an incident or accident into a chain of events reveals important information. If one more element is added to the chain in an incident, for example the consequences of the incident might be much more serious, even resulting in accident. Conversely, removing one link in the accident chain could substantially mitigate the consequences or possibly prevent all adverse consequences. In other words from a safety management viewpoint the only meaningful difference between many incidents and accidents are the consequences.

Analyses of the chain of events in accidents are generally useful just for preventing similar accidents. A proactive approach that could eliminate risks before they cause accidents requires an effective means of tracking the chains of events in both incidents and accidents. Preventive action (not just remedial action) could be taken - based on how often individual links in the chain recur and their potential for contributing to future incidents and accidents. Every abnormal event in the incident or accident chain could be examined to identify the cause factors that explain why it happened and to describe the underlying problems and deficiencies that should be corrected. The different cause factors can be grouped into the following categories:

- Human factor / Personnel error
- Malfunction or failure of aircraft structures, engines or other systems
- Deficient maintenance
- Hazardous environment involving weather, volcanic ash, birds etc.
- Air Traffic management errors
- Any combination of the above.

In fact, while the number of aviation accidents attributable solely to mechanical failure has decreased markedly over the past forty years, those attributable, at least in part to human error, have declined at a much slower rate (Wiegmann & Shappell, 1996). Given such findings, it would appear that interventions aimed at reducing the occurrence or consequences of human error have not been as effective as those directed at mechanical failures. Clearly, if accidents are to be reduced further, more emphasis must be placed on the genesis of human error as it relates to accident causation.

HUMAN FACTOR / PERSONNEL ERROR

In human factors today there are basically two different views on human error and the human contribution to aviation incidents / accidents. The "Old View" (Reason, 2000) sees human error as a cause of failure. As per the old view of human error:-

- 1) Human error is the cause of most aviation accidents / incidents.
- 2) The engineered systems in which people work are made to be basically safe; their success is intrinsic. The chief threat to safety comes from the inherent unreliability of people.
- 3) Progress on safety can be made by protecting these systems from unreliable humans through selection, proceduralization, automation, training and discipline.

"The New View", sees human error not as a cause, but as a symptom of failure (Rasmussen & Batstone, 1989; Woods et al., 1994; Hoffman & Woods, 2000; Reason, 2000). According to "The New View" of human error:-

- Human error is a symptom of trouble deeper inside the system.
- Safety is not inherent in system. The systems themselves are contradictions between multiple goals that people must pursue simultaneously. People have to create safety.
- Human error is systematically connected to features of people's tools, tasks and operating environment. Progress on safety comes from understanding and influencing these connections.

The new view of human error represents a substantial movement across the fields of human factors and organizational safety (Reason, 1997; Rochlin, 1999) and encourages the investigation of factors that easily disappear behind the label "human error"- longstanding organizational deficiencies; design problems; procedural shortcomings and so forth. The rationale is that human error is not an explanation for failure, but instead demands an explanation, and that effective

countermeasures start not with individual human beings who themselves were at the receiving end of much latent trouble (Reason, 1997) but rather with the error-producing conditions present in their working environment. Most of those involved in accident research and analyses are proponents of the new view.

"...simply writing off... accidents merely to (human) error is an overly simplistic, if not naïve, approach... After all, it is well established that accidents cannot be attributed to a single cause, or in most instances, even a single individual." (Shappell & Wiegmann, 2001, p.60).

Our willingness to embrace the new view of human error in our analytic practice is not always matched by our ability to do so. When confronted by failure, it is easy to retreat into the old view. We seek out the "bad apples" and assume that with them gone, the system will be safer than before. An investigation's emphasis on proximal causes ensures that the mishap remains the result of a few uncharacteristically ill-performing individuals who are not representative of the system or the larger practitioner population in it. It leaves existing beliefs about the basic safety of the system intact.

HUMAN FACTOR ANALYSIS AND CLASSIFICATION SYSTEM (HFACS)

Aviation incidents / accidents do not happen in isolation. Rather they are the result of a chain of events often culminating with the unsafe acts of aircrew. Heinrich's "axioms of industrial safety" (Heinrich, Peterson & Roos, 1931), Bird's (1974) "Domino Theory" and Reason's (1990) "Swiss Chees" model of human error, a sequential theory of accident causation has been consistently embraced by most in the field of human error. Particularly useful in this regard has been Reason's (1990) description of active and latent failures within the context of his "Swiss Chees" model of human error.

Reason believes that accidents result from combinations that are not always predictable, from human and organizational factors within a complex system. His organizational accident model explains these events with the occurrence of failures or absent defenses and safeguards in the system developed to minimize the chances of accidents. Active failures occur near the accident outcome involving the behaviour (decisions, actions or omissions) of operators and are difficult to predict and control. These active failures originate in latent conditions related to technical and organizational factors present in the system well before accidents occur. Reason's model also includes a demonstration of the possibility of accidents occurring without active failures i.e. triggered directly from interactions between latent conditions. Therefore, if a comprehensive analysis of human error is to be conducted, a taxonomy that takes into account the multiple causes of human failure must be offered. Based on Reason's model, Shappell & Wiegmann, (1997, 2000) developed a comprehensive human error framework – the Human Factor Analysis and Classification System (HFACS), to meet these needs (Figure 1).

HFACS based on Reason's (1990) model of latent and active failures, was originally developed for the U.S. Navy and Marine Corps as an accident investigation and data analysis tool. It has been also employed by other military organizations like U.S. Army, Air force, and Canadian Defense Force as an adjunct to preexisting accident investigation and analysis system.

HFACS describes human error at each of four levels of failure:-

- Unsafe acts of Operators (e.g. aircrew),
- Preconditions for unsafe acts,
- Unsafe supervision and
- Organizational influences.

A brief description of each causal category is as follows:-

1. UNSAFE ACTS OF OPERATORS

The unsafe acts of operators (aircrew) can be loosely classified into one of two categories: errors & violations (Reason, 1990). While both are common within most settings, they differ markedly when the rules and regulations of an organization are considered. That is, errors can be described as those "legal" activities that fail to achieve their intended outcome, while violations are commonly defined as behaviour that represents the willful disregard for the rules and regulations. It is within these two overarching categories that HFACS describes three types of errors (decision, skill-based and perceptual) and two types of violations (routine and exceptional).

I. Errors

a) Decision Errors

It represents conscious, goal-intended behavior that proceeds as designed; yet, the plan proves inadequate or inappropriate for the situation. Often referred to as "honest mistake", these unsafe acts typically manifest as poorly executed procedures, improper choices, or simply the misinterpretation or misuse of relevant information.

b) Skill-Based Errors

They occur with little or no conscious thought. Just as little thought goes into turning one's steering wheel or shifting gears in an automobile, basic flight skill such as stick and rudder movements and visual scanning often occur without thinking. The difficulty with these highly practiced and seemingly automatic behaviours is that they are particularly susceptible to attention and/or memory failures. As a result, skill-based errors such as the breakdown in visual scan patterns, inadvertent activation / deactivation of switches, forgotten intentions, and omitted items in checklists often appear. Even the manner (or skill) with which one flies an aircraft (aggressive, tentative or controlled) can affect safety.

c) Perceptual Errors

Perceptual Errors occur when sensory input is degraded, or "unusual", as is often the case when flying at night, in the weather, or in other visually impoverished environments. Faced with acting on imperfect or less information, aircrew run the risk of misjudging distances, altitude and decent rates, as well as a responding incorrectly to a variety of visual / vestibular illusions.

II. Violations

There are many ways to distinguish among types of violations; two distinct forms have been identified based on their etiology.

a) Routine Violations

Routine violations tend to be habitual by nature and are often enabled by a system of supervision and management that tolerates such departures from the rules (Reason, 1990). Often referred to as "bending the rules"; the classic example is that of the individual who drives his automobile consistently 5-10 kmph faster than allowed by law. While clearly against the law, the behaviour is, in effect, sanctioned by traffic police who often will not enforce the law until speeds in excess of 10 kmph over the post limit are observed.

b) Exceptional Violation

Exceptional Violation on the other hand, is isolated departures from authority, neither typical of the individual nor condoned by management. For example, while driving 65 in a 55 kmph zone might be condoned by traffic police, driving 105 kmph in a 55 kmph zone certainly would not. It is important to note, that while most exceptional violations are appalling, they are not considered "exceptional" because of their extreme nature. Rather, they are regarded as exceptional because they are neither typical of the individual nor condoned by authority.

2. PRECONDITIONS FOR UNSAFE ACTS

Simply focusing on unsafe acts, however, is like focusing on a patient's symptoms without understanding the underlying disease state that caused it. As such, investigators must dig deeper into the preconditions for unsafe acts. Within HFACS, two major subdivisions are described: substandard conditions of operators and the substandard practices they commit.

I. Substandard Conditions of Operators

a) Adverse Mental States

Being prepared mentally is critically in nearly every endeavour; perhaps it is even more so in aviation. With this in mind, the first of three categories, adverse mental states, was created to account for those mental conditions that adversely affect performance. Principal among these are the loss of situational awareness, mental fatigue, circadian dysrhythmia, and pernicious attitudes such as overconfidence, complacency and misplaced motivation that negatively impact decisions and contributions to unsafe acts.

b) Adverse Physiological States

Adverse Physiological States are those that preclude the safe conduct of flight. Particularly important to aviation are conditions such as spatial disorientation, visual illusions, hypoxia, illness, intoxication and a whole host of pharmacological and medical abnormalities known to affect performance. For example, it is not surprising that, when aircrews become spatially disoriented and fail to rely on flight instrumentation, accidents can, and often do occur.

c) Physical and /or mental limitations

Physical and /or mental limitations of the operator, the third and final category of substandard condition, includes those instances when necessary sensory information is either unavailable or if available individuals simply do not have the aptitude skill or time to safely deal with it. For aviation, the former often includes not seeing other aircraft or obstacles due to the size and or contrast of the object in the visual field. However, there are many times when a situation requires such rapid mental processing or reaction time that the time allotted to remedy the problem exceeds human limits (as is often the case during nap-of-the-earth flight). Nevertheless, even when favourable visuals cues or an abundance of time is available, there are instances when an individual simply may not possess the necessary aptitude, physical ability, or proficiency to operate safely.

II. Substandard Practices of Operators

Often times, the substandard practices of aircrew will lead to the conditions and unsafe acts described above. For instance, the failure to ensure that all members of the crew are acting in a coordinated manner can lead to confusion (adverse mental state) and poor decisions in the cockpit.

a) Crew Resource Mismanagement

Crew Resource Mismanagement includes the failures of both inter and intra cockpit communication as well as communication with ATC and other ground personnel. This category also includes those instances when crewmembers do not work together as a team or when individuals directly responsible for the conduct of operations fail to coordinate activities before, during and after a flight.

b) Personal Readiness

Individuals must ensure that they are adequately prepared for flight. Consequently, the category of personal readiness was created to account for those instances when rules such as disregarding crew rest requirements, violating alcohol restrictions, or self-medicating are not adhered to. However, even behaviours that do not necessarily violate existing rules or regulations (e.g. running ten miles before piloting an aircraft or not observing good dietary practices) may reduce the operating capabilities of the individual.

3. UNSAFE SUPERVISION

Aircrews are responsible for their actions and as such must be held accountable. However, in many instances they are the unwitting inheritors of latent failures attributable to those who supervise them (Reason, 1990). To account for these latent failures, the overarching category of unsafe supervision was created within which four categories (inadequate supervision, planned inappropriate operations, failed to correct known problems and supervisory violations) are included.

a) Inadequate Supervision

It refers to failures within the supervisory chain of command, which was a direct result of some supervisory action or inaction. That is, at a minimum, supervisors must provide the opportunity for individuals to succeed. It is expected that individuals will receive adequate training, professional guidance, oversight and operational leadership and that all will be managed appropriately. When this is not the case, aircrews are often isolated as the risk associated with day to day operations invariably will increase.

b) Planned Inappropriate Operations

The risk associated with supervisory failures can come in many forms. Occasionally, for example, the operational tempo and / or schedule are planned such that individuals are put at unacceptable risk and ultimately, performance is adversely affected. As such the category of Planned Inappropriate Operations was created to account for all aspects of improper or inappropriate crew scheduling and operational planning which may focus on such issues as crew pairing, crew rest and managing the risk associated with specific flights.

c) Failed To Correct Known Problems

It refers to those instances when deficiencies among individuals, equipment, training or other related safety areas are "known" to the supervisor, yet are allowed to continue uncorrected. For example, the failure to consistently correct or discipline inappropriate behavior certainly foster an unsafe atmosphere but is not considered a violation if no specific rules or regulations were broken.

d) Supervisory Violations

Supervisory Violations are those instances when existing rules and regulations are willfully disregarded by supervisors when managing assets. For instances, permitting aircrew to operate an aircraft without current qualifications or license is a flagrant violation that invariably sets the stage for the tragic sequence of events that predictably follow.

4. ORGANIZATIONAL INFLUENCES

Decisions of upper level management can directly affect supervisory practices as well as the conditions and actions of operators. Unfortunately, these organizational influences often go unnoticed or unreported by even the best intentioned accident investigators. These latent organizational failures generally revolve around three issues viz. resource management, organizational climate and operational processes.

a) Resource Management

Resource Management refers to the management, allocation and maintenance of organizational resources including human resource management (selection, training, staffing), monetary safety budgets and equipment design (ergonomic specification). In general corporate decisions about how such resources should be managed center around two distinct objectives – the goal of safety and the goal of on-time, cost effective operations. In time of prosperity both objectives can be easily balanced and satisfied in full. However, there may also be times of fiscal austerity that demand some give and take between the two. Unfortunately, history tells us that safety is often the loser in such battles, as safety and training are often the first to be cut in organizations experiencing financial difficulties.

b) Organizational Climate

It refers to a broad class of organizational variables that influence worker performance and is defined as the "situational based consistencies in the organization's treatment of individuals" (Jones, 1988). One telltale sign of an organization's climate is its structure as reflected in the chain of command, delegation of authority and responsibility, communication channels and formal accountability for actions. Just like in the cockpit, communication and coordination are vital within an organization. However, an organization's policies and culture are also good indicators of its climate. Consequently, when policies are ill defined, adversarial or conflicting or when they are supplanted by unofficial rules and values confusion abounds and safety suffers within an organization.

c) Operational Processes

It refers to formal processes (operational tempo, time pressures, production quotas, incentive systems, schedules etc.), procedures (performance standards, objectives, documentation, instructions about procedure etc.) and oversight within the organization (organizational self study, risk management and the establishment and use of safety programs). Poor upper level management and decisions concerning each of these organizational factors can also have a negative, indirect effect on operator performance and system safety.

CONCLUSION AND RECOMMENDATIONS

Robert Cohn a pilot & the author of the book "They called it Pilot Error" say "In retrospect, I was shortchanged. When I thought more about it I realized that I had never been taught or even made aware of many of the things that are crucial to the safe and proper use of an airplane. I had to learn those the hard way". He never had any training on most physiological, mental and purely human factors that can seriously detract from or mental contribute to safe flying.

In order to reduce Human Error, a major step would be to develop design specifications that consider the functionality of the human with the same degree of care that has been given to the rest of the system (Norman, 1990).

Human error and their negative consequences can be decreased in one of the three ways (Wickens et al, 1998):-

- 1) System Design
- 2) Training
- 3) Personnel Selection

System design can reduce errors by making it impossible for a person to commit an error making it difficult to commit an error or making the system error tolerant so that when error occur the negative consequences are avoided. Error tolerance can be achieved by methods such as feedback to the operator about current consequences, feedback about future consequences and monitoring actions for possible errors. Design features can be included so that erroneous actions can be reversed if they are noticed before they have serious consequences on system performance. Human factors principles should be applied to design. The goal is to reduce if not eliminate risk through design. An important thing to remember is that reliability goes down as complexity goes up.

When system design cannot be used then selection and training methods should be used to minimize operator error. Training & Personnel selection are important factors, however as mistakes are unavoidable in human performance even the most experienced and best trained pilots will make errors. To solve this problem a new field of management named **"error management"** has developed in the past two decades. While we must accept the inevitability of error, we must nevertheless maintain performance standards. Error management demands that we distinguish between an individual being reckless or showing a disregard for the rules and mistakes that are simply the product of human limitations (Ragman, 1999). "Error Management" represents a fundamental shift in aviation philosophy from "excellent airmen commit no error" to "excellent airmen commit, recognize and resolve errors".

Human error is universal and inevitable. Error does not, has not & will not cause an incident or an accident. These are the two important premise of error management. Consequences cause an incident or an accident. While error is universal and inevitable Consequences are not universal or inevitable. The logic of this premise is beyond dispute. Errors happen all the time. Incidents / accidents do not. Error Management targets the gap between the errors and their consequences. Error management holds the view that any attempt to address flight safety, which does not acknowledge universal and inevitable human error will fall short of the mark. The acknowledgement removes the stigma associated with error. It depersonalizes error. Error is no longer a reflection upon the crew member. Just as the sun will rise in the east and set in the west, errors will occur. Error management also assumes technical proficiency. Technically proficient crewmembers commit errors. Incompetent crew members should not be flying airplanes.

The HFACS framework bridges the gap between theory and practice by providing safety professionals with a theoretically based tool for identifying and classifying the human causes of aviation incidents / accidents. Because the system focuses on both latent and active failures and their interrelationships, it facilitates the identification of the underlying causes of human error. To date, HFACS has been shown to be useful within the context of military aviation as both a data analysis framework and an accident investigation tool.

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ABSTRACT

Merchant Banker is a term which is in usage since the early 18th century. In a broad view many present modern day skills have been included to describe the term. The inherent skills of an entrepreneur, a management advisor, a commercial banker, an investment banker, a transaction broker etc. A merchant bank is a term for a bank which provides various financial services like accepting trade bills, advising companies on acquisitions, foreign exchange, mergers, underwriting of new issues, portfolio management etc. A Merchant bank is a financially commercial services provider with a private equity investment wing offering investment banking and additional services. A Merchant Bank acts as an advisor, broker and principal investment banker and is also highly concerned with the feasibility of each investment prospect and provides right advice for a sturdy conglomerate with each client company. Following the activities in UK and USA, the Merchant Banking activities started in India approximately from the year 1967. Presently both public and Private sector have set up their respective merchant banking division. The total number of merchant bankers in India is approximately 1450 with more than 930 with SEBI registrations. In this article we would study the various roles of the merchant banker, the various services provided, development of merchant banking in India, Registration of merchant banking institutes etc. We wish to provide an overview of the modern day merchant banking in India and its benefits due to globalization.

KEYWORDS

Accepting and issuing houses. Investment banking.

INTRODUCTION

A Merchant Bank is a financial Institution that provides companies with necessary capital as share ownership instead of as a loan. A Merchant Bank also provides advisory services to the firms it lends capital to, on corporate matters. A bank that typically deals in International finance, providing Long-term Loans for the companies and underwriting, but do not provide regular banking services to general public is a Merchant Bank.

The term Merchant Bank refers to investment bank. In US the term Merchant banking is negotiated private equity investment in unregistered securities by financial institutions to either privately publicly held companies.

Originally the merchant banks main purpose was to provide finance for production and trading of commodities and henceforward named Merchant. But in the present day scenario very few banks today restrict their activities to such a narrow scope.

As underwriters the merchant bankers guarantee the success of issue by underwriting them. They are known as issuing and accepting houses.

REVIEW OF LITERATURE

The formal initiation of Merchant banking in Indian markets was done when the Grindlays bank received the license from the Reserve bank in 1967. The major functions taken up by Grindlays is management of capital issues, recognizing the needs of the emerging group of Entrepreneurs for various financial services like production planning, system design, market research, management consulting services to meet requirements of small and medium sectors. Citibank was the next to setup its merchant banking division in 1970. Many of the tasks performed by the merchant banking division of Citibank were assisting new entrepreneurs, appraising new projects, floating funds through borrowing and issuing equity. Indian Banks Indian entered the scene only in 1972. State Bank of India was the first to start its merchant banking division in 1972. The main objective of the State Bank of India in initial years was to render corporate advice, assistance and suggestions to nurture the small and medium entrepreneurs. Commercial banks and Foreign development financial institutions have since organized divisions to perform merchant banking functions. Presently the total number of merchant bankers in India is approximately 1450 with more than 930 registered with SEBI. The Merchant Bankers authorized by SEBI include the merchant banking divisions of Nationalized and Foreign banks, subsidies of commercial banks, All India Financial Institutions, Private merchant banks engaged in stock broking, endorsing activities and financial consultancy and investment advisory service firms.

OBJECTIVE OF THE STUDY

1. To understand the rules for registration to be a merchant banker under SEBI.
2. To Study the minimum net worth required to carry merchant banking under SEBI.
3. To know the Procedure for getting Registration from SEBI
4. To analyse the role of merchant banking and it's from investment banking.
5. To find the effect on merchant banking due to globalization.

METHODOLOGY OF STUDY

The study is a descriptive method of research which includes both Primary data and secondary data in collecting the information. The study is primarily based on the Opinions survey and shared experiences of selected merchant bankers and field experts from various banks located in Secunderabad and Hyderabad. The source of secondary information is also collected from various websites, relevant journals etc.

1. RULES FOR REGISTRATION TO BE A MERCHANT BANKER UNDER SEBI

Registration with SEBI is mandatory. A certificate of Registration is required, issued by the Securities and Exchange Board of India, that states without the certificate no person or organization can act as a merchant banker in India.

Rules for registration under the Securities and Exchange Board of India (SEBI)

- 1) Other than non-banking financial company only a body corporate shall be eligible to obtain a registration as merchant banker.
- 2) The applicant should not be carrying on any business other than those connected with the Securities market.
- 3) The Applicant should have infrastructure like office space, equipment, manpower etc.
- 4) The applicant must have a minimum of two employees working in their organisation with some minimum experience in merchant banking field.
- 5) All the applicants must and should have qualification in finance law or business Management.
- 6) Any group company, subsidiary, interconnected company or an associated company must not have been a registered merchant banker.
- 7) The applicant should not have been involved in any securities scam or proved guilty for an offence.
- 8) The minimum net worth of the applicant should be Rs 5 crores.

2. THE MINIMUM NET WORTH REQUIRED TO CARRY MERCHANT BANKING UNDER SEBI

To carry on activities as a merchant banker the minimum net worth for various categories are as follows:

- a. Category I : Rs. 5 crores
- b. Category II : Rs. 50 lacs
- c. Category III: Rs. 20 lacs
- d. Category IV: NIL

The different categories of Merchant Banking for which registration can be obtained are:

a. Category I:

- 1) To carry on any activity of the issue management, consisting of preparation of prospectus and other information relating to the issue , determining financial structure, tie up of financiers and final allotment and refund of subscriptions.
- 2) To act as adviser, consultants, managers, underwriter and portfolio managers.

b.

Category II: To act as adviser, underwriter, portfolio manager.

Category III: To Act as Adviser, Consultant or underwriter to an issue.

Category IV : To act only as adviser or consultant to an issue.

3. PROCEDURE FOR GETTING REGISTRATION FROM SEBI

The applicant should submit an application in Form A of SEBI (Merchant Bankers) Regulations, 1992 to SEBI. On receiving the application SEBI after checking for all requirements, information, clarification etc considers the application and issues a certification of registration in Form B of SEBI (Merchant Bankers) Regulations 1992.

Registration fee to obtain the certificate payable to SEBI

Rs.5 lakhs is to be paid within 15 days from the date of receipt of intimation regarding grant of certificate. The validity of the certificate of registration is 3 years from the date of issue of the certificate. Three months from the date of expiry an application with a renewal fee of Rs.2.5 lakhs is to be submitted to SEBI in form A of the SEBI (Merchant Bankers) Regulations, 1992. SEBI shall consider the application and on being gratified renew the certificate of registration for next 3 years.

Functions of Merchant Banker

The main functions of a Merchant Bank can be defined as follows

1. Raising Capital for clients
2. Act as a stock exchange Broker
3. Giving advice on Modernization and Expansion of companies
4. Manage public issues of companies
5. Manage various projects
6. Special Assistance to Small Entrepreneurs and their companies
7. Help in obtaining Government consent for Industrial projects
8. Revival of sick industrial units
9. Managing different portfolios
10. Money Market operation
11. Providing Services to public sectors
12. Restructuring of the corporate
13. Managing the interest and Dividends
14. Providing leasing services

4. DIFFERENCE BETWEEN INVESTMENT BANKING AND MERCHANT BANKING

Merchant Banks invest their own money in the company of their clients. They help their clients in issuing shares, debentures, bank loans etc. in the domestic and international markets. Merchant bank assesses the value of the company and then only invests its money in it. At times it also takes a large ownership in the company. Merchant bankers are specialists in international finance. Multinational companies and corporates use this expertise to get help in their international transactions.

Investment Bankers raise capital from outside sources for their corporate clients. They take in initial public offerings, trade securities, and also take care of mergers and acquisitions. They also take up research to advice the clients before they make an investment in any company.

The commonality between a merchant bank and an investment bank is that neither of them serve the general public, both serve privately or publicly held corporations. They also perform underwriting functions for their corporate clients.

TABLE 1: NAMES OF FEW OF THE MERCHANT BANKERS IN INDIA

1. ABN Amro Securities (India) Private Limited	15. Development Credit Bank Limited
2. Allahabad Bank	16. Darashaw and Company Private Limited
3. Almondz Global Securities Limited (formerly Allianz securities limited)	17. Edelweiss Capital Limited
4. ANZ Capital Markets Private Limited	18. Emkay Global Financial Services limited
5. Arihant Capital Markets Limited	19. Escorts Securities Limited
6. Bajaj Capital Limited	20. Ernst & Young Merchant Bankers Services Ltd
7. Barclays Bank Plc	21. Federal Bank Limited
8. Birla Capital and Financial Services Limited	22. Fedex Securities Limited
9. Calyon Bank	23. Hongkong and Shanghai Banking Corporation
10. Canara Bank	24. HDFC Bank Limited
11. Centrum Capital Limited	25. ICICI Bank Limited
12. Chartered Capital and Investment Ltd	26. ICICI Securities Limited
13. Central Bank of India	27. IDBI bank Ltd
14. Dalmia Securities Private Limited	

5. EFFECTS ON MERCHANT BANKING DUE TO GLOBALIZATION

Globalization has opened new avenues for all the sectors. Due to globalization, the merchant banks are able to provide premier services and also make direct investment as a principal in select global transactions. Globalization has increased the opportunity of the merchant banks to have a diverse base of client and portfolio companies. Merchant banks can now achieve the greatest possible risk adjusted returns for its clients by identifying and monetizing outsized investment opportunities on a global basis. Any Merchant bank with a strong infrastructure will have a unique competitive advantage, which will allow it to provide its services in the global market without the need for local partners. Thus globalization has paved the way for many merchant banks to establish a foundation of in-depth global relationships and to demonstrate the ability to recognize and capitalize quickly on true opportunities.

CONCLUSION

Merchant banking is service oriented industry and its activities help in channeling the financial surplus of the general public into productive investment avenues. They are the mediators who help various intermediaries like registrar, bankers, advertising agency etc. to coordinator among themselves and ensure that they are in compliance with the rules and regulations governing the securities market. This being the era of mergers and acquisitions, the scope of merchant banking is growing to a large extent.

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AN INSIGHT INTO THE RECENT TRENDS IN FDI: AN ANALYTICAL STUDY WITH SPECIAL REFERENCE TO BRICS NATIONS

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ABSTRACT

One of the most striking developments in the global arena over the last two decades has been the radical change in international trade and business through the unprecedented growth of Foreign Direct Investment (FDI) in both developed and developing economies. FDI is an important instrument for attracting international economic integration and serves as the catalyst for economic growth and development of any country. It is a panacea for all paucities i.e. financial, capital, entrepreneurial and technological know-how, at the same time a predominant factor in influencing the contemporary process of global economic development. The present study gives an insight in to the recent trends of FDI by analysing the FDI inflows and outflows of BRICS nations over a period of ten years. It also examines the pattern of FDI in different sectors of these economies. Methodology of the study involves the use of data gathered from secondary sources like relevant research studies of similar nature, World Investment Reports, BRICS reports and websites of UNCTAD. FDI inflows of BRICS for the 10 years extending from 2003 to 2012 indicates that China is having the highest and South Africa the lowest share in FDI inflows among the BRICS economies. China and Russia are having a strong hold of both inward and outward FDI (OFDI) in the world with high rankings. However, intra-BRICS FDI flow is limited; OFDI of BRICS in other BRICS nations was only 2.5% during 2011. Sectoral composition shows that service sector accounts for more than 40% of FDI inflows into BRICS economies. In the global economic landscape BRICS have made their presence felt by receiving a descent amount of FDI during the last two decades. Although, too much dependence on FDI invites risk to the host countries, they also give opportunities for increasing domestic savings, making favourable balance of trade and payment, transfer of latest technology, employment generation and boosting of the national income of the country.

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KEYWORDS

Foreign Direct Investment (FDI), FDI Inflows, Outward FD, Balance of Trade & Payments, BRICS Nations (Brazil, Russian Federation, India, China, South Africa).

1. INTRODUCTION

Foreign Direct Investment (FDI) is an important instrument for attracting international economic integration and serves as the catalyst for economic growth and development of any nation. One of the most striking developments in the global arena over the last two decades has been the radical change in international trade and business through the unprecedented growth of FDI in both developed and developing economies. FDI is often considered as a panacea for all paucities like financial, capital, entrepreneurial and technological know-how, at the same time a predominant factor in influencing the contemporary process of global economic development. BRICS the huddle of five nations is currently increasingly recognised as one among the swiftly growing economies that can bring remarkable progress at global level. It also helped in the process of global recovery of different economies after the financial crises of 2008-10 by shaping the macroeconomic policies of various countries. The BRIC acronym denoting Brazil, Russia, India and China was a concept floated for the first time by Goldman Sachs in 2001, in his research as part of an economic modelling exercise to predict global economic trends in coming years. According to Sachs (2003) BRIC would play a significant role in the global economy, over the next 50 years, the BRIC nations could become a major force in the world economy and by 2025 their size could be over half the size of the G-6. Makokera (2013) identified BRIC countries as future economic powerhouses with a remarkable and promising trade and economic statistics. They are attractive investment destinations among the top host countries of FDI worldwide. South Africa, the latest addition to the group, is completing the BRICS cluster as one of the most preferred investment destinations in Africa. The BRICS forum was evolved and formalised by adding South Africa as the fifth nation along with the four founder countries. During 2001–10, the BRIC countries reaped momentous achievements in economic, social and political arena. Significant positive changes have taken place in all the BRICS nations over the last two decades (1990–2010). The economic size in nominal terms (US \$) has increased manifold, with Brazil by over four times, India nearly five times, China and South Africa by over fourteen times and three times respectively. There is an increasing trend in their GDP and it is reflected further by a noteworthy increase in per capita income over the last two decades (Singh and Dube, 2014). The BRICS have emerged as not only major recipients of FDI but also important outward investors. Their outward FDI mounted from \$7 billion in 2000 to \$145 billion in 2012, i.e., 10% of world flows (up from only 1% in 2000). Overseas investment by BRICS economies was mainly motivated by the search for markets in developed countries or in the context of building regional value chains. Over 49% of their outward FDI stock is in developing countries above 40% in developed countries, of which 34% is in the EU (UNCTAD, 2012). FDI is supplementing the scarce domestic investment, technology, infrastructural aspects of the BRICS nations by expanding the existing sectors and developing novel ones. BRICS have made their presence felt in the global economic landscape by operating with a descent amount of FDI in the last two decades. Although, too much dependence on FDI invites risk to the host countries, they also give opportunities for increasing domestic savings, making favourable balance of trade and payment, transfer of latest technology, employment generation and boosting of the national income of the country. The real question that needs to be explored is how better BRICS economies can harness themselves to exploit immaculate opportunities to reach new horizons. The forthcoming challenge for the BRICS countries is how to sustain their existing performances and trends in FDI and to formulate new policies and strategies so as to optimise their economic condition by attracting more FDIs in future. The present study is an analytical study of BRICS nations which gives an insight into recent trends in FDI.

2. LITERATURE REVIEW RELATED TO FDI AND BRICS

Gammeltoft (2008) probed into the Emerging Multinationals: Outward FDI (OFDI) from the BRICS countries. Findings showed that among the five nations in BRICS, Russia had the largest OFDI in terms of stock, followed by Brazil and China. Over the period 2000-2004 FDI outflows from the BRICS countries constituted for well over half of total outflows from developing countries. Russian resource-based enterprises in the oil, gas, and metal industries were the most active with

OFDI and half of India's OFDI in 1999-2004 was in manufacturing sector especially in fertilizers, pesticides and seeds, drugs and pharmaceuticals, followed by non-financial services, including IT services and business process outsourcing. A significant portion of China's OFDI value was in resource extraction activities and also in trade and services, especially, in computer-related industries and IT. Whereas, internationalised South African enterprises were primarily concentrated on resource and finance industries.

Elfakhani and Mackie (2010) seek to find the main incentives which have made BRIC among the most attractive destinations for FDI. Explanatory variables like to financial markets and economic conditions, social and political factors etc were used to assess the impact on FDI. The study found that the social variables accounted for 52% of the change in net inward FDI, followed by political variables (14%). However, the nested block regression showed that the economic variables and social variables block contributed the most to FDI variations, followed by political variables. Yet, for individual countries analysis, there seemed to be varied drivers of inward country FDI. The emergence of financial variables block was identified as the significant determinant of FDI, therefore, it was recommend that the countries which intend to attract more inward FDI need to pay more attention on the economic or financial incentives for optimising the amount of FDI flowing in from foreign investors.

Vijayakumar et. al (2010) conducted a panel data analysis to identify whether market size, labour cost, infrastructure, currency value and gross capital formation are the potential determinants of FDI inflows of BRICS. The investigation threw light on the fact that economic stability, growth prospects, trade openness seemed to be the insignificant determinants of FDI inflows in BRICS countries. Findings reflected that Inflation (the Economic stability variable) and the Industrial production (the Growth Perspective variable) are decisive factors in attracting FDI. BRICS should adopt innovative policies that will ensure growth potentials, accompanied by equity, for which they need necessary institutional mechanisms. Investment ratios in Brazil remain very low; Russia is highly dependent on hydrocarbons and faces problems of adverse demographic developments; India will have to overcome domestic opposition to growth-enhancing and growth-sustaining economic reforms and South Africa has to make initiation in promoting investment flows.

Oehler-Şincai (2011) made a comparative analysis of the trade and investment flows between the EU member states and the four strongest emerging countries BRIC. It was found that, in comparison with the trade flows, the participation of the BRIC countries in the FDI flows of the EU is much lower. China's intentions to become an innovation-oriented nation until 2020 and world leader in science and technology until 2050, India vision of becoming a developed country by 2020, Russian intentions to be innovative and competitive at global level and Brazil's, ambitious strategies in energy and agriculture fields can be accomplished through better economic and diplomatic relations with EU. The cooperation of the BRIC countries with the developed economies, mainly the EU, the USA and Japan, will have a key role in the accomplishment of the national modernisation and innovation strategies.

Ranjan and Agrawal (2011) in their empirical study on FDI Inflow Determinants in BRIC Countries: A Panel Data Analysis by using random effect model for 35 years ranging from 1975 to 2009 was employed to study the determinants of FDI inflow in BRIC nations. The empirical results showed that market size, trade openness, labour cost, infrastructure facilities and macroeconomic stability and growth prospects were potential determinants of FDI inflow in BRIC where as gross capital formation and labour force were the insignificant factors, although macroeconomic stability and growth prospects have very little impact. Among the BRIC countries China is cited as the world's manufacturing hub and fastest-growing consumer market and India is well-known as the leading business-processing and IT services hub. Special trade openness facilities, geographical location and cheap labour cost are making Brazil a popular destination for FDIs. Same is the case with Russia, with its abundance resource of oil and gas are attracting hydrocarbon related FDIs.

Holtbrugge and Kreppel (2012) carried out a comprehensive research on the specific determinants and antecedents of OFDI from BRIC countries. It is based on an exploratory approach with case studies of eight companies; both within and cross-case approach were conducted. Results revealed the significance of determinants on the country, industry and firm. Gaining access to new markets is of paramount importance for all firms and most of the companies seek to obtain access to technological resources and management know-how, therefore by emphasising on the availability of these resources in the target countries. While going for internationalisation, Brazilian and Indian companies were primarily driven by economic motives, many Chinese and Russian firms got substantial political support from their governments to invest abroad, especially in strategically imperative industries. BRIC economies firms possessed specific strengths that helped them to enter both developing as well as developed countries and to pursue their internationalisation strategies. FDI outflows from the BRIC countries have increased exponentially throughout the last decade there by playing a vital role in the global economy.

Jadhav (2012) explored on the role of economic, institutional and political factors in attracting FDI in BRICS economy and the comparative weightage these factors have in attracting FDI. The study used panel data for a period of ten years from 2000-2009 and analysis has been done using panel unit-root test, and multiple regressions, considering variables like market size, trade openness, natural resources as economic determinants and macroeconomic stability, political stability, government effectiveness, regulatory quality, control of corruption, etc as potential institutional and political determinants of FDI. Findings indicate that economic factors are more significant than institutional and political factors and the market size measured by real GDP is a significant determinant of FDI. Results of empirical analysis also inferred that trade openness, natural resource availability, rule of law and voice and accountability are statistically significant. The variables market size, trade openness have positive coefficient showing they have a positive effect on total inward FDI.

Gusarova (2013) investigated on FDI and Innovations in BRICS Countries and found that the developing countries were the main states providing FDI inflow in world economy in 2012. The share of BRICS in the total inflow of the current world FDI increased to 11% in 2011. The development of BRICS countries could be promoted by an active introduction of innovation and over the next 50 years they could become the driving force in the world economy. The import of FDI in BRICS countries was 2.2 trillion dollars in 2011 i.e., it increased 5.3 times during the past eleven years. Simultaneously the import of FDI in Russia increased by 14.2 times and in India by 12.3 times. The development of scientific and technical potential promoted by the increasing the investment's can act as the catalyst of scientific researches. As to the R&D's expenses are concerned Russia is considerably lagging behind China, India and Brazil which needs special focus.

Mathur and Dasgupta (2013) analysed the trade policies, institutions and areas of deepening cooperation in BRICS. The review of trends highlighted that Intra-BRICS FDI is very limited, mainly giving thrust on extractive and natural resource based industries and IT services. However, the emergence of Chinese TNCs in infrastructural services, Indian MNCs in IT services, South Africa in financial services the focus is on diversification of export market and increasing cooperation creating new opportunities through joint ventures, Greenfield investments and Mergers and Acquisitions (M&A). They suggested three broad strategies to be adopted for fostering cooperation among BRICS, i.e., establish and expand trade agreements to include services, enhance investment flows in services by addressing investment barriers through bilateral investment agreements and ensure cooperation in skill and human resource development.

Naude et al. (2013) researched on Industrialisation Lessons from BRICS: A Comparative Analysis. They explore the differences in patterns and causes of variations in manufacturing sector between China and the other BRICS nations and identify the cause of success of China as compared to other economies in the BRICS. As far as the role of FDI is concerned, the largest portion of FDI goes to China, especially after the period 1985 to 1990 and to India and Russia, particularly during the period after 2005. China's export led growth as well as industrialisation was mainly driven by FDI, with most FDI to China flowing into manufacturing sectors. In Brazil, Russia and South Africa there has been a restructuring of FDI eventually, from manufacturing towards mining. India's FDI showed a decline in manufacturing sector a considerable part of it being absorbed in to the service sector, predominantly in financing, real estate and business services. In Brazil, Russia, India and South Africa FDI is increasingly orientated towards exploitation of natural resources or service activities rather than focusing on manufacturing and industrialisation. Thus the considerable difference between China, and the other BRICS, is the extent to which domestic investments and initiatives succeeded in channelling FDI and its technological benefits towards the manufacturing sector.

3. OBJECTIVES

1. To analyse the trends of FDI inflows and outflows of BRICS nations over a period of ten years.
2. To examine the pattern of FDI in different sectors of these economies

4. RESEARCH METHODOLOGY

The present study is basically based on review of relevant literature to explore and analyse the trends and pattern of FDI inflows and outflows in BRICS economies over a period of 10 years extending from 2003- 2012. Methodology involves the use of secondary data gathered from sources like research papers

5. RESULTS AND DISCUSSION

The growing importance of BRICS in the world economy is reflected by its economic and demographic indicators. Table 1: shows the demographic profile of BRICS during 2011. It is evident that in terms of area, Russia is the largest in the group and in terms of population China closely followed by India are the two populous nations in the world, together they accounted for over one third of the world's population. Annual Population growth rate is high for India and South Africa and it is negative in the case of Russia. Unemployment rate of South Africa is as high as 24.9% and that of India is 9.3%. Among the BRICS nations, poverty rate is high for India, South Africa and Brazil with 29.8%, 23% and 21.4% respectively. Income inequality as measured by Gini Co-efficient, remains a concern for BRICS as it is above 40% for all. Life expectancy rate is Brazil and China is 73% followed by Russia and India with 69% and 65% respectively. Russia has cent percent literacy rate and China and Brazil have a literacy rate above 90%. In HDI ranking as per 2011, the only two countries in the BRICS nations to be listed among top 100 countries were Russia and Brazil.

TABLE 1: COUNTRY PROFILE OF BRICS NATIONS, 2011

Countries	Area (km ²)	Population (million)	Annual Population Growth Rate (%) (2005-11)	Unemployment Rate	Poverty Rate	Income Inequality (Gini Coeff.)	Life Expectancy	Literacy Rate	HDI Ranking (2011)
Brazil	8514877	196.65	0.96	8.3	21.4	53.9	73	90	84
Russia	17098242	141.93	-0.2	7.5	11.1	42.3	69	100	66
India	3287263	1241.5	1.43	9.3	29.8	36.8	65	63	134
China	9596961	1344.13	0.52	4.1	2.8	41.5	73	94	101
South Africa	1221037	50.59	1.15	24.9	23	57.8	52	89	123

Sources: World Bank data, <http://data.worldbank.org/>; (Accessed during 2014)

ILO statistics, <http://www.ilo.org/global/statistics-and-databases/langen/index.html>;

UNDP Human Development Indicators, <http://hdrstats.undp.org/en/indicators/default.html>

Table 2: depicts the economic profile of BRICS during 2011. China, followed by India has the highest growth rate per annum among the BRICS with 11% and 8.1% respectively. Per capita income is high in the case of Russia and Brazil and inflation rate per annum is high for Russia and India. Interest rate is substantially high for Brazil and low for China. The table also reveals that savings and investments as a percentage of GDP is comparatively high for China and India and lowest for South Africa. However with respect to public debt South Africa tops the list with the highest of 64.9%. Brazil, India, China and South Africa are having a fiscal deficit while Russia has a fiscal surplus of 1.6%. China is having a high current account surplus of 201.7% during 2011. FDI net inflows and Foreign exchange reserve in US \$ indicates that China is far ahead of other BRICS economies.

TABLE 2: ECONOMIC PROFILE OF BRICS NATIONS, 2011

Countries	GDP		Inflation Rate p.a (2005-11)	Interest Rate (2005-11)	Savings (% of GDP)	Investment (% of GDP)	Public Debt (% of GDP)	Fiscal Deficit/ Surplus (% of GDP)	Current Account Deficit / Surplus (US \$ bn)	FDI Net Inflow (US \$ bn)	Forex Reserves (US \$bn)
	Growth Rate p.a (2005-11)	Per Capita (US \$)									
Brazil	4	12593.9	5.3	46.5	18.4	20.6	64.9	-2.6	-52.5	71.5	350.4
Russia	4.2	13089.3	10.3	11.1	28.5	23.2	12	1.6	98.8	52.9	453.9
India	8.1	1488.5	8.1	11.3	31.6	35	67	-9.0	-51.8	32.2	271.3
China	11	5444.8	3.1	6	51.3	48.6	25.8	-1.2	201.7	220.1	3202.8
South Africa	3.5	8070	6.1	11.5	16.4	19.7	38.8	-4.6	-13.7	5.7	42.6

Source: <http://data.worldbank.org/>. <http://www.imf.org/external/data.html>.

<http://www.cia.gov/library/publications/the-world-facebook>

(All figures are of 2011 unless otherwise stated) (Accessed during 2014)

TABLE 3: TRADE PROFILE RELATED TO MERCHANDISE OF BRICS

Countries	Merchandise							
	Export				Import			
	Total (US \$)	% Change p.a. (2005-11)	World Share	World Rank	Total (US \$)	% Change p.a. (2005-11)	World Share	World Rank
Brazil	256	14	1.4	22	236.9	20	1.3	21
Russia	522	14	2.9	9	323.8	17	1.8	17
India	304.5	20	1.7	19	462.6	22	2.5	12
China	1898.4	16	10.4	1	1743.5	18	9.5	2
South Africa	96.9	11	0.5	41	121.6	12	0.7	32

Source: Based on WTO data, <http://stat.wto.org/Home/WSDBHome.aspx?Language=E>.

(All figures are of 2011 unless otherwise stated)

Table 3: demonstrates the trade profile related to merchandise of BRICS during 2011. Trade profile depicts that China is the leading exporter and importer of merchandise among BRICS nations. The percentage change per annum (p.a) for export of merchandise is 20% for India and 16% for China. For merchandise imports the percentage change p.a is 22% for India and 20% for Brazil. China has the highest world share in export and import of merchandise among BRICS nations with a percentage of 10.4 and 9.5 respectively. In the world ranking of merchandise export and import China is topper in the list with a rank of 1 in export and 2 in imports whereas South Africa has the least rank both in export and import of merchandise among BRICS with ranks of 41 and 32 respectively.

TABLE 4: TRADE PROFILE RELATED TO SERVICES OF BRICS

Countries	Services							
	Export				Import			
	Total (US \$)	% Change p.a. (2005-11)	World Share	World Rank	Total (US \$)	% Change p.a. (2005-11)	World Share	World Rank
Brazil	36.7	16	0.9	31	73.1	22	1.8	17
Russia	53.3	14	1.3	22	87.9	15	2.2	15
India	136.5	17	3.3	8	123.7	18	3.1	7
China	182.4	16	4.4	4	236.5	19	6	3
South Africa	14.4	5	0.3	44	19.2	8	0.5	40

Source: Based on WTO data, <http://stat.wto.org/Home/WSDBHome.aspx?Language=E>.

(All figures are of 2011 unless otherwise stated)

Table 4: exhibits the trade profile related to services of BRICS during 2011. Trade profile depicts that China is the leading exporter and importer of services among BRICS nations closely followed by India. However, South Africa is the weaker partner among BRICS with respect to export and import of services. The highest percentage change in export p.a for services among BRICS is for India with 17%, followed by China with 16%. For service import the highest percentage change p.a is 22% for Brazil and 19% for China. China has the major world share in export and import of services among BRICS nations. In the world ranking of services export and import China is again the topper in the list with a rank of 4 in export and 3 in imports.

TABLE 5: FDI INFLOWS OF BRICS IN US \$ AT CURRENT PRICES AND EXCHANGE RATES IN MILLIONS

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brazil	10 144	18 146	15 066	18 822	34 585	45 058	25 949	48 506	66 660	65 272
Russia	7 929	15 403	15 508	37 595	56 996	74 783	36 583	43 168	55 084	51 416
India	4 321	5 778	7 622	20 328	25 350	47 139	35 657	21 125	36 190	25 543
China	52 743	53 505	60 630	72 406	72 715	83 521	108 312	95 000	114734	123985
South Africa	734	798	6 647	-527	5 695	9 006	5 365	1 228	6 004	4 572

Source: Reports of UNCTAD

Table 5: indicates the FDI inflows of BRICS for the 10 years extending from 2003 to 2012. It is evident that China is having the highest and South Africa the lowest share in FDI inflows throughout the period of 10 years among the BRICS economies, Brazil had the second position followed by Russia. The value of China's, Brazil's and Russia's FDI inflows in 2012 were US\$ 1,23,985, 65,272 and 51,416 million respectively. FDI inflows for all the nations showed more or less an increasing trend but there was a sharp decline especially during the year 2009 except in the case of China. In the year 2012 also the FDI inflows showed a slight decreasing trend except for China.

TABLE 6: ANNUAL GROWTH RATE (AGR) OF FDI INFLOWS OF BRICS

Year	FDI Inflows AGR				
	Brazil	Russia	India	China	South Africa
2004	78.88	94.26	33.72	1.44	8.72
2005	-16.97	0.68	31.91	13.31	732.96
2006	24.93	142.42	166.70	19.42	-107.93
2007	83.75	51.61	24.71	0.43	-1180.7
2008	30.28	31.21	85.95	14.86	58.14
2009	-42.41	-51.08	-24.36	29.68	-40.43
2010	86.92	18.00	-40.76	-12.29	-77.11
2011	37.43	27.60	71.31	20.77	388.93
2012	-2.08	-6.66	-29.41	8.06	-23.85

Note: Annual Growth Rate (AGR) = ((X2- X1)/ X1)*100, Where, X1 = first value of variable X, X2 = second value of variable X (Calculated based on the values of Table: 5)

Table 6: gives a picture of annual growth rates of FDI inflows of BRICS economies over their previous year. During 2004 there was a high annual growth rate of FDI inflows for Brazil and Russia while China and South Africa had low rate of growth over their previous year. The Annual Growth Rate (AGR) of Brazil was highest (86.92%) during 2010 and lowest in 2012 with a negative rate of -2.08%, for Russia it was highest during 2006 which was more than cent percent and lowest in 2009 with -51.08%. India and China had the peak growth rates during the years 2006 and 2009 respectively. There was less annual growth for South Africa's FDI flows as most of the years reflected negative rates.

TABLE 7: FDI OUTFLOWS OF BRICS IN US \$ AT CURRENT PRICES AND EXCHANGE RATES IN MILLIONS

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brazil	249	9 807	2 517	28 202	7 067	20 457	-10 084	11 588	-1 029	-2 821
Russia	9 724	13 782	17 880	29 993	45 879	55 663	43 281	52 616	66 851	51 058
India	1 876	2 175	2 985	14 285	17 234	21 147	16 031	15 933	12 456	8 583
China	2 855	5 498	12 261	21 160	26 510	55 910	56 530	68 811	74 654	84 220
South Africa	565	1 350	930	6 063	2 966	-3 134	1 151	-76	-257	4 369

Source: Reports of UNCTAD

TABLE 8: ANNUAL GROWTH RATE (AGR) OF FDI OUTFLOWS OF BRICS

Year	FDI Outflows AGR				
	Brazil	Russia	India	China	South Africa
2004	3838.55	41.73	15.99	90.57	138.94
2005	-74.33	29.73	37.24	123.01	-31.11
2006	1020.46	67.75	378.56	72.58	551.94
2007	-74.94	52.97	20.64	25.28	-51.08
2008	189.47	21.33	22.71	110.90	-205.66
2009	-149.29	-22.24	-24.19	1.11	-136.73
2010	-214.92	21.57	-0.61	21.72	-106.60
2011	-108.88	27.05	-21.82	8.49	238.16
2012	174.15	-23.62	-31.09	12.81	-1800

Note: Annual Growth Rate (AGR) = ((X2- X1)/ X1)*100, Where, X1 = first value of variable X, X2 = second value of variable X (Calculated based on the values of Table: 7)

Table: 8 indicates the Annual Growth Rate of OFDI of BRICS over their previous year. Brazil had the highest growth rate of OFDI during 2004, Russia's peak growth rate was in 2006 (67.75%). India, China and South Africa reached its zenith growth rates of 378.56%, 123.01% and 551.94% during 2006, 2005 and 2006 respectively. There were wide fluctuations in the growth rate of OFDI for all BRICS nation taken individually, China's growth rate was positive in all the years, whereas South Africa's situation was contrasting with negative rates in most of the years.

TABLE 9: FDI INFLOWS OF BRICS AS A PERCENTAGE OF GLOBAL FDI FLOWS

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brazil	1.687	2.472	1.522	1.271	1.727	2.481	2.133	3.444	4.036	4.832
Russia	1.319	2.098	1.567	2.539	2.846	4.117	3.007	3.065	3.335	3.806
India	0.719	0.787	0.77	1.373	1.266	2.595	2.931	1.5	2.191	1.891
China	8.899	8.259	7.317	4.911	4.17	5.963	7.809	8.146	7.507	8.963
South Africa	0.122	0.109	0.672	-0.036	0.284	0.496	0.441	0.087	0.364	0.338

Source: Reports of UNCTAD

From Table 9: it is evident that the FDI inflows of BRICS as a percentage of global FDI flows for a period of 10 years is showing an overall increasing trend. In all the years China is having the major share of FDI inflows among BRICS as a percentage of global FDI flows. South Africa and India's share of FDI inflows as a percentage of worlds FDI is comparatively lesser than China, Brazil and Russia. During 2012 China had the highest share of 8.9%, followed by Brazil with 4.8%, Russia 3.8%, India 1.8% and South Africa with a meager share of just 0.3% respectively.

Table 10: reveals the OFDI of BRICS as a percentage of global FDI for a period extending from 2003 to 2012. The table clearly indicates that in the initial years Russia's share of OFDI in the worlds FDI was greatest among BRICS. However, in the later stages China surpassed Russia and the percentage share of China as compared to Russia and other BRICS nations showed a considerable gap. During 2012, China was having the major share of OFDI inflows among BRICS as a percentage of global FDI with 6.1%, Russia with 3.6% followed by India, South Africa and Brazil which were far behind with a share of 0.6%, 0.3% and -0.2% respectively.

TABLE 10: FDI OUTFLOWS OF BRICS AS A PERCENTAGE OF GLOBAL FDI FLOWS

Country	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brazil	0.043	1.065	0.278	1.976	0.311	1.02	-0.877	0.77	-0.061	-0.203
Russia	1.665	1.496	1.978	2.101	2.019	2.776	3.764	3.496	3.984	3.671
India	0.321	0.236	0.33	1.001	0.759	1.055	1.394	1.059	0.742	0.617
China	0.489	0.597	1.357	1.482	1.167	2.788	4.917	4.572	4.449	6.055
South Africa	0.097	0.147	0.103	0.425	0.131	-0.156	0.1	-0.005	-0.015	0.314

Source: Reports of UNCTAD

TABLE 11: SECTOR-WISE BREAKDOWN OF FDI INFLOWS IN BRICS (MN OF US \$ AND % SHARE)

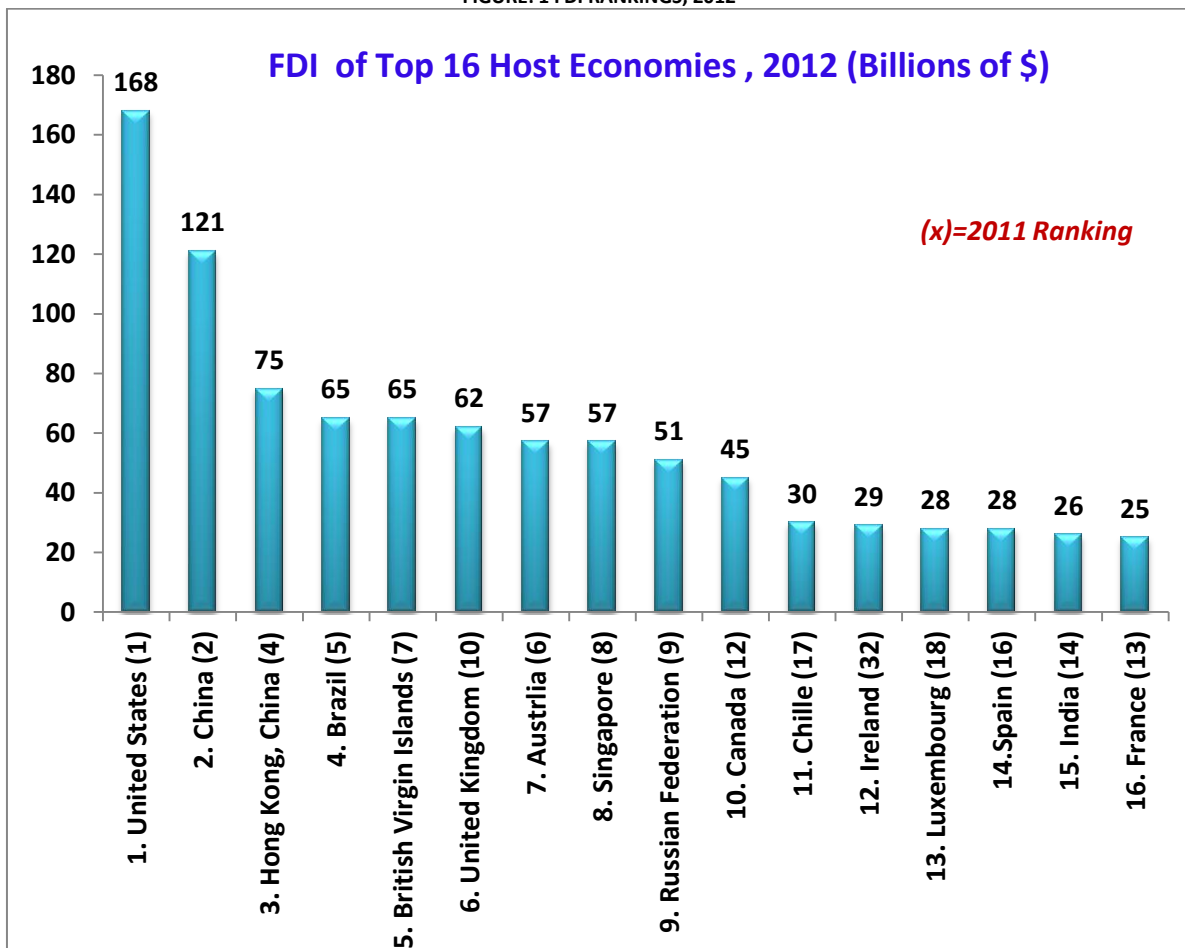
Economies	Sector	2009		2005		2000	
		Value	Share of Total	Value	Share of Total	Value	Share of Total
Brazil	Total	30444	100	21522	100	33331	100
	Primary	3475	11.42	3675	17.08	1186	3.56
	Secondary	13886	45.61	6455	29.99	7582	22.75
	Services	13083	42.97	11392	52.93	21109	63.33
Russia	Total	15906	100	13072	100	4429	100
	Primary	1624	10.21	1192	9.12	993	22.42
	Secondary	6032	37.92	9116	69.74	882	19.91
	Services	8250	51.87	2862	21.15	2412	54.46
India	Total	22461.3	100	3359	100	1910	100
	Primary					75	3.93
	Secondary	7287.2	32.44	1487	44.27	412	21.57
	Services	14790.1	65.85	1685	50.16	845	44.24
*China	Total	90033	100	72406	100	46878	100
	Primary	1929	2.14	2451	3.39		
	Secondary	48884	54.30	42469	58.65	33180	70.78
	Services	39220	43.56	25462	35.17	10937	23.33

Source: International Trade Centre: Investment Map, <http://www.investmentmap.org>

Note: *In the case of China Inflows of 2009, 2005 and 2001 is shown in the above table. Total values include both merchandise and service values

The Sector-wise Composition of FDI inflows for BRIC economies are shown in the Table 11: depicting that the service sector accounts for around 40% or more of all FDI inflows in BRIC economies during 2009-10. Among BRICS, India had the highest share for services in total FDI inflows, i.e., more than 60% in 2009-10. During 2009-10 period China and Brazil had more FDI inflows in the secondary sector, while India and Russia had their major share of inward FDI in the service sector.

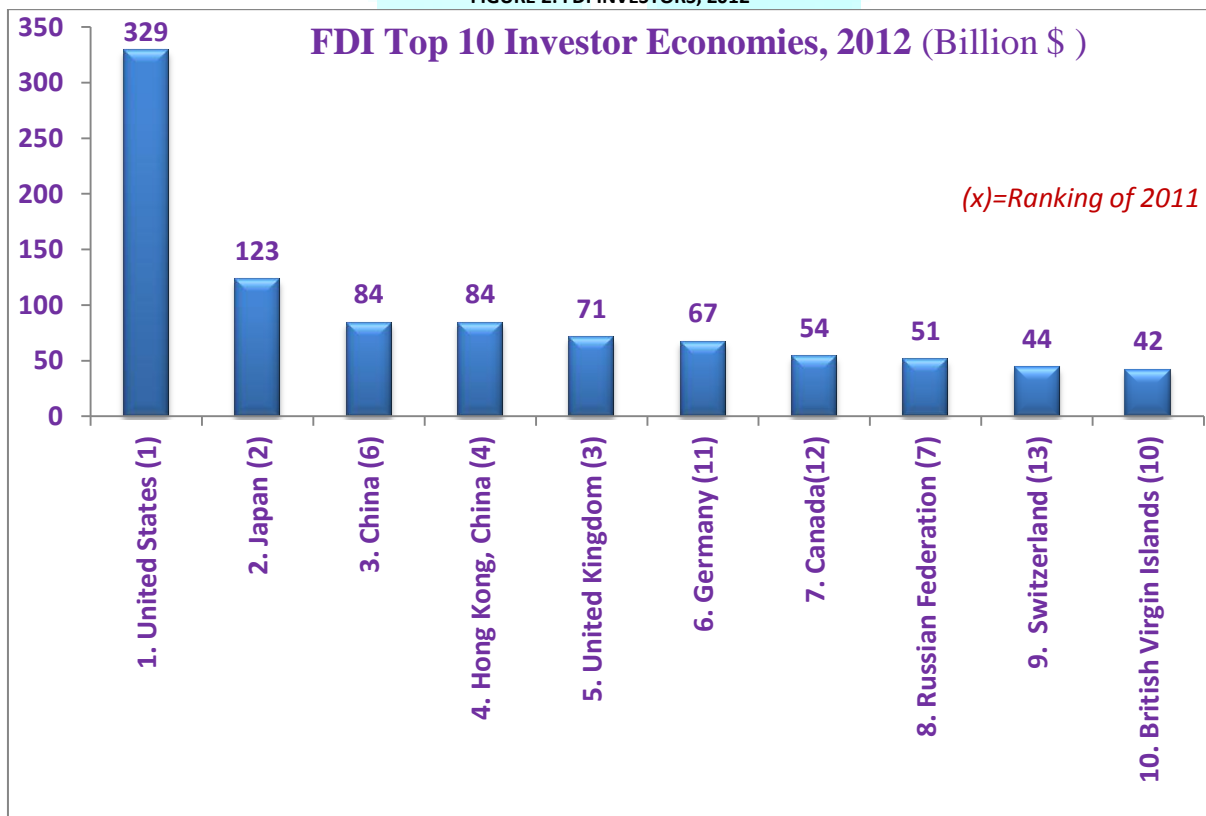
FIGURE: 1 FDI RANKINGS, 2012



Source: UNCTAD FDI-TNC-GVC Information System, FDI database (www.unctad.org/fdistatistics).

Figure 1: exhibit the FDI rankings of top 16 host economies of the world in 2011 and 2012. USA and China were the top two countries to maintain the same ranking in FDI inflows in both the years. Among the BRICS nations China tops the chart by being the second largest economy with high FDI inflows, Brazil is in the fourth position, followed by Russia in ninth and India in the Fifteenth rank. China had an investment of US \$ 75 billion, Brazil, Russia and India with US \$ 65, \$ 51 and \$ 26 billion respectively.

FIGURE 2: FDI INVESTORS, 2012



Source: UNCTAD FDI-TNC-GVC Information System, FDI database (www.unctad.org/fdistatistics).

Figure 2: displays the global ranking of the top 10 FDI investor economies during 2011 and 2012. China is in the third rank after USA and Japan in top FDI investing economies list during 2012. There is a substantial improvement in the ranking of China from sixth position in 2011 to the third spot in 2012. The BRICS nation other than china to have come in the top ten ranking of FDI investors is Russian Federation with eighth rank during 2012. When China had OFDI of US \$ 84 billion Russia had an FDI investment of US \$ 51 billion in the year 2012.

Table 12: highlights the destinations for outward FDI stock from BRICS countries to rest of the world. The greatest share of BRICS OFDI stock (49.3%) is flowing to developing nations with Asia taking a major share of 29.3%. It is also clear that a noteworthy share of 41.6% is in developed countries with EU (34.1%) taking the major share of it. Transition economies; South Asia, South-East Asia and Africa are receiving a share of 2.8% from BRICS with this regard. FDI between BRICS is relatively limited. Statistics shows that OFDI stock to other BRICS account for only 2.5% in 2011.

TABLE 12: OUTWARD FDI STOCK FROM BRICS, BY DESTINATION REGION, 2011 (MN \$)

Partner Region/ Economy	Value	Share
World	1130238	100
Developed Economies	470625	41.6
European Union	385746	34.1
United States	31729	2.8
Japan	1769	0.2
Developing Economies	557055	49.3
Africa	49165	4.3
Latin America and Caribbean	175410	15.5
Asia	3331677	29.3
Transition Economies	31891	2.8
Memorandum:		
BRICS	28599	2.5

Source: UNCTAD FDI-TNC-GVC Information System and data from the IMF, CDIS (Coordinated Direct Investment Survey). Note: Data for Brazil are based on information from the partner countries.

TABLE 13: OUTWARD FDI STOCK FROM BRICS TO OTHER BRICS COUNTRIES, 2011 (MN \$)

Home Economy	Brazil	China	India	Russia	South Africa	BRICS	World	Share in BRICS	Share in the World
Brazil	-	447.5	15.8	0.1	50.7	514.1	202588	1.79	0.3%
China	1071.8	-	657.4	3763.6	4059.7	9552.5	424781	33.4	2.2%
India	73.9	228.7	-	1490.4	194.1	1987.1	62600	6.95	3.2%
Russia	-	123.1	982.3	-	34.5	1139.9	361738	3.99	0.3%
South Africa	76.8	12771.5	140.1	2417.4	-	15405.8	78533	53.88	19.6%
BRICS	1222.4	13570.8	1795.6	7671.5	4339.1	28599.5	1130238	100	2.5%

Source: UNCTAD, FDI database and IMF, CDIS (Coordinated Direct Investment Survey).

Note: Data for Brazil are based on information from the partner countries.

Table 13: indicates the bilateral OFDI stock among BRICS countries, it is limited, but has grown fast over the past few decades. BRICS OFDI stock in other BRICS countries was 2.5% in 2011. The percentage share of each country in other BRICS economies shows that South Africa has the highest of 55.88% investment in other BRICS nations and China contributes to 33.4% of intra-BRICS investments. China the largest FDI investor at global level among the BRICS countries, however, its outward FDI stock to other BRICS countries is comparatively lesser. China out of the total world share in OFDI only 2.2% is invested in the BRICS. Brazil has the highest share of OFDI in BRICS i.e., 19.6% out of its total share in the world. Closely observing the statistics of individual BRICS countries, it is evident that Brazilian FDI in other BRICS is modest. China's main targets in OFDI are South Africa and the Russia which has an investment of US \$ 4059.7 and \$ 3763.6 million respectively. India's OFDI stock in other BRICS depicts that their share is US \$ 1987.1 million i.e., has a share of 3.2% in BRICS out of its total world share. The main destination for Russian OFDI in BRICS is India. Among BRICS countries, South Africa shows the largest share of intra-BRICS investment and had more OFDI stock in China and Russia.

6. CONCLUSION

Globalisation has brought a paradigm shift in the investment motives, mode of ownership, sectoral composition and foreign investment policies of various economies at global level. FDI is an important instrument for attracting international economic integration and serves as the catalyst for economic growth and development of any country. BRICS nations have made their presence felt in the global economic landscape by receiving a descent amount of FDI in the last two decades. Many studies showed that market size, trade openness, labour cost, infrastructure facilities and macroeconomic stability and growth prospects were potential determinants of FDI inflow in BRIC where as gross capital formation and labour force were the insignificant factors, although macroeconomic stability and growth prospects have very little impact. Some studies reported that economic factors are more significant than institutional and political factors. Major findings of the present study reveal that FDI inflows of BRICS for the 10 years extending from 2003 to 2012 indicates that China is having the highest and South Africa the lowest share in FDI inflows among the BRICS economies. China and Russia are having a strong hold of both inward and OFDI in the world with high rankings. However, intra-BRICS FDI flow is limited; OFDI stock of BRICS in other BRICS countries was only 2.5% in 2011. Sectoral composition shows that service sector accounts for more than 40% of FDI inflows into BRIC economies. Among the BRICS China is world's manufacturing hub, India is renowned as IT services hub, Russia with profuse oil resources and Brazil's special trade openness, geographical location and cheap human capital are making them an attractive destination for FDI in the world. BRICS economies can harness themselves to exploit immaculate opportunities to reach new horizons. The forthcoming challenge for the BRICS countries is how to sustain their existing performances and trends in FDI and to formulate new policies.

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A COMPREHENSIVE STUDY ON NETWORKING ISSUES

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ABSTRACT

Now-a-days Information and Communication make it possible to bring the world in our hand. The advent of networking concept is a milestone for this world wide phenomenon. Network is used to share resources, to exchange data/information, to save money and also it acts a major role in the field of communication. The more complexity and rise up technology behind Network also increases the Security concerns. This paper summarizes the key concept of networking and explores the issues and challenges in networking. This paper focuses on the security measures also.

KEYWORDS

Connecting Devices, Network, Security, Threat, Topology.

1. INTRODUCTION

1.1 NETWORKING BASICS

Network is a set of devices (often referred as nodes) connected by communication medium. A node can be a computer, printer or any other device capable of sending and receiving data generated by other nodes on the network. Communication medium are roughly grouped into guided media, such as copper wire and fibre optics and unguided media, such as radio and lasers through air [1].

1.2 PHYSICAL STRUCTURE

For communication to occur two devices must be connected in some proper way. There are two possible types of connections point-to-point and multipoint. The term topology is schematic description of the arrangement of a network, including its nodes and connecting lines. There are two ways of defining network geometry: the physical topology and the logical (or signal) topology. The physical topology of a network is the actual geometric layout (Bus, Ring, Star and Hybrid) of workstations. Logical (or signal) topology refers to the nature of the paths the signals follow from node to node [3].

1.3 NETWORK MODELS

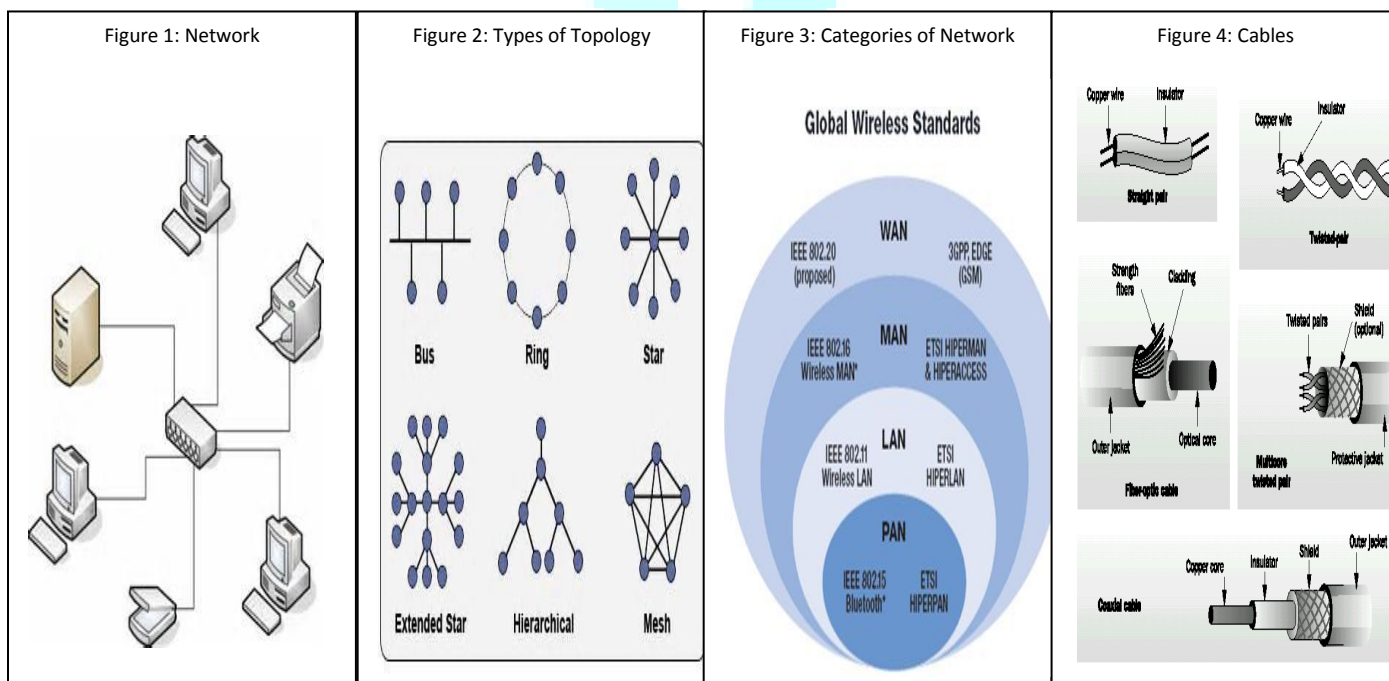
Standards are needed so that heterogeneous networks can communicate with one another. The two well known standards are the OSI model and the Internet Model. The OSI (Open System Interconnection) model defines seven (Application, Presentation, Session, Transport, Network, Data Link and Physical) layer network. The Internet model defines five (Application, Transport, Internet, Data Link and Physical) layer network [2].

1.4 CATEGORIES OF NETWORKS

Depending upon network size, communication media, management method and topology we can classify network as LAN, WAN, MAN (size), Wired network, Wireless network (communication media), Peer to Peer network, Client server network (management) and Ring Network, Bus network, Star network (topology).

1.5 CONNECTING DEVICE

When multiple computers are connected to each other, a computer network is formed. When multiple computer networks are connected to each other, it becomes an internetwork, or an internet. The connecting device (used to connect computers and computer network) can be classified into Networking device and Internetworking Device. Repeaters and Bridges are networking devices. Routers and Gateways are internetworking devices.



2. BACKGROUND

The history of computer networking and the Internet cross over the following [15]:

BEFORE THE INVENTION OF COMPUTERS

Alexander Graham Bell's telephone (1876) provided the groundwork for networking connections. Thomas Edison's work with Electricity gave us the structural framework for future computer technology.

ARPANET

Leonard Kleinrock (1961), an MIT professor, introduced the concept of computer packet switching in ARPANET, the first long-distance computer network. The first connection was made between UCLA and Stanford in 1969, with other nodes following. ARPANET grew for several years before its first public demonstration in 1972.

FIRST EMAIL

Ray Tomlinson sent the first mail message in 1970, and email integration into ARPANET took place in 1973.

TCP/IP

Bob Kahn and Vint Cerf in 1974 brought the idea of Transfer Control Protocol, or TCP protocol which allowed computers and networks of different varieties to connect to each other for the first time. The protocol was implemented in 1983, a year which also marked the split of ARPANET into the military controlled MILNET and a civilian network.

WIDESPREAD ADOPTION

Throughout the 1970s and 80s, ARPANET grew into what we now recognize as the Internet, and computer networking became more complex. Other developments, such as the introduction of the World-Wide-Web standard in 1991, and the free release of Netscape Navigator 1.0 in 1994 helped computer networks become easier to use and more accessible.

3. NETWORKING ISSUES AND CHALLENGES

3.1 NETWORK PERFORMANCE

Two key elements of network performance are bandwidth and latency. Bandwidth is a gross measurement, taking the total amount of data transferred in a given period of time as a rate, without taking into consideration the quality of the signal itself. Bandwidth is also a limiting factor for the technology that connects the computer itself to the modem or device interacting with the direct Internet line [10].

Latency is a networking term to describe the total time it takes a data packet to travel from one node to another. In other contexts, when a data packet is transmitted and returned back to its source, the total time for the round trip is known as latency. Latency refers to time interval or delay when a system component is waiting for another system component to do something. This duration of time is called latency [12].

3.2 NETWORK CONNECTIVITY

It is quite common to hear about 'I cannot connect to the network'. This is because so many people have moved, tried to use, or otherwise integrated other types of systems such as Apple, Unix or Linux on their networks. Also some users now wish to connect their mobiles such as Blackberry's, iPhones and Palms to their home or corporate networks adding a new layer of complexity to the mix. To complicate things further, wireless (not a new technology) is a booming market growing bigger than ever with newer, faster and more secure technologies (such as 802.11n) which seem to come to market yearly and bring a new host of issues to the 'connectivity' issues one may already face. All of these technologies, systems and resources once connected, now suffer from many of the same issues [16].

3.3 NETWORK CONFIGURATION

When setting up systems, the biggest things that cause disruption are loss of main power source, incorrect cabling (or wireless configurations), lack of/or misconfigured protocols (such as IP) and problems with Windows systems such as misconfigured network services. Another issue to consider is the configuration of how client computers access shared resources, such as a network printer. After the initial configuration and testing of your network, the next steps should be to document it correctly [16].

3.4 NETWORK INFRASTRUCTURE

Network Infrastructure represents the Physical and Logical structure of the network [13].

Physical Network Diagram

The physical diagram presents the following information about existing network:

- Details of physical communication links, such as cable length, grade, and approximation of the physical paths of the wiring, analog, and ISDN lines.
- Servers, with computer name, IP address (if static), server role, and domain membership. A server can operate in many roles, including primary or backup domain controller, Dynamic Host Configuration Protocol (DHCP) service server, Domain Name System (DNS) server, Windows Internet Name Service (WINS) server, print server, router, and application or file server.
- Location of devices such as printers, hubs, switches, modems, routers and bridges, and proxy servers that are on the network.
- Wide area network (WAN) communication links (analog and ISDN) and the available bandwidth between sites. This could be an approximation or the actual measured capacity.
- Number of users at each site, including mobile users.

LOGICAL NETWORK DIAGRAM

The logical diagram shows the network architecture, including the following information:

- Domain architecture, including the existing domain hierarchy, names, and addressing scheme.
- Server roles, including primary or backup domain controllers, DHCP service servers, or WINS servers.
- Trust relationships, including representations of transitive, one-way, and two-way trust relationships.

4. SECURITY MEASURES

Today, Information is the most valuable resource to any organization. It's our duty to secure and also to protect the valuable things. Security deals with threats to information that is external to a computer system, while protection deals with threats that are internal. Security is a primary component of every network design. With the growth of large open networks, security threats have increased extensively in the past 20 years. Hackers have discovered more network vulnerabilities, and because one can now download applications that require little or no hacking knowledge to implement, applications and pose severe threats [11].

4.1 WHAT DOES SECURE MEAN?

Network security can be defined as protection of networks and their services from unauthorized alteration, destruction, or disclosure, and provision of assurance that the network performs in critical situations and have no harmful effects for neither user nor for employee [14]. Computer security attempts to ensure the confidentiality, integrity and availability of computing systems. Keep the computer system (Hardware, software and data are the components of computer system) away from attacks is known as security.

4.2 ATTACKS

Attacks can be classified into the following types [17]:

- Passive attacks include traffic analysis, monitoring of unprotected communications, decrypting weakly encrypted traffic, and capturing authentication information such as passwords
- Active attacks include attempts to circumvent or break protection features, to introduce malicious code, and to steal or modify information. Active attacks result in the disclosure or dissemination of data files, DoS, or modification of data.

- Distribution attacks focus on the malicious modification of hardware or software at the factory or during distribution.
- An insider attack involves someone from the inside, such as a disgruntled employee, attacking the network. Insider attacks can be malicious or non-malicious.
- Close-in attacks consist of regular individuals attaining close physical proximity to networks, systems, or facilities for the purpose of modifying, gathering, or denying access to information.
- In a phishing attack the hacker creates a fake web site that looks exactly like a popular site such as the SBI bank or paypal. The phishing part of the attack is that the hacker then sends an e-mail message trying to trick the user into clicking a link that leads to the fake site.
- In a hijack attack, a hacker takes over a session between one and another individual and disconnects the other individual from the communication.
- In a spoof attack, the hacker modifies the source address of the packets he or she is sending so that they appear to be coming from someone else.
- A buffer overflow attack is when the attacker sends more data to an application than is expected. A buffer overflow attack usually results in the attacker gaining administrative access to the system in a command prompt or shell.
- In an exploit attack, the attacker knows of a security problem within an operating system or a piece of software and leverages that knowledge by exploiting the vulnerability.
- Password attack, an attacker tries to crack the passwords stored in a network account database or a password-protected file. There are three major types of password attacks: a dictionary attack, a brute-force attack, and a hybrid attack.

4.3 VULNERABILITY AND CONTROLS

Vulnerability is a weakness in the security system. A threat is blocked by a control of vulnerability. A control is an action, device, procedure or technique that removes or reduces vulnerability. The four classes of threat are Interception, Interruption, Modification and Fabrication [4].

4.4 NETWORK SECURITY CONTROLS

Security controls can also be categorized according to their nature:

- Physical controls *e.g.* fences, doors, locks and fire extinguishers.
- Procedural controls *e.g.* incident response processes, management oversight, security awareness and training.
- Technical controls *e.g.* user authentication (login) and logical access controls, antivirus software, firewalls.
- Legal and regulatory or compliance controls *e.g.* privacy laws, policies and clauses.

AUTHENTICATION, AUTHORIZATION, ACCESS CONTROL AND ENCRYPTION

Authentication verifies who you are. Usually, authentication by a server entails the use of a user name and password. Other ways to authenticate can be through cards, retina scans, voice recognition, and fingerprints. Authorization verifies what you are authorized to do. Authorization occurs after successful authentication. In authentication, the user or computer has to prove its identity to the server or client. Authorization is a process by which a server determines if the client has permission to use a resource or access a file [8]. Access control refers to security features that control who can access resources in the operating system. Applications call access control functions to set who can access specific resources or control access to resources provided by the application [7]. Encryption involves the process of transforming data so that it is unreadable by anyone who does not have a decryption key [9].

5. FUTURE WORK

Mobility and Bring Your Own Device continue to be one of the biggest challenges for security organizations worldwide, and increasingly so in 2014. Mobile device use cases are so vast, and the conditions for securing devices on a user or enterprise basis can be so diverse that designing the right enterprise mobile security solution can be very challenging [6]. One of the problems with mobile networks is the lack of security information of the networks. Different from organization and home networks, the security measures and conditions of mobile networks are usually **unknown to the end users**. As a result, users may enter a mobile network filled with attacks without any prior protection and suffer serious damages [5]. Mobile and Cloud Security is one of the challenging issues in the future. Adequate training and Awareness about the importance of security will reduce these challenges.

6. CONCLUSION

As the world becomes more connected by networks, the impact of the network security will certainly continue to grow. Security system should include the deployment of regularly updated firewalls, as well as gateway antivirus, Web security gateway solutions, intrusion detection and intrusion protection systems throughout the network. During transmission; use encryption to protect data whether online or via removable storage. Awareness about the risks of social engineering to the employee as well as employer reduces the risk in security. Training must be given to the staff about the value of data and how to protect it. The strongest network controls are authentication, authorization, access control and encryption.

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A STUDY OF THE IMPACT OF MICRO FINANCE ON THE EMPOWERMENT OF RURAL WOMAN IN INDIA

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ABSTRACT

Microfinance as a tool for empowerment of women, the enlistment of the poor, has gained credence in development dialogue, the world over. Reaching women in remote rural areas and creating women legitimate organizational space where women can meet function as a collective unit has been recognized as a development of significant potential for challenging the social and economic isolation of women. Massive multiplication of such group-based lending programme is being advocated by national and international donor organizations as the single most effective anti-poverty intervention that can be globally adopted. Microfinance can assume a larger role in the global strategy for meeting the international pledge of the millennium development goals and for the commitment to cut poverty by half by 2015 through a collaborative concerted effort of all the share holders. The present study will provides ample evidence to the fact that micro finance through SHGs laid the seeds for social and economic empowerment of women.

KEYWORDS

micro finance, rural woman empowerment.

INTRODUCTION**MICRO FINANCE**

Micro-finance programme has been well-recognized world over as an effective tool for poverty alleviation and improving socio-economic conditions of rural poor. In India too, Microfinance programmes are making a strong headway in its efforts to reduce poverty and empower the rural poor. Moreover, these programmes have come to be regarded as a supplementary development paradigm, which widens the financial service delivery system by linking the large rural population with formal financial institutions through SHGs (Self Help Groups)

WOMEN EMPOWERMENT

Empowerment of women means making women economically independent, self reliant, confident and positive in attitude. It helps women to face any situation and to participate in the developmental activities of the nation.

Empowerment helps to overcome pressures and problems of poverty and gender based inequality. Thus investing in “women potential” and empowering them to achieve their choices and opportunities is the surest way to contribute to economic growth and development.

In India too, micro-credit is making a strong headway in its efforts to reduce poverty and empower the rural poor. The rural poor, with the intermediation of voluntary organizations join together for self help to secure better economic growth.

SCOPE OF THE STUDY

The study aims to find the impact of micro finance on the empowerment of the Rural Women in India.

OBJECTIVES OF THE STUDY

1. To study the factors influencing them to join as a self Help Group Member.
2. To evaluate the impact of micro finance on empowerment of women.
3. To study the problems faced by the SHG members in micro enterprises.

METHODOLOGY

The study is an empirical study based on survey method using secondary data. Secondary data collected from books, journals, magazine and internet.

GROWTH AND DEVELOPMENT OF MICROFINANCE IN INDIA

Poverty is a crucial problem in all developing countries in the present day world. It is felt that the problem of poverty can be solved through a concerted effort by the state. In India too, micro-credit is making a strong headway in its efforts to reduced poverty and empower the rural poor. The rural poor, with the intermediation of voluntary organizations join together for self helps to secure better economic growth.

Self Help Groups (SHGs) form the basic constituent unit of the Microfinance movement in India. Although the term self-help group is used in different countries to describe a variety of financial and nonfinancial associations, in India SHG refers to a group of a few individuals – usually poor and often women – who pool their saving into a fund from which they can borrow as and when necessary.

The table given below shows the percentage and number of Poor in 2011-12.

TABLE 1: PERCENTAGE AND NUMBER OF POOR ESTIMATED BY TENDULKAR METHOD, USING MIXED REFERENCE PERIOD (MRP)

Year	Poverty Ratio (0%)			Number of Poor (million)		
	Rural	Urban	Total	Rural	Urban	Total
1993-94	50.1	31.8	45.3	328.6	74.5	403.7
2004-05	41.8	25.7	37.2	326.3	80.8	407.1
2011-12	25.7	13.7	21.9	216.5	52.8	269.3
Annual Average Decline : 1993-94 2004-05 (Percentage points per annum)	0.75	0.55	0.74			
Annual Average Decline : 2004-05 2011-12 (Percentage points per annum)	2.32	1.69	2.18			

Source : NABARD

The percentage of persons below the Poverty Line in 2011-12 has been estimated as 25.7% in rural areas, 13.7% in urban areas and 21.9% for the country as a whole. The respective ratios for the rural and urban areas were 41.8% and 25.7% and 37.2% for the country as a whole in 2004-05. It was 50.1% in rural areas, 31.8% in urban areas and 45.3% for the country as a whole in 1993-94. In 2011-12, India had 270 million persons below the Tendulkar Poverty Line as compared to 407 million in 2004-05, that is a reduction of 137 million persons over the seven year period.

During the 11-year period 1993-94 to 2004-05, the average decline in the poverty ratio was 0.74 percentage points per year. It accelerated to 2.18 percentage points per year during the 7-year period 2004-05 to 2011.12. Therefore, it can be concluded that the rate of decline in the poverty ratio during the most recent 7-year period 2004-05 to 2011-12 was about three times of that experienced in the 11-year period 1993-94 to 2004-05.

It is important to note that although the trend decline documented above is based on the Tendulkar poverty line which is being reviewed and may be revised by the Rangarajan Committee, an increase in the poverty line will not alter the fact of a decline. While the absolute levels of poverty would be higher, the rate of decline would be similar.

TABLE 2: STATE SPECIFIC POVERTY LINES FOR 2011-12

S.No	State	Monthly per capita (Rs.)	
		Rural	Urban
1	Andhra Pradesh	860	1,009
2	Arunachal Pradesh	930	1,060
3	Assam	828	1,008
4	Bihar	778	923
5	Chhattisgarh	738	849
6	Delhi	1,145	1,134
7	Goa	1,090	1,134
8	Gujarat	932	1,152
9	Haryana	1,015	1,169
10	Himachal Pradesh	913	1,064
11	Jammu & Kashmir	891	988
12	Jharkhand	748	974
13	Karnataka	902	1,089
14	Kerala	1,018	987
15	Madhya Pradesh	771	897
16	Maharashtra	967	1,126
17	Mainpur	1,118	1,170
18	Meghalaya	888	1,154
19	Mizoram	1,066	1,155
20	Nagaland	1,270	1,302
21	Odisha	695	861
22	Punjab	1,054	1,155
23	Rajasthan	905	1,002
24	Sikkim	930	1,226
25	Tamilnadu	889	937
26	Tripura	798	920
27	Uttarakhand	880	1,082
28	Uttar Pradesh	768	941
29	West Bengal	783	981
30	Puducherry	1,301	1,309
	All India	816	1,000

Note : Computed as per Tendulkar method on Mixed Reference Period (MRP)

MICRO FINANCE INSTITUTIONS (MFIS) IN INDIA

Micro Finance Institutions (MFIs) are playing an important role of financial intermediaries in Microfinance sector. These are the institutions, which have come up to fill the gap between the demand and supply for Microfinance. MFIs were defined by the Task Force as “those which provide thrift, credit and other financial services and products of very small amounts, mainly to the poor, in rural semi-urban or urban areas to enable them to raise their income level and improve their living standards”. Most top MFIs apply the Grameen mode, allowing them to expand more quickly than those using the SHG linkage mode.

- NGOs, which are mainly engaged in promoting self –help groups (SHGs) and their federations at a cluster level, and linking SHGs with banks, under the NABARD scheme.

TABLE 3: BANK LOANS PROVIDED TO MFIS (Rs.in crore)

Agency	Years	Amount of loan disbursed to NGOs/MFIs		Outstanding against NGOs/MFIs as on 31 March, 2010		Percentage Recovery of loans range
		No. of MFIS	Amount	No. of MFIS	Amount	
Commercial Banks (Public, Private and Foreign)	2008-09	522	3,718.93	1,792	4,977.89	70-100
	2009-10	645	8,038.61	1,407	10,095.32	80-100
	% growth	23.5	116.2	(20.1)	102.8	
Regional Rural Banks	2008-09	59	13.40	153	31.20	87-100
	2009-10	46	24.14	103	52.22	100
	% growth	(22)	80.1	(32.7)	67.4	
Cooperative Banks	2008-09	0	0.00	0	0.00	NA
	2009-10	0	0.00	3	0.007	90
	% growth	NA	NA	NA	NA	NA
Total of All Banks	2008-09	581	3,732.33	1,915	5,009.09	
	2009-10	691	8,062.74	1,513	10,147.54	
	% growth	18.9	116.5	(21.0)	102.6	
SIDBI	2009-10	88	2,665.75	146	3,808.20	NA
Total of all Banks and SIDBI to MFIS	2009-10	779	10,728.49	1,659	13,955.74	

Note: Actual no. of MFIS provided with bank loans would be less as several MFIS had availed loans from more than one banks.

CONCLUSION

The study, beyond any shadow of doubt, has revealed that though micro enterprises have succeeded in empowering women and improving their status to some extent, their basic objective of eradicating poverty is yet to be realized.

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COMPARATIVE ANALYSIS OF BROADBAND SERVICES IN TWIN CITY: AIRTEL Vs. OTHERS

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ABSTRACT

Bharti Enterprises has been at the forefront of technology and has revolutionized telecommunications with its world-class products and services. Established in 1976, Bharti has been a pioneering force in the telecom sector with many firsts and innovations to its credit. Bharti provides a range of telecom services, which include Cellular, Basic, Internet and National Long Distance. Bharti also manufactures and exports telephone terminals and cordless phones. Apart from being the largest manufacturer of telephone instruments in India. On October 1, 2000 the Department of Telecom Operations, Government of India became a corporation and was christened Bharat Sanchar Nigam Limited (BSNL). Today, BSNL is the largest Public Sector Undertaking of India with authorized share capital of \$ 3977 million and net worth of \$ 14.32 billion.

KEYWORDS

Digital Subscriber Line, Broadband, Internet speed, Data usage rate, Broadband service.

INTRODUCTION

Bharti Tele-Ventures is one of India's leading private sector providers of Tele-communications services with an aggregate of 11.06 million customers as of end of January '05, consisting of approximately 10.24 million mobile customers. The company today offers mobile services in 21 out of 23 circles in India. The company also provides fixed - line services and Internet access over DSL in 6 circles. The company complements its mobile and fixed-line services with national and international long distance services.

Broadband services in India have not yet really taken off because none of the major Tacos has been able to rollout such services in a really big way so far. Broadband penetration is, of course, dependent upon PC penetration as a major factor. India lags behind other major countries of the region by a substantial margin

NEED FOR THE STUDY

- The study is mainly under taken to know the Broad brand service provided by different players in the market.
- To find out what the customers think about the AirTel Broad brand when compared to other Service providers.
- Implementing new technologies, new features and considering the customers preferences are the important factors for the company's existence in the competitive market .So if the company wants to face the competition, it has to have the updated knowledge of the consumer tastes and preference

OBJECTIVES OF STUDY

- Comparative study of Airtel Broadband with other Broadband service providing companies in Twin city
- To assess the customer of various Broadband service providers in Twin city also Find out the total market share of Airtel in Twin city
- To enumerate the customer preferences towards various Broadband Service Providing companies in Twin city
- To assess out the various factors contributing in the selection of Broadband connection from the various service provider

METHODOLOGY**A) GEOGRAPHICAL AREA**

Hubli-Dharwad Twin city

B) SAMPLING DESIGN

Element: Commercial Establishments.

Sampling unit: Business people, Officials, Institutions, Non-commercial

Extent To: twin city.

Sample size: 100

Sample: Stratified sampling

Simple Random Sample

C) SOURCES OF DATA COLLECTION METHOD

The data is collected through both **primary** and **secondary** method. Primary data will be collected through administering the questionnaire and through personal interviews. The secondary data is also collected through various websites and articles.

BHARATI ENTERPRISES

Bharti Enterprises has been at the forefront of technology and has revolutionized telecommunications with its world-class products and services. Established in 1976, Bharti has been a pioneering force in the telecom sector with many firsts and innovations to its credit. Bharti provides a range of telecom services, which include Cellular, Basic, Internet and National Long Distance. Bharti also manufactures and exports telephone terminals and cordless phones. Apart from being the largest manufacturer of telephone instruments in India.

Bharti Enterprises has joint venture with world leaders like

- ◆ Singtel (Singapore Telecom);
- ◆ Warburg Pincus, USA;
- ◆ Telia, Sweden;
- ◆ Asian infrastructure fund,
- ◆ Mauritius; International Finance Corporation, USA
- ◆ New York Life International, USA.

BSNL

On October 1, 2000 the Department of Telecom Operations, Government of India became a corporation and was christened **Bharat Sanchar Nigam Limited (BSNL)**. Today, BSNL is the largest Public Sector Undertaking of India with authorized share capital of \$ 3977 million and net worth of \$ 14.32 billion.

RELIANCE INFOCOMM

Reliance Infocomm is the outcome of the late visionary Dhirubhai Ambani's (1932-2002) dream to herald a digital revolution in India by bringing affordable means of information and communication to the doorsteps of India's vast population. Working at breakneck speed, from late 1999 to 2002 Reliance Infocomm built the backbone for a digital India - 60,000 kilometers of fiber optic backbone, crisscrossing the entire country. Reliance Infocomm network is a pan India, high capacity, integrated (wireless and wire line) and convergent (voice, data and video) digital network, designed to offer services that span the entire Infocomm value chain - infrastructure, services for enterprises and individuals, applications and consulting. The network is designed to deliver services that will foster a new way of life for a New India.

TATA INDICOM

The Tata Group's commitment to building a substantial presence in India's telecom industry has seen it play a leading role in the development of the country's communications infrastructure. The telecom services of the Group are offered under the brand name Tata Indicom. The preferred telecommunications choice of customers across the country. Tata Teleservices, which heralded convergence technologies in the Indian telecom sector, is the world leader in the fixed wireless service market, with a customer base of 1.8 million.

BROADBAND**INTRODUCTION**

Telecom Companies uses broadband services worldwide to leverage their existing investment in copper in the local loop. Copper as a last-mile delivery medium has the advantage of near-universal penetration, and local Telecom Companies are increasingly eyeing broadband services on it as a means of 'hitting back' at cable operators who have begun infringing on their turf by their bundled Internet offerings.

WHAT IS BROADBAND?

To state the obvious, 'broadband' indicates a means of connectivity at a high or 'broad' bandwidth. In India, TRAI has defined broadband as any connectivity delivered to the end user at a bandwidth greater than 256 kbps.

THE INDIAN SCENARIO

Broadband services in India have not yet really taken off because none of the major Tacos has been able to rollout such services in a really big way so far. Broadband penetration is, of course, dependent upon PC penetration as a major factor. India lags behind other major countries of the region by a substantial margin.

Broadband service providing companies:

Bsnl (data one)

Bharati Infotel Limited (AirTel)

Reliance Infocomm

Satyam

Sify

TATA Indicom

BSNL

BSNL is in the process of commissioning of a world class, multi-gigabit, multi-protocol, convergent IP infrastructure through National Internet Backbone-II (NIB-II) that will provide convergent services through the same backbone and broadband access network. The Broadband service will be available on DSL technology (on the same copper cable that is used for connecting telephone), on a countrywide basis spanning 198 cities.

OBJECTIVES

- To provide high speed Internet connectivity (up to 8 Mbps)
- To provide Virtual Private Network (VPN) service to the broadband customers
- To provide dial VPN service to MPLS VPN customers.
- To provide multicast video services video-on-demand, etc. through the Broadband Remote Access Server (BRAS).
- To provide a means to bill for the aforesaid services by either time-based or volume-based billing. It shall provide the customer with the option to select the services through web server
- To provide both pre-paid and post paid broadband services

RELIANCE

Reliance Broadband Internet Access provides carrier class Internet bandwidth through a dedicated connection over the IP backbone. With "Fiber to building" approach of Reliance and international capacity operated by a Group Company, Reliance delivers an unmatched service quality level to an enterprise customer. Reliance Broadband brings "Broadband Internet Access" for business and consumers.

TATA INDICOM**HIGH SPEED INTERNET SERVICES FROM TATA INDICOM**

Tata Indicom offers high bandwidth, reliable, secure and cost effective Internet connectivity on Broadband ADSL (Asynchronous digital subscriber line). Businesses in IT, hospitality, travel agents, logistics companies, stock brokers and financial companies, corporate offices, cyber-cafes and many more are connected on Broadband Internet.

More Email, more downloads, more audio streaming, online ERP, VPNs.... You name it! You can do it on Broadband Internet.

BROADBAND INTERNET SERVICE OFFERS

- Bandwidth on demand
- Quick browsing & fast email speeds
- Instant file downloads
- Reliable & secure connection
- Pay-as-you-use and flat rate billing options
- Quick & professional installation
- 24*7 customer care

AIRTEL

Airtel Broadband Service is the fixed line service from Bharati. It already operates 5 circles Delhi, Haryana, MP & Chattisgarh, TamilNadu, UP (West), and Karnataka and is about to launch services in several others. Airtel Broadband & Telephone Services has been a part of the telecom fabrics of **Karnataka** since 2001, and has around 2,00,000 subscribers in the state.

With 512@work, Airtel Broadband is approximately **10 times faster than an analogue connection, yet costs as little as dialup**. Large data applications, faster file transfer, Streaming multimedia and heavy duty suffering all become easy. Airtel Broadband is having 1,50,000 subscribers nationwide.

NEED OF THE RESEARCH

The Telecommunication Sector has today become one of the hot areas for marketers. Various upcoming features have enhanced the global competition in today's Telecommunication sector. Implementing new technologies, new features and considering the customers preferences are the important factors for the company's existence in the competitive market. So if the company wants to face the competition, it has to have the updated knowledge of the consumer tastes and preference. Our research is undertaken to study the Market Share of various Broadband services providing companies in Bangalore city and also to know the Marketing strategies adopted by these companies to beat the competition. Since selecting Broadband service requires high involvement and also because of its dynamic nature it is necessary to know the factors which influence the customer to go for particular companies service. So in this project this concept is highlighted as a sub objective.

WORLDVIEW ABOUT BROADBAND SERVICE

BROADBAND ACCESS SERVICE PRICING - HOW SERVICE PROVIDERS PRICE BROADBAND INTERNET ACCESS AROUND THE WORLD

How much does broadband access service cost around the world. What pricing models are used? Which pricing models are the most prevalent? Do pricing models vary by access technology or geographic region? Is broadband becoming less expensive? This provides up-to-date answers to these questions with an in-depth analysis of broadband access service pricing. As such, it is necessary reading for all broadband access service providers seeking an optimal pricing model for their company. All broadband service providers who seek to maximize customer acquisition and revenue through pricing. Using current data, this report identifies broadband access pricing by service provider by country, by technology, and by market segment. It includes an examination of pricing promotions, entry-level pricing plans, and non-recurring pricing. Additionally, it identifies major broadband access service pricing variables and models. Based on this data and the concise conclusions drawn from them, the service provider is able to select an optimal pricing plan.

FEATURES

- Up-to-Date, Latest Data on Broadband Access Service Pricing by Country and Major Service Provider
- Cross-National Pricing Data by Technology and Market Segment
- Identification of Major Broadband Access Service Pricing Variables and Models
- Recurring Versus Non-Recurring Pricing Options Identified
- Pricing Promotions and Entry-Level Pricing Plans
- Lowest, Current Broadband Pricing Levels Identified by Country

AIRTEL BROADBAND (DSL TECHNOLOGY)

Airtel Broadband is powered by DSL technology.

DSL provides blazing-fast, secure Internet access and can be delivered to both homes and to businesses. Delivered right through a regular telephone line, data rates can vary from 128Kb to 8Mb per second depending on the type and cost of the service. DSL can be delivered to both homes and to businesses. Digital Subscriber Line (DSL) technology provides instant Internet and network access at speeds up to 50 times faster than a 28.8Kbps modem on a standard analog phone line. There are no dial-up delays, no busy signals. What used to take minutes or hours to download will take just seconds or minutes.

DIGITAL SUBSCRIBER LINE

DSL is a high-speed broadband connection that is convenient, fast and capable of carrying very 'heavy' files over the Internet. Shop, Play games, download music, DSL allows you to enjoy your Internet experience, something, which ordinary dial-up connections cannot do. So, go ahead and unleash your high-speed access.

FEATURES AND BENEFITS OF DSL TECHNOLOGY

- ✓ You can surf the net as well as talk on the phone simultaneously. That's the special feature of Airtel Broadband.
- ✓ Amazingly quick, always-on connection.
- ✓ Dedicated bandwidth.
- ✓ No additional telephone bills for internet usage
- ✓ Ability to make phone calls abroad through the internet
- ✓ Talk while you surf
- ✓ Robust installation of underground cables
- ✓ Attractively priced and scalable usage plan options
- ✓ 24x7x365 customer support

TABLE 1: SHOWING THE NUMBER OF RESPONDENTS HAVING BROADBAND CONNECTIONS

YES	NO
67%	33%

The table no 1 indicates that 67% of respondents are having broad band connection in twin city.

TABLE 2: SHOWING THE MARKET SHARE OF THE VARIOUS BROADBAND SERVICE PROVIDERS

COMPANIES	PERCENTAGE
AIRTEL	35
BSNL	21
SATYAM	4
RELIANCE	4
TATA INDICOM	3

Table 2 Interpret that 35% of the market is covered by airtel and 21% is covered by bsnl, Reliance and Tata Indicom covered by 4 & 3 in twin city.

TABLE 3: SHOWING THE NUMBER OF YEARS THAT RESPONDENTS OWN THE SERVICE

YEARS	PERCENTAGE
<1	42%
1 TO 2	47%
2 TO 3	8%
>3	3%

Table no 3 indicate that 47% of the respondents are using broadband services since more than 1 year, and 3% of the respondents are using broadband services since less than 3 year.

TABLE 4: SHOWING THE EFFECT OF THE VARIOUS FACTORS, WHICH INSPIRE IN SELECTING PARTICULAR SERVICE

FACTORS	PERCENTAGE
COMPANY PERSONEL	10%
FRIENDS	22%
MEDIA	19%
SELF	49%

Table no 4 Interpret that 49% of respondents select a particular broadband service on their own.

TABLE 5: THE ATTRIBUTES THAT INFLUENCED CHOICE OF THE EXISTING SERVICE

ATTRIBUTES	PERCENTAGE
SERVICE	46
CONNECTIVITY	43
OFFERS	16
SPEED	54
TARIFF PLAN	5

Table no 5 indicate that Out of 100 respondents 54 were given preference to speed and 46 were for service while selecting broadband service.

TABLE NO 6: SHOWING THE USAGE RATE OF EXISTING BROADBAND SERVICE

USAGE (IN GB)	PERCENTAGE
4GB	3%
8GB	7%
25GB	15%
UNLIMITED	75%

Table no 6 Interpret that Out of 100 respondents 75% of the customers prefer unlimited data plan.

TABLE NO 7: SHOWING THE SATISFACTION LEVEL DUE TO SERVICE PROVIDED BY AIRTEL

REMARKS	PERCENTAGE
EXCELENT	22
GOOD	11
MODERATE	2
FARE	0
POOR	0

Table no 7. Interpret that respondents are 22% satisfied with the service provided by airtel.

TABLE NO 8: SHOWING THE SATISFACTION LEVEL DUE TO TARIFF PLAN PROVIDED BY AIRTEL

REMARKS	PERCENTAGE
EXCELENT	0
GOOD	8
MODERATE	25
FARE	2
POOR	0

Table no 8 indicate that 25% respondents said that the tariff plan of airtel is moderate

FINDINGS

- Out of 100 respondents 67 respondents are having Broad Band connection and 33 are not having connection in Twin city.
- Out of 100 respondent 35% of the market is covered by airtel and 21% is covered by bsnl in twin city.
- Out of 100 respondents 47% of the respondents are using broadband services since more than 1 year and 3% of the respondents are using broadband services since less than 3 year.
- Out of 100 respondents 49% of respondents select a particular broadband services on their own and 22% through friends, 19% through media, 10% through company persons,
- Out of 100 respondents 54 were given preference to speed and 46 were for service while selecting broadband service.
- Out of 100 respondents 68% of the customers prefer unlimited plan, 15% are 25 GB, 13% are 8 GB, 4% are 4 GB.usage rate is used by the respondents.
- More number of respondents consider speed, service and connectivity as a prime most factor while selecting the existing broadband service
- Out of 100 respondents 25% respondents said that the tariff plan of airtel is moderate

RECOMMENDATIONS

- Create awareness for the Airtel Broad Band service through Medias like local channel, News paper etc.
- 25 of the existing customers are unhappy with the frequent change of Tariff plans so company has to take measures to avoid such frequent changes and provide a single plan, which can delight the customers.
- By the survey it is been noted that only 10% of respondents were inspired by Company personnel while selecting the service providers. So effective training can be given to the Company personnel in convincing capabilities.
- The potential buyers prefer BSNL, so Airtel has to focus such respondents and it is necessary to change their preference by providing better offers (Now a day's BSNL is introduce 2 months free scheme) so company has to provide the different than BSNL to Attract the customers.
- Give information about new schemes or offer which company introduced.

CONCLUSION

Here I conclude that the willingness of owning the Broadband service is rapidly increasing in twin City. Both BSNL and AirTel Broadband services have succeeded in Creating Brand images for themselves in the marketing overall customer satisfaction, BSNL leads while Airtel follows. Reliance needs to really perform better to face the Competition. Even though Satyam has succeeded in attracting business in Cyber Cafes, it is not performing up to the mark in other fields like Home Plans and Corporate Plans.AirTel Broadband services are coming up with new offers to attract the existing as well as potential buyers. Bharti Enterprises has

been at the forefront of technology and has revolutionized telecommunications with its world-class products and services. Established in 1976, Bharti has been a pioneering force in the telecom sector with many firsts and innovations to its credit. Bharti provides a range of telecom services, which include Cellular, Basic, Internet and National Long Distance. DSL provides blazing-fast, secure Internet access and can be delivered to both homes and to businesses. Delivered right through a regular telephone line, data rates can vary from 128Kb to 8Mb per second depending on the type and cost of the service. DSL can be delivered to both homes and to businesses.

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AN EFFECTIVE STUDY ON CAUSES AND PREVENTIONS OF CURRENCY FLUCTUATION

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ABSTRACT

Firms are exposed to risk in situations where their holdings can change in value due to unexpected changes in business conditions. There are different types of risks that firms are exposed to in their day-to-day operations. One such risk is currency risk, also known as foreign exchange risk. A firm has foreign currency exposure when its income flows and /or capital flows are affected by unanticipated changes in foreign exchange rates. Foreign exchange risk is mainly faced by exporters and importers when their foreign currency receipts or payments might either become worthless or cost more in terms of the domestic currency, between the time the goods are sold or purchased and the time when the payment is received or made. Apart from exporters and importers, others who face the risk of exchange rate fluctuations include international investors, international borrowers and lenders, banks, financial institutions, individuals who maintain foreign currency deposit accounts, and travelers.

KEYWORDS

Exchange, Fluctuation, currency, appreciation, depreciation, inflation.

INTRODUCTION

We all know that each country has its own currency (except in Europe where a group of countries have a common currency). The rate at which we can convert one currency into another currency is known as conversion rate between those two currencies. Therefore, if I have Rs 1,000/- with me and I wish to get US \$ by surrendering the above INR, I need to go to bank or an authorized currency dealers for this transaction. They will convert my INR into US \$ at that day's rate. Thus, it becomes clear that there is a foreign exchange market where you can buy one currency in lieu of another currency. The rate at which this happens is called conversion rate. This rate changes on a daily basis depending on the demand and supply of each currency.

WHAT IS MEANT BY RUPEE DEPRECIATION AND RUPEE APPRECIATION?

However, most of us, tend to confuse when we read that there is a Rupee Depreciation as it has moved from Rs60 per US\$ to Rs65 per US\$. A look at this change indicates value has increased but report reads that INR has depreciated. Undoubtedly it is confusing. Let us try to remove this confusion.

Now we will try to understand what appreciation is and depreciation refers to when we read such news on daily basis. Let us assume that in case, you go to a bank and asks the bank that you intend to buy US\$100, please tell me what is the amount of INR you have to pay. Bank informs you that you need to pay Rs 6017/-. This means you can buy US\$ @ Rs.60.17/- per dollar. This is the selling rate of the said bank for US \$ for that day.

Now after one month, you go to bank and again ask the bank that you wish to buy US\$ 100, and bank tells you that this time you have to pay Rs.6, 500/-.. This means you have pay more to receive the same amount of US \$, i.e., US\$ @ Rs.65/- per dollar. This means the local currency has depreciated.

This will be known as Depreciation of Indian Rupee. In the above example, it is clear that value of INR has gone when compared to US\$.

On the other hand, if the rate quoted by bank on second occasion is say Rs. 5380/-. It will be considered as appreciation of INR as this time you have to pay less amount to buy the same amount of US\$.

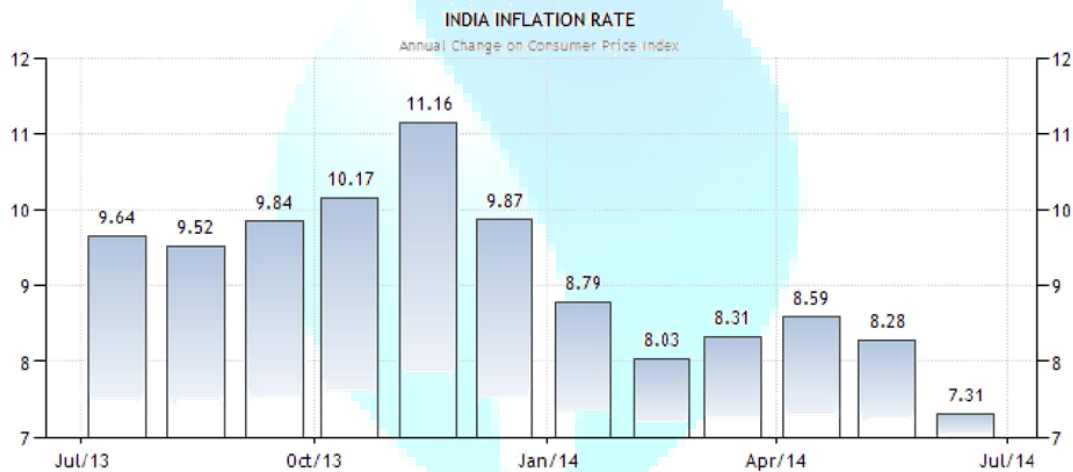
WHAT IS THE IMPACT OF DEPRECIATION AND APPRECIATION OF RUPEE ON INDIAN LIVING IN INDIA? WE ARE ASSUMING THAT INITIALLY THE EXCHANGE RATE OF US\$-INR IS RS.50/-:

	If Rupee DEPRECIATES (For example, when US\$-INR moves from Rs. 50/- to Rs. 55/-)	If Rupee APPRECIATES (For example, when US\$-INR moves from Rs. 50/- to Rs 47/-)
Effect on Importers	Imports become costly as for each USD we have to pay Rs. 5/- more IMPORTS BECOME COSTLIER	Imports become cheaper as for each US we have to pay Rs3 less IMPORTS BECOME CHEAPER
Effect on Exporters	Exporters will have higher revenue. For exports of each Dollar, the exporter will get Rs 5 higher EXPORTERS EARN MORE	Exporters will earn lower revenue. For exports of each dollar, now the exporter will get Rs 3 less. EXPORTERS EARN LESS
Indian Who Wish to Go on Holidays Abroad	For each dollar taken abroad for spending, the traveler has to pay Rs 5 more and thus his trip will become costlier TRIP IS COSTLIER	For each dollar he intends to take abroad for spending, the traveler has to pay Rs. 3/-less and thus his trip will become cheaper. TRIP IS CHEAPER

WHAT ARE THE MAJOR FUNDAMENTAL FACTORS THAT AFFECT CURRENCY MOVEMENTS?

- **Trade Balance** - This refers to imports and exports, and is probably the most important determinant of a currency's value. When imports are greater than exports, you have a trade deficit. When exports are greater than imports, you have a surplus. A shift in the trade balance between two countries tends to weaken the currency of the country with greater deficit.
- **Wealth** - Wealth is a country's reserves, in the form of gold, cash, natural resources, and so on. Basically any factor that affects a country's ability to repay loans, finance imports, and affect investments impacts the market's perception of its currency and the currency's value.
- **Internal budget deficit or surplus** - A country running a current account deficit has, on balance, a weaker currency than one that runs a budget surplus. This is tricky, however, in that the direction of the surplus or deficit affects perceptions and currency valuations too.
- **Interest Rates** - Funds move around the world electronically in response to changes in short-term interest rates. If three-month interest rates in Germany are running 1% less than three-month rates in the United States, then all other things being equal, "hot money" flows out of Euro into the Dollar.
- **Inflation** - Inflation in each country, and inflationary expectations, affect currency values. What good is a 10% short-term return in some country if inflation is running 15%?
- **Political factors** - Taxes, stability, whatever affects the international trade of a country or the perception of "soundness" of the currency affect its valuation.

FIG. 1



SOURCE: WWW.TRADINGECONOMICS.COM | MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION (MOSPI), INDIA

Actual	Previous	Highest	Lowest	Dates	Unit
7.31	8.28	11.16	7.31	2012-2014	Percent

Historically, the whole sale price index (WPI) has been the main measure of inflation in India. However, in 2013, the governor of The Reserve Bank of India Raghuram Rajan had announced that the consumer price index is a better measure of inflation. This page provides - India Inflation Rate - actual values, historical data, forecast, chart, statistics, economic calendar and news.

MAJOR FACTORS THAT PREVENTION OF CURRENCY FLUCTUATION

- **Balance of payment:** A country with a balance of payments surplus is probably exporting much of its production. In addition, its government and residents are savers, providing enough capital to finance this production and even lend to other countries. This is a great scenario to boost economic growth, in the short term. However, in the long term, this country needs to encourage its residents to spend more and build a larger domestic market. This will keep it from being dependent on export-driven growth. It will also allow its companies to refine goods and services, using the domestic population as a giant test market. Finally, a large domestic market can also inoculate the country from the volatility of exchange rate fluctuations.
- **FDI:** FDI refers to the flow of capital between countries. According to the United Nations Conference for Trade and Development (UNCTAD), FDI is 'investment made to acquire lasting interest in enterprises operating outside of the economy of the investor.'* A single flow of capital between two countries is described as outward for the investing country and inward for the recipient country. FDI is undertaken by both private sector firms and governments.
- **Generally speaking,** given their relatively high interest rates compared with that of the developed market economies, emerging economies are the destination of hot money. Although the emerging market countries welcome capital inflows such as foreign direct investment, because of hot money's negative effects on the economy, they are instituting policies to stop "hot money" from coming into their country in order to eliminate the negative consequences.
- **Tourism Development:** Tourism Development is one of the major factors to prevent currency fluctuation while attract tourist from outside the border of the country to get foreign currency reserve.

- RBI Intervention: When there is too much volatility in the rupee-dollar rates, the RBI prevents the rates from going out of control to protect the domestic economy. The RBI does this by buying dollars when rupee appreciates too much and by selling dollars when the rupee depreciates significantly.
- Exchange Rate Control: Another currency hedging tool to protect you against fluctuating exchange rates is a 'Forward Contract'. A Forward Contract is a risk management tool that helps you manage your currency requirements. A Forward Contract allows you to agree an exchange rate today to buy or sell currency at a date in the future. A Forward Contract offers many benefits in the exchange currency markets. Payments or receivables in the future can be priced in your currency with certainty and so you can accurately budget and forecast. A Forward Contract is especially attractive if the prevailing exchange rate is in your favor as you get the added benefit of this. Indeed many customers will buy forward when the rate is good.

CONCLUSION

Prevention of Currency fluctuation is essential for growing the economical position of the country. If Currency fluctuation not to be prevented it effects to increase country inflation then the GDP and National Income will be down fall. Thus the Government should take immediate action to prevent Currency fluctuation.

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AN EMPIRICAL STUDY ON STAY INTERVIEW: A SPECIAL EMPHASIS ON WORKING ENVIRONMENT CASE OF ABC HOTEL HUBLI

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ABSTRACT

The study was conducted in ABC Hotel Hubli one of the finest luxury property for global business corporate who prefer a comprehensive business class as well leisure hotel with all the comforts of home, which is spread over nearly 10 acres launched by DRN Hospitalities Pvt. Ltd is all set to redefine hospitality in the heartland of Karnataka. The purpose of this paper is to identify the attrition rate, the factors reducing employee turnover and to explore the impact of retention strategies on employees. The Objectives of the research are to determine the employee turnover at ABC Hotel, to identify the facilitating factors and hindering factors that makes employee to perform better in organization, To study the impact of Career growth and Development, Relationship between superiors on Working environment and to suggest the intervention regarding improvements in retention strategy at ABC Hotel. The research was carried out in three phases. Phases one we were trying to identify the attrition rate for the month October to May. Phase two was face to face interaction with all the employees in order to understand the facilitating and inhibiting factors for the employees. Stay interview was conducted for 101 employees; with stratified random sampling. Phase three was all about designing and administering questionnaire to understand the impact of Career growth and development on Culture of the organistaion. The results of the research revealed that Better Career Opportunity as well as Relationship between the superiors plays an important role in enhancing the working environment of the ABC Hotel.

JEL CODE

M00

KEYWORDS

Career growth and Development, Facilitators, Inhibiting factors, Exit Interview, Job enrichment, Job rotation, Recreational Facilities.

INTRODUCTION

During the past decade, employee turnover has become a very serious problem for organizations. Managing retention & keeping the turnover rate below target & including norms is one of the most challenging issues facing business. All indications point toward the issue compounding in the future and even as economic time change, turnover will continue to be an important issue for most job groups. The causes of turnover are not adequately identified & solutions are often not matched with the causes, so the fail. Preventive measures are either not in place or do not target the issue properly, and therefore have little or no effect, and a method for measuring progress & identifying a monetary value (ROI) on retention does not exist in most organizations. Managing employee retention is a practical guide for manager to retain their talented employees. It shows how to manage & monitor turnover and how to develop the ROI of keeping their talent using innovative retention program.

Employees are the most important and valuable assets of an organization. Organizations today are doing their best to hold on to their employees. Retaining them is as important as hiring them in the first place. Retention is the next challenge after hiring the employees. Retention is important because to make good people stick in the organization.

Employees today are different. They are not the ones who don't have good opportunities in hand. As soon as they feel dissatisfied with the current employer or the job, they switch over to the next job. It is the responsibility of the employer to retain their best employees.

"Employee retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time or until the completion of the project. Employee retention is beneficial for the organization as they'll as the employee". "Employee retention refers to policies and practices companies use to prevent valuable employees from leaving their jobs"

KEY AREAS IN EMPLOYEE RETENTION

1. **COMPENSATION:** Basic wage, House rent allowance, Dearness allowance, and City compensatory allowance.
2. **ENVIRONMENT:** Types of environment the employee needs in an organization: Learning environment, Supportive environment, Work environment.
3. **GROWTH:** Growth and Career Growth and development are the integral part of every individual's career. If an employee can not foresee his path of career development in his current organization, there are chances that he'll leave the organization as soon as he gets an opportunity. The important factors in employee growth that an employee looks for himself are: Work profile, Personal growth and dreams, Training and development
4. **RELATIONSHIP -** Relationship with the immediate manager, Relationship with colleagues, Induce loyalty.
5. **SUPPORT:** Employers can support their employees in a number of ways as follows: By providing feedback, By giving recognition and rewards, By counselling them, By providing emotional support.

REVIEW OF LITERATURE

The exploration of literature regarding retention yielded several dimension of work by researchers. According to Walker and Miller retention is a term given to keeping employees jumping from ship (2010). Retention is relative concept so it must be studied along with quitting process (Maertz & Campion, 1998). Traditionally factors propping up turnover are job satisfaction (Holdsworth & Cartwright, 2003), organizational commitment or psychological contract, career expectations, work life balance, lack of training and development (Tutuncu & Kozak, 2007; Carbery *et al.*, 2003; Davidson *et al.*, 2010) peer and supervisor relationship (Graen, Dansereau, & Minami, 1972) cultural context (Sheridan, 1992), rewards (Hansen, Smith, & Hansen, 2002), seasonality of business, and nature of jobs (i.e. part time, casual, or seasonal) (Hartman, & Yrle, 1996; Deery, & Shaw, 1997; Ladkin, & Juwaheer, 2000; McCabe & Savery, 2007; Willie, Jayawardena, & Laver, 2008). Control over these factors can save this "labor intensive hospitality industry" (Birder, 2002; Brien 2004; Chalkiti, & Sigala, 2009) from bearing high cost of turnover (Davidson *et al.*, 2010). Lashley and Chaplain (1999), claims "labor turnover is not only a significant tangible dollar cost but also intangible cost, with loss of skills, inefficiency and replacement cost". In addition to this 'retention' and 'turnover' is strongly related to good will and repute of organization as potential employer. Knox and Walsh (2005) suggest in a research conducted on hotel industry of UK that hotel size is a factor that reduces turnover because of adoption of HRM practices (Lockyer, & Scholarios, 2004). In cultural context of Faisalabad, human resource is often considered as cost instead of asset. Staff must be treated as human with feelings, aspirations, and self-esteem, their dignity may not be invaded and they must not be considered as cost or burden instead of asset (Lucas & Deery, 2004; Abeysekera, 2006). In the theory of Human Capital given by Becker in 1964, he proposes that individual's skills, experience, and knowledge bring economic value to the organization. This serious problem of turnover is underestimated many a times. Increased turnover results in: increased cost, stress, disenchantment with industry, loss of business and productivity, and wastage of trained and experienced employees (O'Leary & Deegan, 2005; Davidson, *et al.*, 2009). Babak *et al.*, (2010) found in their study that under influence of global business culture now employer do understand the cost of losing employee even in a country where high level of unemployment prevails and they (employers) are using different tactics like decentralization and attractive rewards to overcome employee turnover. A study also showed that turnover in UK is less than America and approximately non-existent in hotel 9 *European Journal of Economics, Finance and Administrative Sciences Issue 29 (2011)* industry of Singapore because of an employment (Holtom, Mitchell, Lee, & Eberley, 2008). This reminds of the work done by March and Simon (1958) Theory of organizational equilibrium; describing two important factors one is job satisfaction and other is availability of opportunities in market. Employees with higher satisfaction and lack of alternatives are less mobile. Employee retention is also influenced by psychological, behavioral, and demographic factors (Hausknecht, 2008). From the point of view of Susskind *et al.*, (2000) turnover problem should be dealt with carefully crafted strategies concentrating human resource problems. Areas like career progression, team support (socialization), comfortable environment, communication, etc, if administered properly then can enhance employee retention and can save tangible and intangible cost of organization (Davidson, *et al.*, 2010; Chalkiti, & Sigala, 2009). Proactive approach of employer regarding retention cultivates employee satisfaction, enhanced goodwill and germinates trust that ultimately leads to productivity (Willie, *et al.*, 2008; Earle 2003).

NEED OF THE STUDY

With the resurgence of hotel trade off in Hubli and entry of big established players in hotel industry in the Hubli market, the competitive scenario is becoming more challenging day by day. In this context the hotels should focus more on the resources that gives sustainable competitive advantage (more relevant for service industry like hotels). Amongst various resources the Human Resource tops the list of sustainable competitive advantage. As it is found that the attrition rate at ABC Hotel is far from the healthy rate hence the study was undertaken to find out the strategies that would help ABC Hotel to improvise the working environment and hence achieve healthy rate of attrition

STATEMENT OF THE PROBLEM

Inadequate working environment leading to retention challenges of ABC Hotel, Hubli.

OBJECTIVES

1. To determine the employee turnover at ABC Hotel.
2. To identify the facilitating factors and hindering factors that makes employee to perform better in organization.
3. To study the impact of Career growth and Development on Working environment
4. To study the Relationship between superiors and workers role on Working environment
5. To suggest the intervention regarding improvements in working environment at ABC Hotel

HYPOTHESES

H1: There is significant relationship between Career growth and Development at ABC Hotel with its Working Environment.

H2: There is significant relationship between Supervisors support at ABC Hotel with its Working Environment.

RESEARCH METHODOLOGY

The study was conducted in ABC Hotel Hubli one of the finest luxury property for global business corporate who prefer a comprehensive business class as well leisure hotel with all the comforts of home, which is spread over nearly 10 acres launched by DRN Hospitalities Pvt. Ltd is all set to redefine hospitality in the heartland of Karnataka.

Stay Interview was conducted in order to identify the factors that motivate employees to stay in the organisation as well as the hindering factors that demotivate employees and affect their performance. A sample size of 101 respondents was selected through Stratified Convenience sampling for true representation. Descriptive and Exploratory Research was conducted to determine the reasons for attrition across departments. Primary Data includes Face to face interaction with all the employees, The information is collected from personal visit to company, Direct Observation and Discussion with concerned Person. Secondary Data are those data which is obtained from the help of company's annual reports welfare journals text books, questionnaire keeping in the view the nature of information and data that has been collected from the organization manual files, browsing internet. Phases one we were trying to identify the attrition rate for the month October to May. Phase two was face to face interaction with all the employees in order to understand the facilitating and inhibiting factors for the employees. Stay interview was conducted for 101 employees; with stratified random sampling. Phase three was all about designing and administering questionnaire to understand the impact of Career growth and development on Culture of the organistaion. The results of the research revealed that Better Career Opportunity as well as Relationship between the superiors plays an important role in enhancing the working environment of the ABC Hotel. Likert scale was used to rate the practices that enable the employee to perform better. The attrition rate of the organization as well as the attrition rate of every department was calculated using the formula,

Attrition = (Number of employees left the hotel / the total number of employees in hotel) * 100.

Descriptive statistics like frequency distribution, mean and standard deviation. Regression analysis and Chi square test was applied to check the relationship and the significance of independent variables with working environment (dependent variable) by processing the data using SPSS.

RESULTS AND DISCUSSIONS

TABLE 1: CALCULATION OF THE ATTRITION RATE FROM OCTOBER AT ABC HOTEL

Month	Attrition rate of ABC Hotel	Attrition rate of Front Office	Attrition rate of Housekeeping	Attrition of Admin	Attrition rate of Maintenance	Attrition rate of Production	Attrition of Service	Attrition of Spa	Attrition of UNUK
October	8.9	9.0	0	0	0	11.1	4.16	0	0
November	5.7	6.2	6.6	12.5	0	6.6	6.25	0	0
December	11.4	25	6.6	0	7.1	0	22.8	0	0
January	7.0	0	10.7	11.1	0	4.8	8.3	0	14.8
February	7.4	17.6	3.8	0	0	11.6	7.5	0	0
March	8.8	11.7	3.4	0	0	15.2	17.5	0	9.5
April	11.2	5.5	16.6	0	0	19.0	11.9	28.5	0
May	4.7	0	0	0	0	0	0	0	0
Average	8.1	13.2	6.8	3.37	1.0	9.7	11.2	4.08	3.4

Attrition rate calculated in presented in Table 1, which indicates the attrition rate of entire hotel as well as every departments. The above table shows fluctuating attrition rate across the departments. Front office as well as Service department has a very high attrition compared to other departments in the Hotel. The next level of research is to determine the reasons for the attrition level. Stay interview was organized for all the 101 employees to determine the factors that were motivating and demotivating employees to stay in the organization. Fifteen minutes interview was conducted, where in the employees were asked to share their ideas, views and comprehension regarding Working environment, prerequisites to perform the job better, Job related training, plan before you starts your work, Career growth and Development, Flexible work hours, support from supervisors and coworkers, cafeteria facilities, appropriate salary, recognition, stress at job if any, Role of Human Resource Department, and their perception towards Human Resource practices.

TABLE 2: IMPLICATIONS OF STAY INTERVIEW

Facilitating Factors	Inhibiting Factors
1. Happy with the salary	1. System and procedure are not yet developed.
2. Designation given	2. Food Quality that is provided to the employees.
3. Working environment	3. Location.
4. Accommodation to the employees.	4. Unskilled Staff.
5. Management	5. Senior people are dominating.
6. HR manager	6. Lower level employees are not respected.
7. Architecture of the Hotel	7. More roles and responsibilities to the HOD.
8. Effective team members	8. Difficulties in man management by the HOD.
9. Maintenance and cleanliness	9. Low staffing.
	10. Difficulty in hiring professional staff.
	11. Working hours

TABLE 3: DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR SOCIO – ECONOMIC CHARACTERISTICS

Parameters	Frequency	Percentage
Age		
18-25	34	33.7
26-35	41	40.6
36-45	19	18.8
46-55	4	4.0
Above 55	3	3.0
Gender		
Male	82	81.2
Female	19	18.8
Marital Status		
Married	51	50.5
Unmarried	50	49.5
Department		
Front Office	10	9.9
House Keeping	21	20.8
F and B pro	18	17.8
F and B service	17	16.8
Maintenance	8	7.9
UNUK	16	15.8
Admin	11	10.9
Qualification		
Undergraduate	31	30.7
Graduate	18	17.8

From the table we can observe that 81% were male and 18% were female in which 41% of them were aged between 26-35 years and 34% of employees were aged between 18-25 years. Among the entire sample 51% of employees were married and 50% were unmarried. Of which 31 employees were undergraduate and 18 of them were Post graduate (Hotel management) and many employees were uneducated. The sample was more form Housekeeping department i.e. 20% and followed by F&B production, F&B service, UNUK, Admin and so on.

TABLE 4: DISTRIBUTION OF THE RESPONDENTS ACCORDING TO THEIR OPINION ABOUT THE FOLLOWING STATEMENTS

Sl.no	STATEMENTS	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1.	Do you get the necessary equipment to carry out your job?	34.7	58.4	4	2	1
2.	Do you get job related training and plan before and during the work?	18.8	54.5	7.9	14.9	4
3.	Do you consider the company as a good place for career growth and development?	43.6	40.6	14.9	0	1
4.	Are you happy with the work and working environment?	35.6	58.4	5	0	1
5.	Do you have flexible working hours?	38.6	48.5	5	2	5.9
6.	Do you have Support from supervisors and coworkers to carry out your job?	53.5	40.6	5	0	1
7.	Are you happy with the cafeteria facility provided at ABC Hotel?	11.9	23.8	27.7	26.7	9.9
8.	Do you get appropriate pay which is relevant to your job?	5	49.5	13.9	24.8	6.9
9.	Do you get on the spot appreciation from your supervisor for your good work?	12.9	47.5	28.7	5.9	5
10.	Is your working hours or work load is more than you can handle?	11.9	35.6	25.7	18.8	7.9
11.	Is your work affecting your personal/daily life?	13.9	16.8	29.7	24.8	14.9
12.	Is HR department helping you to carry out your work happily with HR policies and HR activities?	15.8	54.5	24.8	2	3
13.	Convenience in approaching location of organization (ABC Hotel)?	24.8	53.5	9.9	7.9	4
14.	Is ABC Hotel as the brand making you to stay in this organisation?	22.8	57.4	11.9	5	3

Few variables were studied to determine the level of impact they have on retention of employees in the ABC Hotel. The most effective variables that motivate an employee are the Career growth and Development, Working Hours, Work itself, working environment, Work Life balance, Support from supervisors as well as coworkers. The next preference given by the employees that enhances their performance are Prerequisites to do the job, Spot appreciation, Image of the Hotel, Role of Human Resource Department, flexible working hours and Plan before work. The Inhibiting factors that have to be comparatively improved at ABC Hotel are Job related Training, Cafeteria facilities, and Pay scale. The parameters where in more focus is to be given are Cafeteria, Spot Appreciation, Work Load, Working Hours as the employees are not very clear that these facilities / practices are provided up to the expectations or requirements.

TABLE 5: MEAN AND STD. DEV. OF THE FOLLOWING STATEMENTS

	Mean	Std. Deviation
1. Do you get the necessary equipment to carry out your job?	1.7624	.70920
2. Do you get job related training and plan before and during the work?	2.3069	1.06529
3. Do you consider the company as a good place for career growth and development?	1.7426	.78299
4. Are you happy with the work and working environment?	1.7228	.64990
5. Do you have flexible working hours?	1.8812	1.02262
6. Do you have support from supervisor and coworkers to carry out your job?	1.5446	.68593
7. Are you happy with the cafeteria facility provided in ABC Hotel?	2.9901	1.17894
8. Do you get appropriate pay which is relevant to your job?	2.7921	1.08919
9. Do you get on the spot appreciation from your supervisor for your good work?	2.4257	.96277
10. Is your work hours and work load is more than you can handle?	2.7525	1.13495
11. Is your work affecting your personal/daily life?	3.0990	1.25304
12. Is HR department helping you to carry out your work happily with HR policies and HR activities?	2.2178	.84385
13. Convenience in approaching location of organisation?	2.1287	1.00661
14. Is ABC Hotel as the brand making you to stay in this organisation?	2.0792	.90203
15. How do you rate ABC Hotel to the other competitor?	1.2673	.44477

This table indicates the mean and std deviation of the question asked and measured using likert scale, in relation to working environment. The mean and std deviation for all these question ranges from 1.26 to 3.09 and 0.4 to 1.25 respectively which indicates that there is less variation among the responses and hence validates the data.

TABLE 6: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.723 ^a	.523	.518	.45123	.523	108.441	1	99	.000
2	.767 ^b	.588	.579	.42157	.065	15.423	1	98	.000

a. Predictors: (Constant), 3. Do you consider the company as a good place for career growth and development?

b. Predictors: (Constant), 3. Do you consider the company as a good place for career growth and development?, 6. Do you have support from supervisor and coworkers to carry out your job?

c. Dependent Variable: 4. Are you happy with the work and working environment?

TABLE 7: ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.080	1	22.080	108.441	.000 ^a
	Residual	20.158	99	.204		
	Total	42.238	100			
2	Regression	24.821	2	12.410	69.831	.000 ^b
	Residual	17.417	98	.178		
	Total	42.238	100			

a. Predictors: (Constant), 3. Do you consider the company as a good place for career growth and development?

b. Predictors: (Constant), 3. Do you consider the company as a good place for career growth and development?, 6. Do you have support from supervisor and coworkers to carry out your job?

c. Dependent Variable: 4. Are you happy with the work and working environment?

TABLE 8: REGRESSION ANALYSIS

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF	
1	(Constant)	.677	.110		6.154	.000	.459	.895					
	3.Do you consider the company as a good place for career growth and development?	.600	.058	.723	10.414	.000	.486	.714	.723	.723	.723	1.000	1.000
2	(Constant)	.368	.129		2.847	.005	.112	.625					
	3.Do you consider the company as a good place for career growth and development?	.559	.055	.674	10.202	.000	.451	.668	.723	.718	.662	.964	1.037
	6. Do you have support from supervisor and coworkers to carry out your job?	.246	.063	.259	3.927	.000	.122	.370	.387	.369	.255	.964	1.037

a. Dependent Variable: 4. Are you happy with the work and working environment?

An initial look identifies the key elements of analysis. Two models were tested after meeting the entry requirement of probability of F value established between Entry value of .10 & Removal value of .20: Model one with career growth and development as predictor variable of work & work environment at Dennison's. This predictor (independent) variable is explaining 52.3 % (R square = .523) of variance in criterion (Dependent variable).Where as model two with inclusion of supervisor & coworker support variable, is explaining around 58.8%(R square =.588) of variance in criterion variable i.e work & work environment.

The Beta values indicate the relative influence of the entered variables, i.e. career growth & development has greatest inference on work and work environment at ABC Hotel (Beta = .647), followed by supervisor & coworker support at ABC Hotel(Beta = .259).

This output also demonstrates the changes in the variables from step to step as new variables are entered into the regression equation. Referring to table 6 we can find that the multiple R (The multiple correlation between the dependent variable (work & working environment) and the two variable in the regression equation i.e. Career growth & development & supervisor & coworker support, along with R square (the portion of variance accounted for by the independent variables i.e. Model1 – 52.3%, Model 2 =58.8 %),and the adjusted R (Population estimate - Model 1= .518, Model 2=.579), all increases in value with addition of new variable .Further the std error (the std deviation of expected value of work & work environment) is shrinking as new variable is added to the equation (Model 1- .451, Model 2-.421),followed by R square change (Subtraction of R square for model 1 minus model 2 i.e. 0.588-0.523 =0.65) which indicates the inclusion of second variable i.e. supervisor & coworker support explains an additional 6.5% of the variance.

The significance F value is indicating that the likelihood of the given correlation between independent & dependent occurring by chance is less than 1 in 10,000 ,hence f<.000 for both model 1 & 2.

The regression equation therefore can be written as follows:

$$\text{Work \& Working environment at ABC Hotel (Predicted)} = .368 + .559(\text{Career growth \& development}) + .246(\text{Supervisor \& coworker support})$$

FINDINGS

Table 1 indicates that amongst the various departments functioning in ABC Hotel Front office and Service are more vulnerable to the attrition rate (13.2 and 11.2 respectively). It is clear that the hypothesis 1 and 2 are accepted signifies that there is relatively good relation between Career growth and Development and Supervisors and coworkers support with the work and working environment. Table 4 it's quite apparent that the factors the most effective variables that motivate an employee are the Career growth and Development, Working Hours, Work itself, working environment, Work Life balance, Support from supervisors as well as coworkers. The next preference given by the employees that enhances their performance are Prerequisites to do the job, Spot appreciation, Image of the Hotel, Role of Human Resource Department, flexible working hours and Plan before work. Table 2 statistically proves that the inhibiting factors also revolve more around senior people dominating, lower level employees not respected, difficulties in man management and so on.

RECOMMENDATIONS AND SUGGESTIONS

Employee satisfaction is very imperative in service industry as it is a decisive factor for ultimate customer experience. Dissatisfied employees may not be willing to commit themselves for the organization. The satisfaction of the employees is highly influenced by the working environment which in turn as per this study is affected by career growth opportunities.To achieve this HR department of this hotel should work on crafting clear career path for different employees at different levels. A general organization study done revealed that the organization structure does not pave the way for better career growth within the organization.HR intervention is required in terms of job enrichment, job rotation, robust appraisal system for timely promotion and above all a better orientation programs to orient new employees on career opportunities and ways to tap the same.

Proper canteen facilities, recreational activities will also be appreciable. Exit interviews should be done to know the root cause for the turnover intentions.

CONCLUSIONS

The setting of hypothesis and testing the same has statistically proven the role of career opportunities & coworker support in creating good working environment. The amount of variance explained by this to predictable variable is quite significant i.e 58%.This findings will definitely aid the hotel to take informed decision to improvise the situation by bringing down the attrition in the run of achieving sustainable competitive advantage

SCOPE FOR FURTHER RESEARCH

The Research was restricted only to ABC Hotel, with the sample of 101 employees; the study could be researched on a larger sample size considering few more hotels per se. Few more retention strategies could be determined with the exhaustive questionnaire.

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A CRITICAL APPRAISAL OF NIGERIAN CABOTAGE POLICY, REGULATIONAL FRAMEWORK, EMPLOYMENT PROSPECTS AND WAY FORWARD

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ABSTRACT

This paper review the characteristics, nature, trends and structural overview of the Nigerian Cabotage policy regulational framework, employment prospects and wayforward of an act that was established to protect the local shipowner and restrict the carriage of local generated cargo to them aimed at eliminating the long-aged problem of overstretched foreign domination in our shipping industry. It was perceived that the Cabotage Act 2003 was conceived in good faith and aimed at awakening indigenous ship operation and ownership in the maritime business environment. It is very unfortunate therefore that, even up till now, eleven (11) years after, the problem of foreign domination still persists. Hence, the law is operational on paper but not in practice, and the condition of indigenous ship-owners seem worse than it was before the cabotage regime. Therefore, effort shall be made to critically x-ray the present operational modalities of cabotage in Nigeria and its foreign dominational effects on port's industry and national economy.

KEYWORDS

Cabotage Act 2003, Regulational Framework, Employment Prospect, Way forward, Ship-owners, Foreign domination and Maritime/Shipping Industry.

INTRODUCTION

Cabotage means inland trade along coastal waters. It is the trade along a country's coast; the transport of goods or passengers from port to port in the same country. It is expected that, the vessels so moved on coastal waters are built, owned, registered and manned by the nationals of that country. It also involves the provision of transport services between two points within one and the same nation's state. But it is very obvious that, the coastal trade is guided by international conventions and rules which govern general maritime operations (Ndikom, 2011). It should be noted that, the Nigerian cabotage law is vessel-based one, which, therefore, is similar to what operates in most countries of the world, including the United States, Brazil and Malaysia. Cabotage law is principally a protective law that safeguards local shipping interest in the carriage of locally generated cargo, mostly dry cargo, which are of agricultural extraction. The law restricts the participation foreign shipping companies in the carriage of locally generated cargo (Ndikom, 2011). Obviously, the functioning and operational modalities of cabotage in the United States are quite distinct from the Nigerian cabotage law concept. Really, taking due account of inadequate indigenous capacity, the Cabotage Act, 2003 advocates a liberal policy, using the internationally recognised waiver system. The waiver principle as provided by the Act, is based on non-availability of Nigerian-owned, crewed and built vessels. The objective of the Cabotage Act, is primarily to reserve commercial transport of goods and services within Nigerian Coastal and Inland waters to vessels flying the Nigerian flag and owned by Nigerian citizens. The law also has the objective of securing priority for Nigerian nationals, companies, seafarers, local fishermen, vessels and dockyards in providing services for the nation's inland water shipping (Ihenacho, 2005). This Act seeks to restrict the use of foreign vessels in domestic coastal trade, to develop indigenous tonnage and establish a cabotage – vessel financing fund. Moreso, the law is significantly meant to transfer a higher technological initiative from foreign operators to indigenous owners. It therefore means that, for such a transfer of technology to happen, the new shipping environment must provide enough room to accommodate them (foreigners) for a long time and that local stakeholders should be able and ready to learn the technical skills which these foreigners would transfer at the community and local operating levels. This is fundamental to grassroots economic development and nation building. The restriction of such lucrative trade to local and community operations is in the process of lifting locally generated dry cargo through this Act. This gives the latitude for growth and development at the national level and the transformation of grassroots economy (Ihenacho, 2005).

Over the years, there was clear evidence that the operational modalities of the shipping industry was bedeviled by over domination of foreign shipping companies and their attendant allied interests in the carriage of local generated cargo to the detriments of our local shipping company, stakeholders, which was not in the best for the operations of a developing economy like Nigeria to a large extent (Ndikom, 2011). The Cabotage Act was conceived in good faith and aimed at awakening indigenous ship operation interests and vessels ownership in the maritime business environment. The applause that greeted the pronouncement of a Cabotage law in Nigeria in 2004 was overwhelming, as it was seen as a welcome development and an assured hope of redressing the ills associated with foreign domination in the industry. It is very unfortunate, therefore, that even up till now, eleven (11) years after, the problem of foreign domination still persist. Hence, the law is operational on paper, but not in practice and the condition of indigenous shipowner's seem worse than it was before the Cabotage regime. This is why, it is very necessary to really develop a wholistic reform measures that are aimed at overhauling operational and service modalities as provided by this protective and restrictive policy with regard to local shipowner in the industry (Ndikom, 2010).

The level of sustained media campaigns that greeted the introduction of the cabotage law, sponsored by the shipping industry, in 2004 was a demonstration of the renewed and assured hope that the problem of foreign domination of local lifting of cargo would soon be over. Regrettably, however, more than eleven (11) years after the enactment of the cabotage law, there is still foreign domination in the operational and managerial workings of the shipping industry in Nigeria (Ndikom, 2007).

CHALLENGES OF CABOTAGE ACT 2003

Cabotage in Nigeria is governed by the Coastal and Inland Shipping (Cabotage) Act, 2003. The etymology of the word cabotage is the Spanish word 'cabo' or cab which simply imply 'maritime circulation at short coastal distances'. In Nigeria, the Act was enacted on 30th April 2003, with an obvious stipulation that foreign vessels are not allowed to partake in any domestic coastal trade, just as it is obtainable in the developed countries of the world; it is to be development of indigenous tonnage and an establishment of a Cabotage vessel financing fund (CVFF). The law stipulates that, Nigerian should carry goods and passengers by vessel, or any other mode of transport, from one place to another, either directly or via a place outside the country. It further stipulates that, only vessels wholly owned and manned by Nigerians should be engaged in the domestic carriage of cargo and passengers in coastal inland waters, or any point within the waters of the exclusive economic zone of Nigeria. Thus, except a foreign vessel is given waiver by the minister of transport to carry out such job, she must stay out of

Nigerian inland waters. But eleven years after, the law was enacted; most of the provisions of the law have not been implemented. Rather, waivers are being granted to foreign shipping companies to do jobs which Nigerians should do, even against the letters of the law (Ndikom, 2011). On the average, the government is conscious of the factors that contribute to the failure of its many initiatives and intends to learn from the mistakes of yesteryears; hence, it intends towards the success of the cabotage regime. Rather than the absence of policies, the government lacks the political will and strong commitment to enforce its policies; and this is one of the fundamental challenges of a successful cabotage regime in the country (Ndikom, 2011). In fact, effective enforcement has been identified as the bane of good legislation in Nigeria. It is hoped that, the Cabotage Act does not suffer this same fate. Extensive and practical enforcement provisions are provided in the Act in order for the country to achieve its laudable objectives. It has provisions to curb, if not completely eliminate, subversive practices by stakeholders (Ndikom, 2006). Ship ownership criteria are indeed very rigorous and any contravention of these provisions is also criminalized in the Act. It would therefore be quite difficult to have respectable citizens lend their names as fronts for foreign ship owners. Nigerians are thus advised to take counsel from their lawyers before permitting the use of their names to hold shares in trust for persons not eligible to own specified categories of cabotage vessels. This is where Nigerian operators should borrow a leaf from the Maritime Cabotage Task Force in the United States of America on effective monitoring of compliance with the Act (Ndikom, 2011).

CABOTAGE: AN OVERVIEW

Cabotage is a legislative tool restricting access to or reserving maritime or aviation trade within a country's territorial jurisdiction to local capacities. The Nigerian Cabotage Act was introduced in 2004, following calls by prominent maritime professionals and operators on the need for government to really harness the indigenous maritime capacity and utilise the abundant opportunities in the sector for the benefit of the Nigerian people (usually in the grassroots), and to reverse the trend of foreign domination. Hence, the intention of government in introducing the cabotage regime is to encourage the development of the maritime industry through an interventionist scheme aimed at boosting local capacity in the face of choking external competition and domination. Cabotage is a practice of coastal trading worldwide, and is over 100 years old; it is a contemporary economic approach of justifying intervention of this nature, to really induce some determined results – as against the classical economic approach of free market forces – and it is an acceptable tool for achieving set economic goals, especially where competition is unfair and dominance is prevalent (Ndikom, 2011). Cabotage practice worldwide, both in maritime and aviation industries, is often induced by diverse factors, such as the reservation of all or part of national market opportunities for national flagships or aircraft, for political, socio-economic, geo-cultural and security reasons (Ndikom, 2011). Regrettably, the released operating guidelines for the implementation of Cabotage have certain abnormalities in them. There is need to really adjust these guidelines, as some of the tenets are an aberration to known international maritime conventions (Ndikom, 2004). Obviously, the **waiver power vested only in the Minister of Transport** as at the point of its enactment, which empowers him to act without the advice of professionals and technocrats in the industry, for example, should not be so in a developing nation's state like Nigeria (Ndikom, 2011). This is because, waiver powers within the confines of the Cabotage operational business environment are technical issues so to speak, which may not be fully understood by the Minister himself, as he often lacks both the professional and technical knowledge to do so. Here, there is serious need at this critical point in time of our development to set-up a high-powered technical committee to really support the Minister in this regard, as this will give credibility, credence and tonic to the operational performance of our kind of Cabotage law in Nigeria (Ndikom, 2005).

Also, age-restriction on operational vessels, as imposed by the cabotage regime, is not fit to be in the guideline and should, therefore, be reconsidered (Ndikom, 2004). Beyond the operating guidelines embodying the objectives and general principles of the Cabotage regime, many observers in the maritime industry, question the safety of the environment within the confines of the regime (Onwukwe, 2005), as there seems to be little or no marine protection policy in the law. The content of the cabotage law is insufficient in this regard, especially as relating to the protection of inland waterways. Moreover, it has been expected that, the law would consider the diverse potentials of the indigenous maritime market, as an ongoing cultivation of indigenous marine resources through a well thought-out deliberate policy of protection, exploration and management (Ndikom, 2006). It is important that, Nigeria evolves and strengthens its environmental laws, as the latter are veritable factors for sustainable development in the maritime structure. The place of Cabotage and indigenous participation in the maritime trade within the inland and territorial waters must be viewed not just in relation with the movement of goods and persons by ships, but also in terms of the maintenance of the waterways, which are the primary infrastructure of the maritime industry. There is need to adopt a comprehensive development plan on maritime resources so as to produce far-reaching results – with regard to productivity and efficiency (Onwukwe, 2005). It is important to really note that, the management and performance of the Cabotage regime in Nigeria is basically anchored on the following "four pillars", which are:

- Nigerian citizens must wholly own Cabotage vessels.
- Cabotage vessels must be registered in Nigeria.
- Cabotage vessels must be manned by Nigerian's citizens.
- Cabotage vessels must be built at Nigerian shipyards.

REGULATIONAL OPERATION'S FRAMEWORK OF NIGERIAN CABOTAGE ACT 2003

It is common knowledge that the primary objective of Cabotage is to reserve the commercial transport of goods and services within the Nigerian coastal and inland waters to vessels flying the Nigerian flag and owned by Nigerian citizens, in conformity with the tenets of the law. Hence, the take-off of the Cabotage law in May 2004 was greeted with mixed feelings by operators and the international shipping community (Ihenacho, 2005). But there was a delay in the release of the guidelines, which gave some bleak signal as to the operational inabilities of the concerned authorities to manage a policy which other nations have successfully managed and used to promote their local shipping/maritime industry when the guidelines were finally launched, it was discovered that, there were some irregularities, which could create bottlenecks in the operational performance and enforcement. Thus, since the law came into effect, there has been a hill in the operational performance of the local shipping industry, a situation which was not envisaged by government while the Act was being prepared (Ndikom, 2006).

Moreover, it is claimed that, there is some sort of marginalization of local shipping operators, with regard to the carriage of local cabotage content; that, there is continued foreign domination, as against local shipping operators; that, there is noticed inefficiency in the concerned government agency that should enforce the law, and so on. Insufficient sensitization campaigns about its takeoff date and operational modalities made the Nigerian shipping community to nurture doubts and fears about the entire cabotage issue at the end (Ndikom, 2006). The point here is that, the government, guided by the Act and with tremendous input from the industry, indeed produced an implementation of the law, the guidelines set out in great details the expected procedures for different categories of registration, ministerial waivers, enforcement, cabotage vessel financing, fees and tariffs. Beyond involving a wider array of key players in the Ministerial Committee, the Federal Ministry of Transport is actively and continuously engaging every sector of the economy, and government ministries and agencies are directly and/or indirectly connected to the Act. It has to be emphasised once more that, the success of the cabotage regime depends on everyone (private sector operators and government) (Ndikom, 2006).

Obviously, the release of the operational guidelines of the Cabotage regime was greeted with much misgivings from stakeholders and operators, who had already lost faith in the law and its ability to favour local operators and stakeholders. Furthermore, the cabotage law has some fundamental problems and complications, which makes the foundation somewhat faulty. The abnormalities of the guidelines include:

- (a) Too much waiver powers vested in the Minister –waiver powers should be a matter of technicality; and most Ministers in Nigeria are not professionally competent.
- (b) Arbitrary/unconditional age limit of 15 years for operational vessels.
- (c) Possibility of double registration of vessels by Nigerians/local shipping operators under the cabotage regime.
- (d) Application of 2% charge for Cabotage vessel financing funds (CVFF).
- (e) Payment of \$50,000 fees as waiver on ownership.
- (f) Clarity of enforcement authority to defaulters on the tenets of cabotage law.

- (g) Lack of local training arrangements for ship operators by NIMASA (a government regulatory agency).
- (h) Faulty bidding process and unstreamlined contract awards by the Petroleum Price Monitoring Committee (PPMC) and the Nigerian National Petroleum Corporation (NNPC).
- (i) Lack of enough provisions on enlightenment/education of all stakeholders.
- (j) Lack of a private – public implementation committee for the cabotage law.
- (k) Lack of incentives to aid and empower Nigerians in the industry.
- (l) Options of first refusal by Nigerian operators for any intended award of new contract. There is need for a Nigerian operator indicates his ability to carry on with the contract or not. It is on this basis of first refusal option that a foreign vessel or operator can be allowed to carry on with the contract in conformity with the tenets of the Cabotage Act.
- (m) Inadequate vessels, which is a major problem that may affect smooth operation of the Act.
- (n) Inadequate manpower and expertise.
- (o) Inadequate firefighting equipment.
- (p) Lack of joint venture partnership amongst stakeholders in the industry (Ndikom, 2011).
- (q) Lack of enough funds and logistic chain support for indigenous stakeholders.

EMPLOYMENT PROSPECTS OF NIGERIAN CABOTAGE ACT, 2003

Obviously, Cabotage law is often seen as the foundation of domestic maritime industry growth pillars and development anywhere in the world. If well implemented, it could evolve into the largest and most vital sector in the Nigerian merchant marine and a key link in the nation's intermodal transport network. Cabotage provides safer, reliable, efficient and cost effective transport options for Nigerian shippers, efficient maritime infrastructure and, of course, a vital role in the nation's economic and national security (Ndikom, 2011). Really, there was the need to put in place a course of action that will create job opportunities and ensure a sound development or indigenous capacity and competencies, to enable the local maritime industry compete favourably with foreign shipping interests in domestic seaborne trade in the long and short-term and in the west and central African sub-regions. The problem of foreign monopoly over these years has deprived local operators a very good employment opportunity in seaborne trade (Ndikom, 2006). There is need to really arrest this age long problem of domination and employment denials through a well articulated home-grown Cabotage regime. Thus, when the cabotage regime was hatched, the prospects of employment creation for the nation's teeming youths was enlarged and hoped upon and soon after dashed. The regime also reduces the persistent and recurrent youth restiveness mostly in the Niger Delta, where the nation's crude resources are the richest. The full implementation of the Cabotage Act in line with the Jones Act of USA would offer sound employment opportunities to indigenous seafarers and artisans who hitherto had no employment. Foreign domination deprives indigenous operators their legitimate business in crude oil lifting (Ihenacho, 2005). It is obviously pertinent to state here that, a few common elements of Cabotage regime that will come to play in Nigeria are: ships would be built, owned, crewed and operated. The building and maintenance of modern coastal vessels of seaborne transport of cargo and passengers would mean the employment of Nigerian seafarers/seamen, masters, engineers, etc. These workers will be exposed to modern shipbuilding and ship repairs technologies (Ndikom, 2006). The fact that the ships must be Nigerian-crewed will also lead to employment opportunities for Nigerian seafarers to run and man the ships and for the cadets to obtain sea-time experience of Nigerian seafarers. Cabotage provides national training possibilities so that seafarers no longer rely on the training policies of foreign ship owners and manning agents. It also provides jobs for seafarers who, for various reasons (age, family etc), need to work close to home. Cabotage retains an employment based policy which is not dependent on the whims and caprices of the employers, who may decide to change crew nationality with little notice (Igbokwe, 2006). Moreover, it is expected that, more Nigerians will be employed in jobs that are directly related to the domestic shipping industry, providing materials required in dockyards and shipyards and meeting the needs of shipbuilding and maintenance industry. With more job opportunities for Nigerians, social unrest and vices, including those in the Niger-Delta, will be reduced. This is one of the basic merits of Cabotage (Aderson, 2000). Obviously, it is very clear that, for the way the operations of the Cabotage regime has been carried out for over eleven years now does not show any appreciable increase in employment opportunities for our teeming youths, seafarers and cadets due largely to non-shipping policy in place, and lack of managerial competence and political will in the management and operational control of the Cabotage regime in place. There is still continued perceived foreign domination in the carriage of our local generated cargo thereby demanding local ship owner's jobs meant for them and that has led to increase of unemployment of our youths, seafarers and cadets and continued idleness of most local ships which should not be the case at the end (Ndikom, 2013).

GAINS OF CABOTAGE ACT 2003 AND TRADE

As stated earlier, apart from the role of shipping as a strategic facility which supports international trade, its production process holds great promise for the realization of certain direct benefits through investments and other forms of economic activities. Such benefits may be in the form of monetary profit, job creation and technological diversification. Shipping, together with the port system, constitutes the largest and most important mode of international transport. In a free competitive market environment, where shipping functions are not constrained by the existence of artificial barriers, the shipping business alone has the same characteristics as any large exports industry.

For a developing country like Nigeria, investments in shipping may indeed serve as a means of stimulating economic growth through the potentials which would be created for exporting the fully delivered shipping services or other vital components of shipping production, such as competitive seafaring and manpower resources. Also, the country may derive substantial benefits from the following positive economic effects which shipping and trade are capable of engendering, such as:

- The substitution of domestically produced goods for imported shipping services, leading to possible foreign exchange savings on the trade import account.
- Export of domestically produced shipping services to third party end users, resulting in the positive balance of payment effects.
- Expansion of employment opportunities within the economy, together with the possibility of exporting the professional services of seafarer whose capacity may be considered surplus to local requirements. There is no reason Nigeria cannot, for instance, develop an industry for the supply of seafaring manpower to third party ship owning nations for the consideration of their earnings to be re-disbursed into the nation's domestic economy - the Philippines economy is reported to earn as much as US\$3 billion annually from the remittances of their seamen who serve aboard foreign registered vessels (Ihenacho, 2005).
- Moderating and stabilizing the level and structure of freight rates apply to the country's international trade, deriving from the competition which is posed by domestic operators in the various shipping trades.
- It will also help to develop interest in dry cargo vessels, thereby encouraging exportation of dry cargo.

There are also significant indirect economic benefits from investments in shipping. These benefits may ultimately manifest in the derived multiplier demands which are created in association with the original shipping investments. These shipping multiplier benefits include the development of a virtual industry for the supply of ship stores, spares and provision. Thus, it is clear that from the economic perspective alone, there are very compelling imperatives which drive the proposition for increased participation of indigenous operators in the business of international shipping services. The argument about the requirement to safeguard national security through ensuring continuity of the nation's trading commitments, using national resources to develop Nigerian flagged deep-sea fleets, thus, becomes overwhelming.

Assuming that our shipping industry's development journey so far involves a progress up to the promulgation and enforcement of the cabotage regime, we may be considered as being nominally successful; thus, beyond the Cabotage law, we must seriously look at the next logical process which would, in a very short time, lead to greater involvement of indigenous operators in the business of international ocean shipping services on a commercial basis (Ndikom, 2006).

WAY FORWARD AND RECOMMENDATIONS

Capacity building is important in the manning, ownership and operations of ships in cabotage trade. Without the acquisition of a ship, a local operator would not be able to build local capacity in the art of technology transfer, and also in the technicality and management of ships. The Cabotage Act does not seem to facilitate new business opportunities for local operators, who suggested the way forward was for long-term carriage contracts of locally generated cargo to members, tax incentives and customs duty rebates to be granted to buyers of ships and ship spare parts, and the removal of payments into the cabotage vessel financing fund (Igbokwe, 2006). It is important that government train and retrain maritime workers in the practice of shipping and genuinely implement the Cabotage Act. Igbokwe's position is that, for Nigeria to be self-sufficient in the maritime industry as intended by the Act, the country should look, from the macro level, at human capacity development for the sake of manning, shipbuilding and ownership from the scratch.

The government must give time to human development - it often takes more than 20 years to master the art of ship building - and not limit itself to the oil and gas sector at the expense of commercial shipping; it is a very small fraction of the maritime industry that the oil and gas sector uses for its logistics (Igbokwe, 2006). Government's repeated call for the continued stay of foreign shipping companies in Nigeria and its nonchalance towards the country's self-sufficiency in the marine industry are not helpful to the realization of the objectives of the Act. Due to this inconsistent behaviour on the part of government, foreign shipping companies believe that, foreign-owned ships are needed to run Nigerian economy. It is well known that, as the nation gradually develops its capacities the presence of foreign-owned, built and crewed ships would reduce and eventually disappear from the nation's maritime industry (Ndikom, 2006).

Consequently, the Act has not succeeded in improving on the low capacity of shipbuilding and repairs for cabotage vessels - the Act is also criticized for not specifically recognizing the importance and development of ship repairs, allowing tax relief and low or no import duties on materials (steel, etc) for building and repairing ships. Thus, the Act scores low on inducing local shipbuilding capabilities for increased tonnage. Therefore, it is right to recommend the following, to improve the operations and performance of the nation's cabotage law:

- The full implementation of the cabotage law within the confines of the Nigerian shipping industry will promote the development, maintenance, and expansion of an adequate and competent indigenous merchant marine fleet, as expected by the law.
- Full and proper implementation of the cabotage law will encourage effective and healthy competition among stakeholders, who would want to operate on a level-playing field.
- Full and proper policy implementation of the cabotage law will stimulate private and public sector investment in the development of the nation's maritime infrastructure, such as ports, inland waterways, intermediate connections, dredging of coastal and inland waterways and construction and repair shipyards.
- Full implementation of the cabotage policy will enhance national security in terms of external aggressions, as there would be available resources for the purpose of effective policing of the Nigerian waterways, and even combating pirates traversing Nigerian waters.
- The full implementation of the law will reduce foreign domination of the maritime industry, especially in the lifting of crude oil from Nigeria. It will also:
 - restrict the fundamental operational modalities of the cabotage shipping content to local indigenous operators.
 - contribute to general development of maritime facilities.
 - increase indigenous participation in the carriage of local shipping content in conformity with international rules and regulations.
- Full implementation of the cabotage law would help initiate ideas on the transfer of technologies to local operators and diversification of auxiliary and potential shipping business among core operators, in line with international rules and regulations.

CONCLUSION

Despite the fact that the importance of cabotage to an economy has long been recognized, indigenous participation in this sector is highly neglected in Nigeria. The Cabotage Act is a bold step towards resolving this anomaly. The use of legislation to achieve this has been noted, as well as the need for continued enlightenment of stakeholders, the beneficiaries of the law on its cost and implications.

The operational management and implementation of the fundamental principles of cabotage in Nigeria have been disjointed and a situation which has led to inept seafaring service provision. It has also widened the gap of unemployment within the system, even though the law should protect and provide for the nation's teeming youths. The lack of an operational shipping policy in Nigerian maritime landscape has contributed to an elongated foreign supremacy regime over the carriage of its locally generated cargo, despite consistent calls by indigenous shipowner for government to address the marginalization problem, ever since the cabotage law took off. In spite of the fact that the cabotage law has been in operation for close to eleven years now, the problem of foreign domination in our Nigerian maritime sector persists (Ndikom, 2006).

The sustained media campaigns that greeted the introduction of the cabotage law, sponsored by the shipping industry, in 2004 were a demonstration of the renewed and assured hope that the problem of foreign domination of local lifting of cargo will soon be over. But regrettably, the law only exists on paper and conditions of indigenous shipowners since it was introduced have only become worse (Ndikom, 2008).

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FOREIGN DIRECT INVESTMENT INFLOW IN INDIA

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ABSTRACT

India's inward investment regime went through a series of changes since economic reforms were implemented before two decades back. This paper is an attempt to explain the total foreign direct investment inflow in India; sector wise and country wise. It also highlight the share of FDI inflow in India in comparison to world, developed and developing economies. This Study revealed that the highest amount of FDI attracted by service sector (like insurance, financial, banking, non financial/business, outsourcing, research and development, courier etc.), Mauritius contributes the largest amount of total FDI inflow to India. The compound growth rate of FDI inflow has been studied in three different stages but the overall compound growth rate in FDI inflow has been 29.2 percent in India since 1990-91. The share of FDI inflow in India in comparison to the world, developed and developing economies has been showing continuously increasing trends and the region wise FDI inflow shows that the Mumbai region got maximum (31 percent) share of FDI inflow in India.

KEYWORDS

Foreign Direct Investment, inflow of FDI, compound growth rate.

1.1 INTRODUCTION

Foreign Direct Investment is a vital component of the globalization efforts of the world economy. The growth of international production is driven by economic and technological forces. It is also driven by the ongoing liberalization of Foreign Direct Investment (FDI) and trade policies. One outstanding feature of the present-day world has been the circulation of private capital flow in the form of foreign direct investment (FDI) in developing countries, especially since 1990s. Since the 1980s, the multinational corporations (MNCs) have come out as major actors in the globalization context. In this context, globalization offers a parallel opportunity for developing countries like India to attain quicker economic growth through trade and investment. In the period 1970s, international trade grew more rapidly than FDI, so far that international trade was most significant economic activities for international collaboration. This situation changed fundamentally in the middle of the 1980s, when FDI started to increase sharply. In this period, the FDI has increased its importance by transferring technologies and establishing marketing and procuring networks for efficient production and sales internationally.¹ FDI flows comprise capital provided by foreign investors, directly or indirectly to enterprises in another economy with an expectation of obtaining better profits and also participation in the management of the enterprise in which they invest. The foreign investors acquire ownership of assets in the host country firms' in proportion to their equity holdings. This is the empirical definition of FDI adopted by many countries to discriminate it from portfolio flows. International Monetary Fund (IMF), has defined FDI as "an investment that is made to acquire a lasting interest in an enterprise operating in a economy other than that of the investor" The investor's purpose is to have an effective voice in the management of the enterprise (IMF,1977). FDI is the process by which the residents of one country (the source country) acquire the ownership of assets for the purpose of controlling the production, distribution and other productive activities of a firm in another country (the host country).

The Government of India also attract and promote foreign direct investment in order to supplement domestic capital, technology and skill, for accelerated economic growth. Foreign direct investment, as distinguished from portfolio investment, has the connotation of establishing a 'lasting interest' in an enterprise that is resident in an economy other than that of the investor.

Since economic reforms initiated in 1991, Government of India has taken many programs to attract FDI inflows to improve the Indian economy. An important objective of promoting FDI in India and other developing countries has been to promote efficiency in production and increase exports. However, any increase in equity stake of the foreign investors in existing joint ventures or purchase of a share of equity by them in domestic firms would not automatically change the direction of the firm. That is "the aim of FDI investors would be to benefit from the profit earned in the Indian market. As, a result, in such cases FDI inflows need not be accompanied by any substantial increase in exports, whether such investment leads to modernization of domestic capacity or not". Therefore, it is a challenge for a developing country like India to channelize its capital inflow through FDI into a potential source of productivity gain for domestic firms.²

1.2 REVUI OF LITRATURE

Sharma (2011)³ has revealed that maximum FDI has taken place in the service sector including the telecommunication, information technology, travel and many others Nelson (2012)⁴ has found that the global share of the FDI inflow in India is very low; However it has taken the overall economy in a positive direction. Mittal and Aggarwal(2012)⁵ has found that the attractiveness of India for FDI is far from receding and can surely be expected to sustain over the next decade as well. Sagar and Ialitha (2013)⁶ has revealed that Over the years FDI inflow flow is increasing. However India has incredible potential for absorbing greater flow of FDI in the coming years. Akhtar (2013)⁷ pointed out that the liberalization has had a positive impact on FDI inflows in India. Since 1991 FDI inflows in India has been increased approximately by more than 165 times.

1.3 OBJECTIVE OF STUDY

- To study the FDI inflows in India after liberalisation.
- To examine the region- wise FDI inflows in India.
- To analyse the growth rate of FDI inflow in India economy.

1.4 NEED OF STUDY

We are living in a truly global economy. Foreign capital is of much importance for developing countries in order to get integrated into the globalization process. Since these nations are in process of industrialization, it becomes essential to raise their level of investment. It is agreed that foreign enterprises bring very limited capital. They borrow largely from domestic capital market and banks. Foreign enterprises' basic objective is to earn profit. Large inflow of capital takes place during the boom period and conditions are opposite when the host country is passing through recession. Foreign investment has played an important role in the development of developing countries. In this study, an attempt has been made to study of FDI inflow in India after liberalisation and also examine the region wise FDI inflow in India.

1.5 SCOPE OF STUDY

Foreign investment plays a significant role in development of developing economy like India. Many countries provide many incentives for attracting the foreign direct investment (FDI). The scope of the study is confined to inflow of foreign direct investment in India. In this paper an attempted to the region wise FDI

inflow in India and also identify the countries that provide maximum FDI inflow to India and an attempt is made to study the FDI inflow from 1990-91 to 2012-13.

1.6 RESEARCH DESIGN

This research design is based on historical data collected from various sources which can be regarded as secondary data further this research has been divided into various part to maintain its clarity. Many statistical tools have been used for concrete analysis of data and their interpretation in this research which are as follows as an Average, Compound Growth rate, Tables, Bar Charts, Line Charts

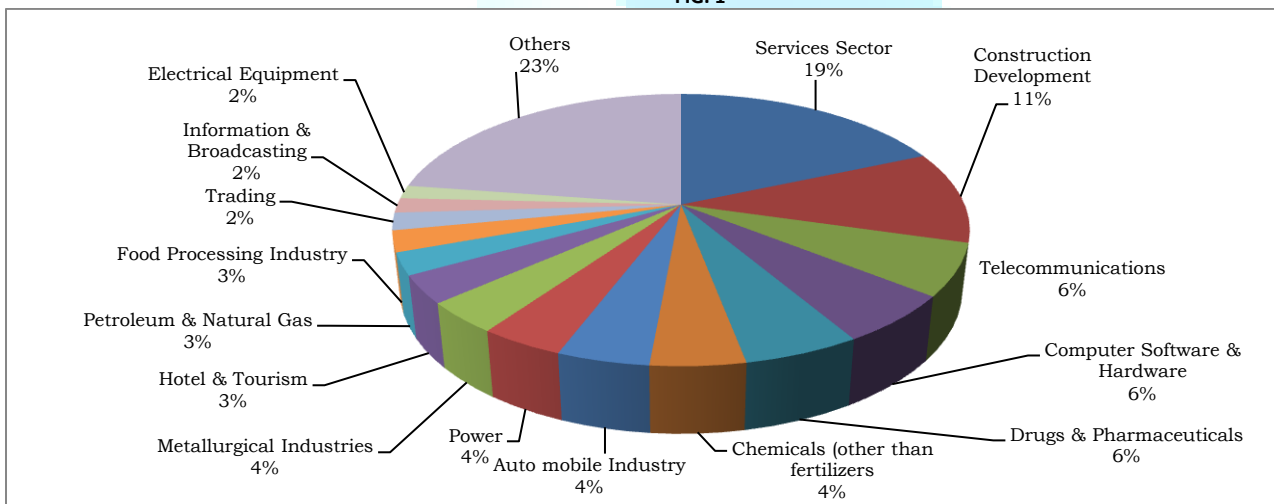
1.7 DATA INTERPRETATION

TABLE 1: SECTORS ATTRACTING HIGHEST FDI EQUITY INFLOWS IN INDIA FROM 2000 TO 2013 (In Rs. Crore/In US \$ millions)

Sr.No.	Sector	Amt. Of FDI in Equity inflows		%age with total FDI inflows
		In Rs. Crore	in US\$ million	
1	Services Sector	181,621.94	38,824.09	18.50
2	Construction Development	106,637.46	22,994.20	10.96
3	Telecommunications	59,234.48	12,937.85	6.17
4	Computer Software & Hardware	56036.91	12231.38	5.83
5	Drugs & Pharmaceuticals	55985.48	11,583.69	5.52
6	Chemicals (other than fertilizers)	43,411.45	9,370.99	4.47
7	Auto mobile Industry	44205.89	9165.93	4.37
8	Power	39458.61	8383.52	4.00
9	Metallurgical Industries	36591.62	7806.64	3.72
10	Hotel & Tourism	34925.76	6910.18	3.29
11	Petroleum & Natural Gas	25471.73	5491.29	2.62
12	Food Processing Industry	30576.43	5273.60	2.51
13	Trading	20954.68	4339.64	2.07
14	Information & Broadcasting	17764.60	3666.67	1.75
15	Electrical Equipment	15371.89	3299.66	1.57
16	Others		47552.37	22.65
	Total	878428.7	209,841.70	100

Source: Fact sheet on Foreign Direct Investment (FDI) from April, 2000 to January, 2013.

FIG. 1



It would be interesting to analyze the sector wise FDI inflow in India. It is clear from table 1 service sector is at top with FDI inflow of US \$ 38,824 million (18.50%) during April, 2000 to January, 2013. construction development with US \$ 22,994.20 million (10.96 %), telecommunication claimed with US \$ 12,937 million (6.17 %), computer software & hardware with US \$ 12231.38million (5.83 %), drugs & pharmaceuticals with US \$ 11,583.69 million (5.52 %), chemicals (other than fertilizers) with US \$9,370.99 million (4.47%), automobile industries with US \$ 9,165.93 million (4.37%), power with US \$ 8,383.52 million (4.00 %), metallurgical industries with US \$ 7,806.64 million (3.72%) and hotel & tourism with US \$ 6,910.18 million (3.29%), all other important sectors for FDI inflow in India. Similarly, the petroleum & Natural Gas, Trading and Electrical quantum of FDI inflow in ranged between 2.62% to 1.57%. On the other hand, FDI inflow ranged between 1 percent to 1.38 percent in information & Broadcasting, Cement & Gypsum Product, Misc. Mechanical and Engineering Industry, Industrial Machinery, consultancy Services, Hospital & Diagnostic centers and Construction (Infrastructure) Activity, and Non Conventional Energy sectors. Few FDI inflows in other forty two sectors has been below one percent.

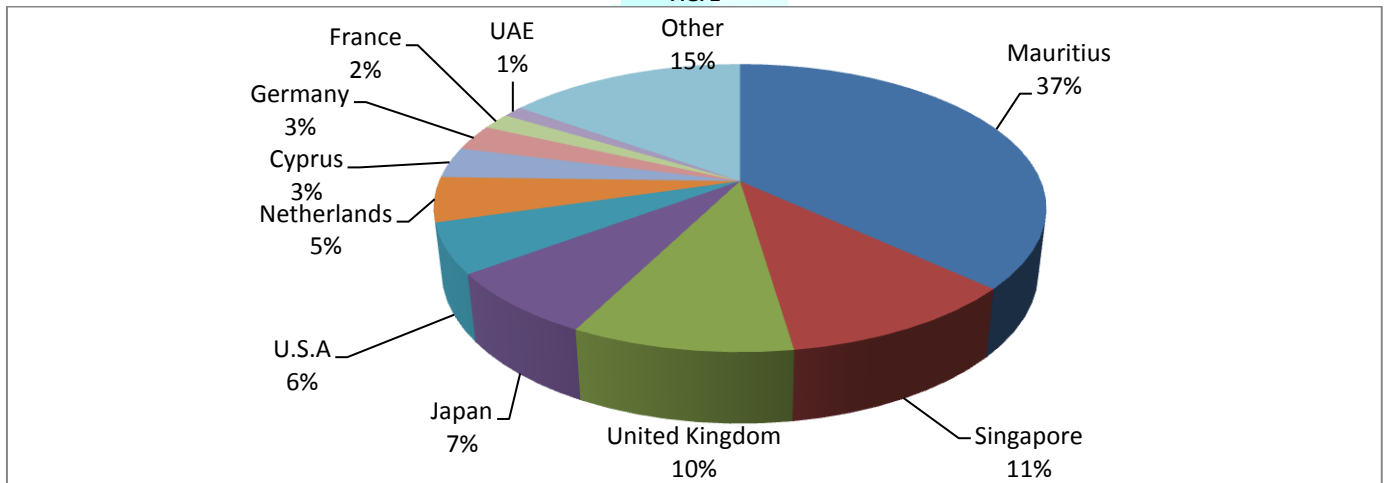
Thus, sector wise study of FDI reveals that service sector, construction development, telecommunication, computer software & hardware, chemicals (other than fertilizers), power, automobile industry, metallurgical industries, hotel & tourism, Petroleum and Natural gas, Food processing industries, trading, Information and broadcasting and Electrical equipments are high priority area for FDI and these sectors accounted for 77.35 % of FDI aggregate inflow in India.

TABLE 2: STATEMENT OF TOP TEN COUNTRY-WISE FDI EQUITY INFLOWS FROM APRIL, 2000 TO DECEMBER, 2013 (In Rs. Crore/In US \$ millions)

S. No	Country	Amt. Of FDI in Equity inflows		%age with total FDI inflows
		In Rs. Crore	In US\$ million	
1	Mauritius	363186.50	77343.83	36.86
2	Singapore	108766.59	22665.60	10.80
3	United Kingdom	100469.21	20696.70	9.86
4	Japan	75030.71	15359.83	7.32
5	U.S.A	54592.94	11743.94	5.60
6	Netherlands	52107.10	10561.07	5.03
7	Cyprus	34640.89	7269.16	3.46
8	Germany	29242.10	6137.80	2.92
9	France	18466.60	3839.64	1.83
10	UAE	12671.31	2645.38	1.26
11	Other	147018.50	31578.75	15.06
	Total	996192.42	209841.70	100

Source: Fact sheet on Foreign Direct Investment (FDI) from April, 2000 to December, 2013.

FIG. 2



It is clear from the table 2 that Mauritius is the largest investor in India with total investment of US \$77,343.83 million (36.86 of total), followed by Singapore US \$22665.60 million(10.80% of total), United kingdom US \$20,696.70 million (9.86 of total), Japan US \$15359.83 million (7.32% of total), U.S.A US \$11,743.94 million(5.60% of total), Netherland US \$10,561.07 US \$ (5.03% of total), Cyprus US \$ 7269.16 (3.46 of total), Germany US \$6137.80 million (2.92% of total), France US \$3839.64 (1.83% of total) and U.A.E US \$2,645.38 (1.26% of total). Indian government has signed Double Taxation Avoiding Agreement (DTAA) with Mauritius. Consequently the maximum FDI is coming to India through Mauritius country for inward FDI.

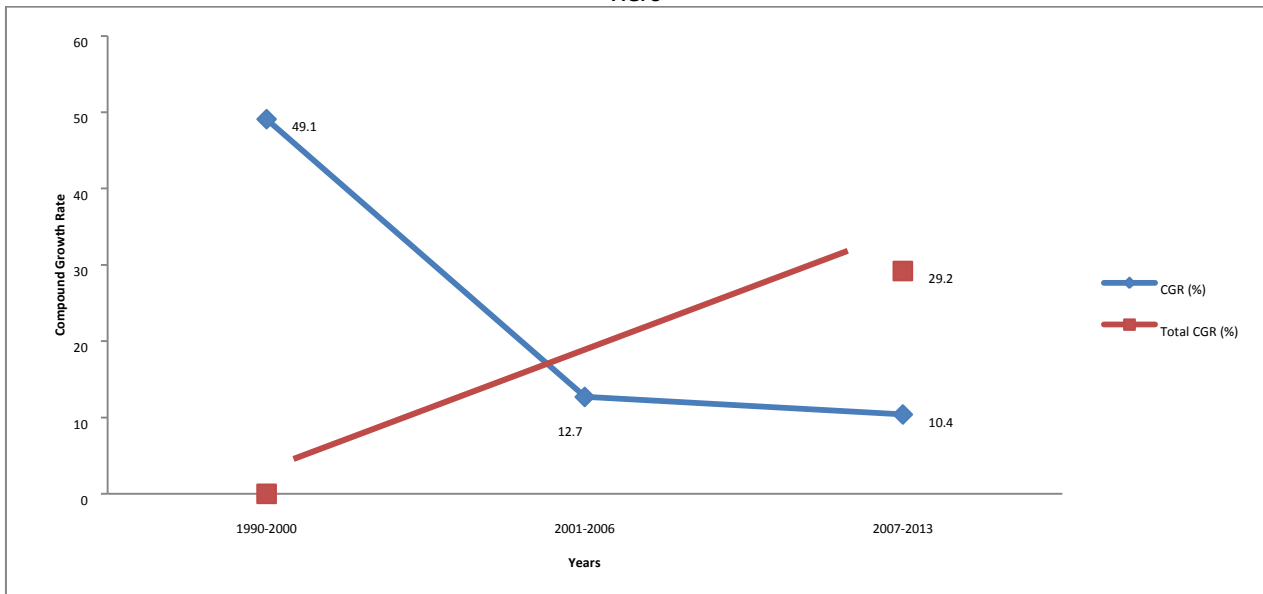
TABLE 3: TOTAL INFLOW OF FOREIGN DIRECT INVESTMENT IN INDIA APRIL, 1990 TO DEC. 2013 (In US \$ millions)

Year	Total inflow in India	%Increase FDI Inflow In India	Compound growth rate
1990-91	97		
1991-92	129	32.99	
1992-93	315	144.18	
1993-94	586	86.03	
1994-95	1314	124.23	
1995-96	2144	63.16	
1996-97	2821	31.57	
1997-98	3557	26.09	
1998-99	2462	-30.78	
1999-00	2155	-12.46	49.10
2000-01	4,029	86.96	
2001-02	6,130	52.14	
2002-03	5,035	-17.86	
2003-04	4,322	-14.16	
2004-05	6,051	40.00	
2005-06	9,697	60.25	12.70
2006-07	22,826	135.39	
2007-08	34,843	52.64	
2008-09	41,873	20.17	
2009-10	37,745	-9.85	
2010-11	34,847	-7.68	
2011-12	46,553	33.59	
2012-13	36860	-20.82	10.4
			TOTAL CGR 29.2

*Total FDI inflow= Government (SAI/FIBP) +RBI+ Acquisition of share + Equity capital of unincorporated bodies + reinvested earning + other capital

Source: Various RBI bulletin www.rbi.org.in

FIG. 3



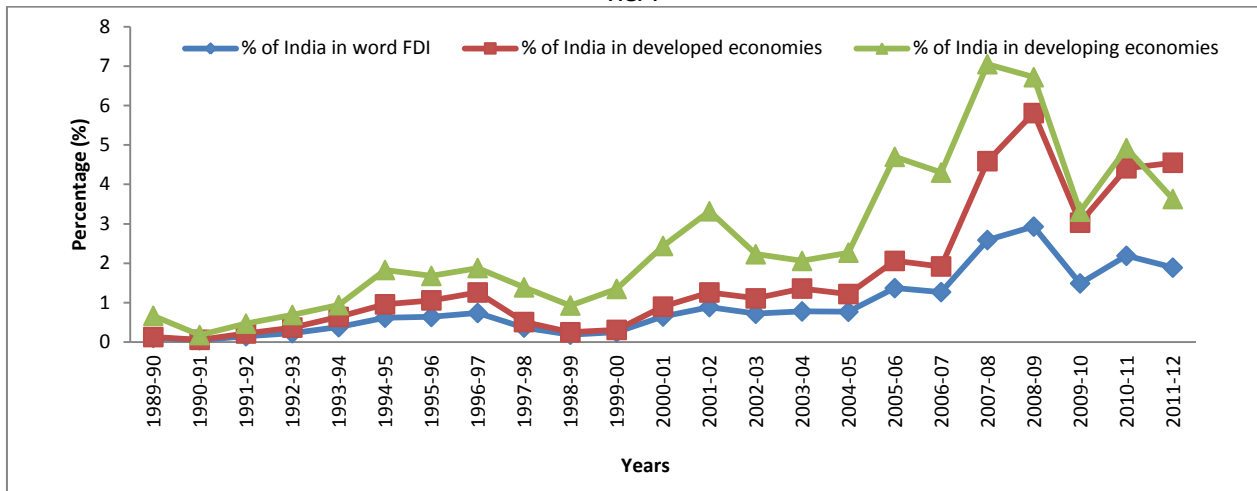
However total FDI inflow has been fluctuated during the study period. Its gross total inflow increased at an annual compound growth rate of 29.2 percent from US\$ 97 million in 1990-91 to US\$ 36,860 million in 2012-13. The CGR of FDI inflow in India also studied in different three stages 1st stage 1990-91 to 1999-00, 2nd stage 2000-01 to 2005-06 and 3rd stage 2006-07 to 2012-2013 and this is 49.10 percent, 12.70 percent and 10.4 percent respectively. The study revealed that the inflow of FDI is very high on 1st stage, and decreasing trend in 2nd and 3rd stage. The Study also shows that FDI inflow in decreasing trend but overall CGR 29.02% during this period. The CGR of inflow of FDI has ranged between (-30.78%) to (144.18%) million respectively throughout the period, registering a notable growth rate 29.2 % compounded annually.

TABLE 4: FDI INFLOW IN THE WORLD, DEVELOPED AND DEVELOPING AND INDIAN ECONOMICS APRIL, 1991 TO MARCH 2012 (In US \$ millions)

Year	World	Developed economies	Developing economies	India	% of India in world FDI	% of India in developed economies	% of India in developing economies
1989-90	207362.3	172514.4	34777	236	0.11	0.13	0.67
1990-91	153794.6	114078.65	39577.32	75	0.05	0.06	0.18
1991-92	166027.9	111091.49	53272.32	252	0.15	0.22	0.47
1992-93	223356.22	143423.57	76789.56	532	0.23	0.37	0.69
1993-94	255980.33	150577.53	103357.47	974	0.38	0.64	0.94
1994-95	343544.14	222480.09	116957.33	2151	0.62	0.96	1.83
1995-96	391439.36	236030.94	149537.27	2525	0.64	1.06	1.68
1996-97	488160.33	285381.66	192429.4	3619	0.74	1.26	1.88
1997-98	705934.78	508736.95	189076.08	2633	0.37	0.51	1.39
1998-99	1091490.67	851817.8	231065.62	2168	0.19	0.25	0.93
1999-00	1413169.29	1141586.3	264544.62	3587	0.25	0.31	1.35
2000-01	836012.15	602478.81	224071.15	5477.63	0.65	0.90	2.44
2001-02	626081.33	445596.71	169211.63	5629.67	0.89	1.26	3.32
2002-03	601246.31	387500.85	193750.68	4321.07	0.72	1.11	2.23
2003-04	734148.42	423653.69	280262.02	5777.81	0.78	1.36	2.06
2004-05	989617.68	621479.94	334526.15	7621.76	0.77	1.22	2.27
2005-06	1480586.58	985888.24	432113.43	20327.76	1.37	2.06	4.70
2006-07	2002694.61	1319893.04	589430.47	25349.89	1.27	1.92	4.30
2007-08	1816398.05	1026530.56	668438.75	47138.73	2.59	4.59	7.05
2008-09	1216474.71	613436.07	530288.76	35657.25	2.93	5.81	6.72
2009-10	1408536.88	696417.77	637062.97	21125.45	1.49	3.03	3.31
2010-11	1651510.88	820008.46	735212.22	36190.4	2.19	4.41	4.92
2011-12	1350925.73	560718.09	702825.6	25542.84	1.89	4.55	3.63

Source: world investment report 2013.

FIG. 4



The inflow of FDI in world, developed, developing economies and Indian economy has been depicted in Table 4 and It shows the increasing the inflow of FDI. The share of FDI inflow in India in comparison of world and developed economics investment inflows of FDI range between in percentage of world 0.05 percent to 2.93 percent and 0.06 percent to 5.86 percent respectively. In the other side the percentage of inflow of FDI in India in comparison developing economies range 0.18 percent to 7.05 percent. It shows that the FDI inflow in India is increasing and also the world, developed and the developing economics. This study shows that FDI inflow in India in comparison of world, developed and developing economics has showing positive inflow during the study period.

TABLE 5: STATEMENT ON RBI'S REGIONAL OFFICES (WITH STATE COVERED) RECEIVED FDI EQUITY INFLOWS1 (FROM APRIL, 2000 TO DECEMBER, 2013)
Amount Rupees in crores (US\$ in million)

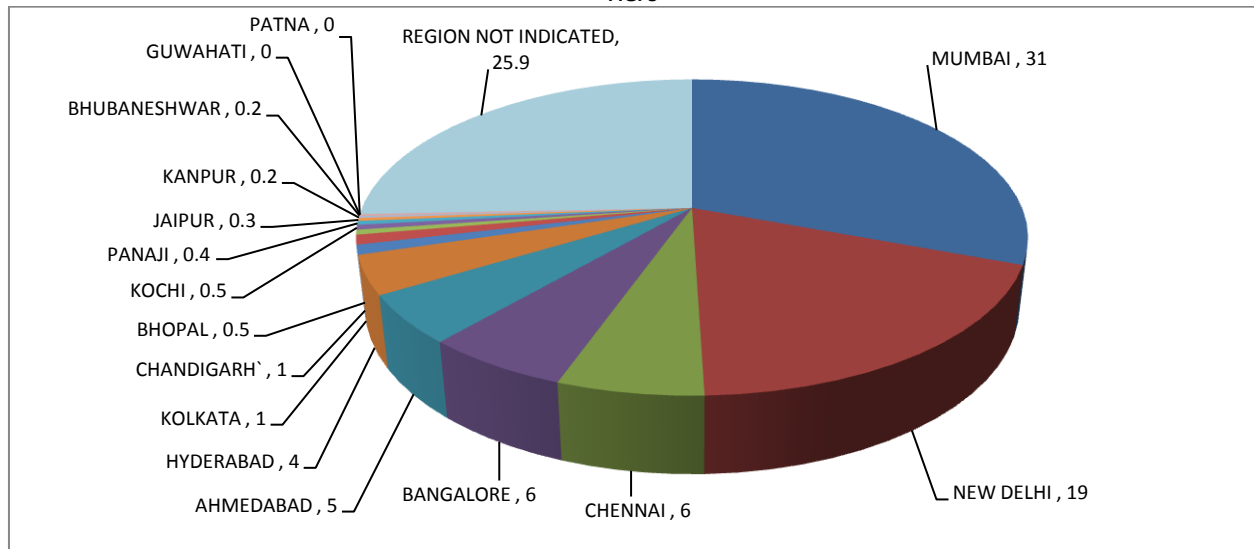
S. No.	RBI's – Regional Office	State covered	Cumulative Inflows (April '00 – December '13)	%age to total Inflows (in terms of US\$)
1	MUMBAI	MAHARASHTRA, DADRA & NAGAR HAVELI, DAMAN & DIU	308,575 (65,867)	31
2	NEW DELHI	DELHI, PART OF UP AND HARYANA	184,019 (38,830)	19
3	CHENNAI	TAMIL NADU, PONDICHERRY	62,070 (12,657)	6
4	BANGALORE	KARNATAKA	57,543 (12,137)	6
5	AHMEDABAD	GUJARAT	43,207 (9,321)	5
6	HYDERABAD	ANDHRA PRADESH	39,872 (8,475)	4
7	KOLKATA	WEST BENGAL, SIKKIM, ANDAMAN & NICOBAR ISLANDS	12,289 (2,600)	1
8	CHANDIGARH`	CHANDIGARH, PUNJAB, HARYANA, HIMACHAL PRADESH	5,931 (1,261)	1
9	BHOPAL	MADHYA PRADESH, CHATTISGARH	5,483 (1,114)	0.5
10.	KOCHI	KERALA, LAKSHADWEEP	4,686 (973)	0.5
11	PANAJI	GOA	3,652 (788)	0.4
12	JAIPUR	RAJASTHAN	3,495 (713)	0.3
13	KANPUR	UTTAR PRADESH, UTTARANCHAL	1,709 (363)	0.2
14	BHUBANESHWAR	ORISSA	1,709 (357)	0.2
15	GUWAHATI	ASSAM, ARUNACHAL PRADESH, MANIPUR, MEGHALAYA, MIZORAM, NAGALAND, TRIPURA	352 (79)	0
16	PATNA	BIHAR, JHARKHAND	195 (38)	0
17	REGION NOT INDICATED		261,409 (54,270)	25.9

Source: Fact sheet on Foreign Direct Investment (FDI) from April, 2000 to December, 2013.

It is to be interesting to analyze the region wise FDI inflow in India. It is clear from the table 5 the Mumbai is at top with FDI inflow of US \$ 65,867 million (31 percent) during April, 2000 to January, 2013. New Delhi with US \$ 38,830 million (19 %), Chennai claimed with US \$ 12,657 million (6 %), Bangalore with US \$ 12137 million (6 %), Ahmadabad with US \$ 9,321 million (5 %), Hyderabad with US \$ 8,475 million (4 %), Kolkata with US \$ 2,600 million (1.00%), Chandigarh with US \$ 1,261 million (1.00 %), Bhopal with US \$ 1,114 million (0.5 %) and Kochi with US \$ 973 million (0.5 %), all other regions for FDI inflow in India. Similarly, the Panji, Jaipur, Kanpur and Bhubaneswar of FDI inflow in ranged between 0.4 % to 0.2%. On the other hand, FDI inflow ranged between zero percent to 0.2 percent in Guwahati and Patna. Few FDI inflows in other regions have been 25.9 percent.

Thus, region wise study of FDI reveals that Mumbai, New Delhi, Chennai, Bangalore, Ahmadabad, Hyderabad, Kolkata, Chandigarh, Bhopal, Kochi, Panaji, Jaipur, Kanpur, Bhubaneswar, Guwahati and Patna are high priority area for FDI and these regions accounted for 74.1 % of FDI aggregate inflow in India.

FIG. 5



1.8 CONCLUSION

The Sector wise FDI inflow shows that the service sector has been top rank with the share of 18.05 percent total inflow of FDI and followed by construction development 10.96%. The study revealed that top 15 sectors have been received 77.35 % and other sector has been attracting just 22.65%.

The country wise FDI inflows in India shows that the Maturities have top rank with the inflow of 36.86% followed by Singapore and United kingdom has been 10.80% and 9.86% respectively. The study found that India have been received 84.94 percent FDI inflows from top 10 countries and 15.06 percent by other countries. Indian government has signed Double Taxation Avoiding Agreement (DTAA) with Mauritius. Consequently the maximum FDI is coming to India through Mauritius country for inward FDI.

However FDI inflow has been significantly fluctuated during the study period. The CGR of FDI inflow in India study in different three stages 1st stage 1990-91 to 1999-00, 2nd stage 2000-01 to 2005-06 and 3rd stage 2006-07 to 2012-2013 and this is 49.10%, 12.70% and 10.4% respectively. The study revealed that the inflow of FDI is very high on 1st stage, and decreasing 2nd and 3rd stage. The Study also shows that FDI inflow in decreasing but overall CGR 29.02% during this period. The CGR of inflow of FDI has ranged between (-30.78%) to (144.18%) million respectively throughout the period, registering a notable growth rate 29.2 % compounded annually. Study found that there is positive growth of FDI inflow in India.

The Study shows that the range between inflows of FDI in India in percentage of world, developed and developing economics is 0.05 percent to 2.93 percent, 0.06 percent to 5.81 percent and 0.1 percent to 7.05 percent respectively. The Indian economies share of FDI inflow in world, developed and developing economies is very less but it's in increasing trend.

The region-wise FDI inflow shows that the Mumbai has been top rank with the share of 31 percent total inflow of FDI in India and followed by New Delhi 19Percent, Channi and Bangalor has been 6 percent respectively. The study revealed that top 16 regions have been received 75.1 percent and other regions have been attracting 25.9 percent. This is show that regional disparities in FDI inflows in India.

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ASSESSMENT AND MANAGEMENT OF FLOOD HAZARD, DIGARU RIVER CATCHMENT ARUNACHAL PRADESH

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ABSTRACT

Floods is one of the common unavoidable problems which have been causing problems and threatning to the people of Digaru and its adjoining areas from time to time. Flood hazards are one of the alarming phenomena in the region. During every rainy season the river overtops its bank and inundates the adjoining areas. Though Digaru and its catchment experiences flood almost every year, flood management policies are not adequate or mostly based on structural options including flood walls, dykes, embankments etc. Natural disasters have their greatest impact at local level especially on the lives of ordinary people. Current disasters are becoming more complex and the damages caused by the natural disaster at community level in Digaru catchment has increased exponentially in the past 20 years, despite the great efforts that the Government, NGO's and Local Communities have put into many disaster prevention programmes. The objective of this paper is to assess flood hazard in Digaru and its catchment areas for the historical flood events using GIS approach and comprehend flood hazard management strategies for landuse planning. The database & methodology are Base mapping, topographic mapping and post-disaster verification of mapped floodplain extents and depths by DEM model using analogue maps through GIS approach. All possible combination of flood hazard maps are prepared using landcover, geomorphology and elevation heights for flood affected frequency and flood water depth of different flood seasons. The study related to natural hazards is a very new research in Arunachal Pradesh context that's too in the district of Lohit. The study area falls under a very strategic location i.e. Tidding thrust in the northern side and Mishmi thrust in the south-eastern side that makes the region geologically very fragile. This research work is a humble beginning where as researcher i will try to comprehend flood hazard management strategies for landuse planning decision proposed for the efficient management of future flood disasters.

KEYWORDS

Inundate, disaster, exponentially, strategic.

INTRODUCTION

The word flood comes from the Old English *'flod'*, a word common to Teutonic languages, compare German *'flut'*, Dutch *'vloed'* from the same root as is seen in *'flow'*, *'float'*. When rivers overflow their banks they cause damage to property and crops. Floods are common and costly natural disasters (<http://en.wikipedia.org/wiki/flood2007>).

It is among the most destructive natural hazards causing extensive damage to the built up and natural environment, and devastating to human settlements. Economic losses due to the effects of damaging floods have increased significantly around the world (ADPC, 2005).

Very large floods happen very seldom: the size or magnitude of a flood is described by a term called 'recurrence interval'. By studying a long period of flow records for a stream, it is possible to estimate the size of a flood that would for example, have a 5 year recurrence interval (called a 5 year flood). A 5-year flood is one that would occur, on the average, once every 5 years. Although a 100 year flood is expected to happen only once in a century, there is a 1 percent chance that a flood of that size could happen during any year.

Flooding can be also defined as the overflowing of water from sources such as rivers, reservoirs, estuaries and ponds caused by prolonged seasonal rains, typhoon rains, and intrusion of seawater on the land or during tides surges (Regant.P.M.2005).

It occurs when an area of land, usually low-lying is covered with water. The worst floods usually occur when a river overflows its banks followed by breaching. Floods happen when soil and vegetation cannot absorb all the water. The water then runs off the land in quantities that cannot be carried in stream channels or kept in natural ponds or man-made reservoirs (<http://en.wikipedia.org/wiki/Flood2007>).

Floods are often deadly, damaging and devastating. They kill numbers of people, damage houses and crops, and cause extensive destruction. It became hazard when it causes colossal loss to human lives and property. At present, almost every part of the world is affected by the flood due to increase in population. People started to inhabit the flood plains which is highly vulnerable to flood for example Ganga and its major tributaries flood plains (India), the Mississippi and the Missouri (USA), the Yangtze, the Yellow (China), the Irrawaddy (Myanmar), the Indus (Pakistan), the Niger (Nigeria), the Po (Italy) etc.

Though, flood creates a big problem to the whole environment set up of a region, it creates fertile flood plain on which most of the world's leading agriculture was practiced. That is the reason why inspite of so many destructive event, human still prefer to live with flood.

STATEMENT OF PROBLEM

Lohit District, situated at the foothills of the Mishmi hills, is the most vulnerable place for flash floods and landslides in the state. Flash floods are common features in this district therefore it is felt that some of the flood prone villages are really needed to rehabilitate and resettle in a safer place for the safety of life and property. In fact there is not even single safe place in the district where one can confidently say that floods will not occur (DEC, Lohit).

The Digaru River is an alluvial river which originates from the south-eastern slope of the Mishmi hills of Lohit district at a height of 3785m above MSL (Mean Sea Level) and flows over the unstable formation of the hilly tract with dynamic systems that is drained by numbers of intermontane river system with potential to bring about rapid changes in the landscapes. The region is extremely vulnerable to natural disasters due to both geographical and meteorological conditions. The major hazards related to this region are flood, landslides, bank-erosion and channel course shifting. Some of which are frequently recurrent and some are continuous.

Rivers flowing in the district has no definite natural channel. In fact all the rivers change their courses every now and then. Normally all the rivers and nallah are surging abnormally during the summer. Most of the rivers and nallahs are snow-fed as well as rain fed. Due to lack of awareness as well as scarcity of clean drinking water villages often consume contaminated floodwater and practice unhygienic way of life, which inturn results in outbreak of water born diseases such as epidemic, dysentery etc. Lift water supply and water tankers are used during the flood situation to meet the requirements of the district, which is inadequate meet the needs of the people hence the locals are forced to consume rainwater and contaminated floodwater.

The climatic conditions of the district are very suitable for cultivators. Moreover this district has got large area under cultivation. The soil is very fertile but loose in nature. Soil erosion is a common phenomenon especially during the rainy season. Since maximum area of the district is plain, water logging and stagnation is another problem, which creates havoc in the form of various water borne diseases.

Due to the temporary nature of river channel and regular change of river courses, road communication is often disrupted. The major obstacle in the development of this district is lack of proper roads, which have been destroyed by frequent floods and landslides. The irregularity in the course of the river channels makes it difficult to build permanent bridges for proper connectivity. Till date country boats and engine boats are used for transshipment of man and materials within the district as well as with the rest of the country. While doing so every year few boats get drowned by forceful water currents which claim not only materials but human life too.

The district receives the heaviest rain in the state. The problem becomes worse when the rainwater from the highlands of Anjaw District reaches foothills. It carries sediments and other debris and within no time all the river and nallah of the district get over flooded, which disrupts not only surface communication but also other essentials supplies such as electricity, telephone, mobile networks, water supply, POL supply, LPG Gas supply, ration items etc.

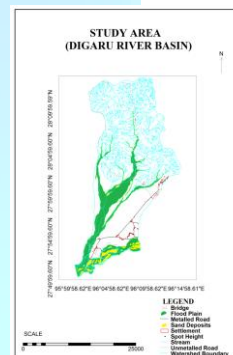
Like many other provinces of Lohit district, the Digaru catchment is no exception to disaster vulnerability. In fact, it is considered among the most disaster prone areas of Lohit district. The region has varied geography- including forested mountains and hills, heterogeneity of the basic rocks and sedimentary formation of soils, there is great variation in the nature and composition of the soils and also the loose and fragile surface matter, undulating topography, steep valley slopes, river terraces, juvenile river systems, and is located in the humid tropical and sub-tropical climate zone. The region lies in the Vth seismic zone and reported tectonically very active. All the above mentioned characteristics designate the region as of geo-environmentally having a unique set up (Resource Atlas by Savindra Singh, 1999).

These scenarios are very common and are frequently and almost yearly occurring phenomenon in the area, posing a serious threat to the general ecology and environment of the region. During every rainy season crops, infrastructure and the inhabitants of this region suffer huge losses due to disastrous annual floods. Loss and damage to property coupled with insecurity to human lives keep many households trapped in a cycle of poverty. In this regard we can talk about some of the most destructive events of the study area in a chronological manner to highlight the importance of the study. The 1988 flood in the Digaru and its nearby areas, which was due to the continuous rain, wherein the whole region was inundated by the flood water of the Digaru and its intermontane streams causing damages to the anthropogenic factors of the region. The 2004 flash flood of Tebang Nallah, which was originally known as Sukha Nallah was a small gully, collecting rain water from the nearby catchment area of upper Loiliang village but during the flash flood of 2004, the course of Tebang Nallah (one of the tributary stream of Digaru river) has got diverted into it and thereby causing flood hazard to Danglat village. The 2012 flood, which is most recent devastating flood, reflects the continuous environmental impacts on the inhabitants of the region which was also due to the continuous rain and thereby causing the shifting of the course of the channel, posing serious threat to the ecological balance of the region.

In this present study, an attempt would be made to carry out the geo-environmental assessment of fluvial hazard selecting a small watershed, since the study area is currently facing vulnerability risk of inundation (almost every year), soil loss, bank erosion and landslide. And no such work had been done earlier; therefore geomorphological investigation of the Digaru river basin, which is one of the main tributary streams of Lohit River, assumes great importance and claim priority.

STUDY AREA

The proposed study lies in Lohit district, of Arunachal Pradesh which is situated between the 27° 50' 05" N & 28° 13' 10" N Latitudes and 96° 00' 20" E & 96° 15' 40" E Longitudes, with an areal extension of about 529.22 Km². The total length of the river from its source to the mouth is 50.8 Km. Though the Digaru basin covers a small area in context of the whole district i.e 11,402 km² (according to Census report 2011), it is characterised by complex and intricate drainage system. The typical features exhibited are believed to have been produced by the interactions of the underlying folded structures, varied geomorphological processes specially the rock of Mishmi groups are exposed over large part of the district in the eastern Himalaya and all the litho units are trending NW-SE and dipping towards NE, according to the source (Singh and Choudhary, 1990).



The district is populated by 77,315 (male) and 66,213 (female) with a total population of about 1,45,538 persons contributing 13 persons per km² to the total density of the country (according to 2011 census report). The sex ratio i.e number of females per thousand males is 856 and literacy rate 56.05 percent. The population is almost rural, inhabiting some 524 villages, with major tribes like Mishmi (Kaman, Taraon and Idu), Khampati and other indigenous groups like Meyors/Zakhring, Singphos, and Padams. In recent past the Tibetan, Chakma and Hazong refugees have been settled here. There are various other group of people who also live and are engaged with government services, constructional work and in business.

OBJECTIVES OF THE STUDY

Fluvial hazards attract broad interest and media coverage. Despite the massive risk reduction efforts and billions invested in flood defences worldwide, floods continue to be an acute problem causing increasing material damage and high death tolls. Therefore, the main aim of the present study is to attempt depth study regarding flood and effect and management aspects of the selected study area. Further the specific objectives are as follows-

- I. To study the effect of flood in the study area.
- II. To identify the role of administration in the flood mitigation.
- III. To assess the role of disaster management to relief programme during flood event.

METHODOLOGY & DATABASE

The present study shall purely base on the field observation and practical experiment using both the primary and secondary data.

I. PRIMARY DATA BASE

1. Field observations of the area, taking photographs of the important affected area.
2. Questionnaires were being prepared to know the people's perception on the flood issues.

II. SECONDARY DATA BASE

1. Topographical map (published by Survey of India) bearing no. 92 A/1, A/5, 91 D/4, D/8 with the scale 1:50,000.
2. Hydrological and climatic data compiled by CWC, RWD, Brahmaputra Board Office, Tezu would be use.
3. Flood data has been collected from the Disaster Management Department, Itanagar Aruachal Pradesh.
4. Geological and soil map prepared by earlier worker would be use.
5. Census of India Report.
6. Available literature in the form of research articles, relevant books, Ph.D work, etc.

GIS (Geographical Information System) based software ILWIS have been used for the preparation of final output map.

RESULT & DISCUSSION

Flood is one of the common and most frequently occurring phenomenon in the study area, infact it can be called as regular occurring feature of every monsoon period. From the present study it has been found that the main reason behind this disasterous natural event is largely due to the prevailing hydro-meteorological, geomorphic and topographical characteristics of the study area. The high seismicity and geological fragility of the region supplimented by high annual rainfall lead to disasters like soil erosions, landslides and heavy siltation culminating into devastating floods (Department of Disaster Management, Itanagar). Heavy rainfall and heavy siltation because of erosion by the rivers, leads to an adverse synergistic effect, creating havoc in the foothills by over flooding the embankments and deposition of silt along the valley floors. The consequent blockade of main courses of the rivers and sub-streams cause diversion of flow, which inturn engulf big chunks of fertile land between consecutive loops.

From the prepared DEM map below the topographical characteristics of the region can be traced out:

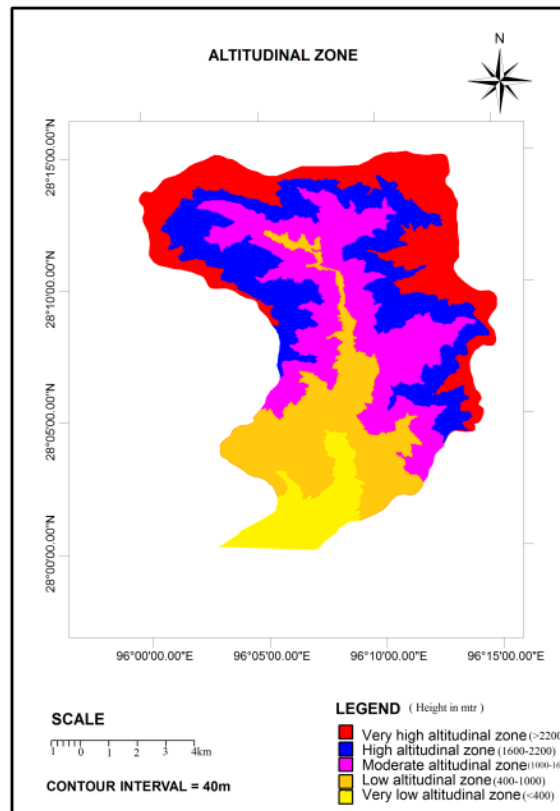


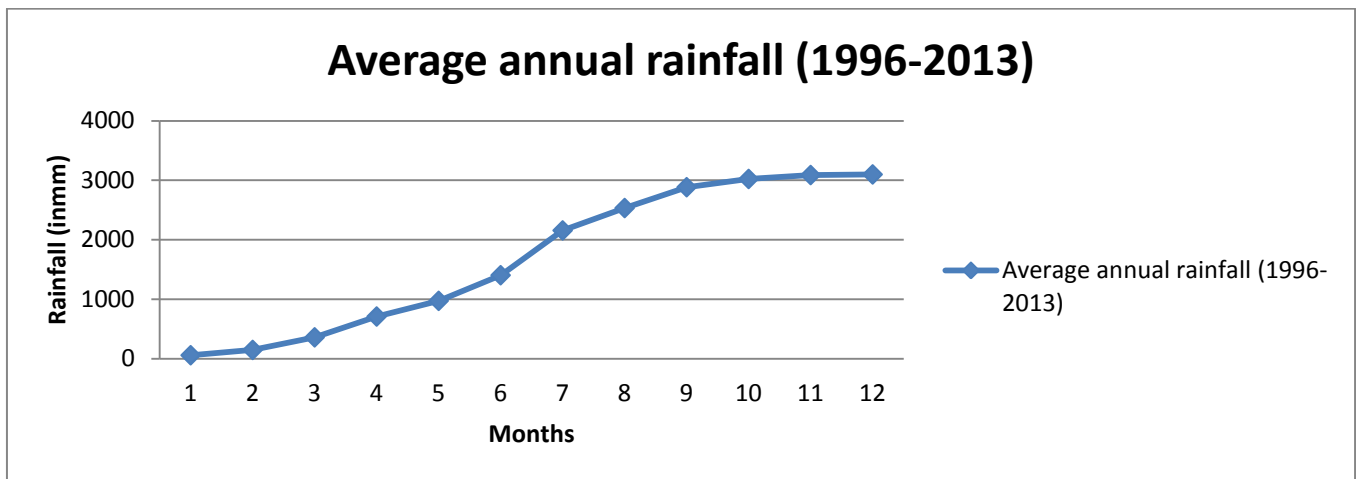
Fig. 3.4: ALTITUDINAL ZONE MAP OF DIGARU RIVER BASIN

Source: Prepared by self using GIS based software ILWIS

Based on the prepared altitudinal map, it is found that the region between <400-1000 meter (low and very low altitudinal zone) are more vulnerable to flood effect then the medium and high altitudinal zone. On the other hand landslide dominates between the height 1000-1600 meter durng every monsoon season. The district receives heaviest rainfall in the state. It receives heaviest rainfall of about 80-160cm during monsoon season. Heavy rainfall in the upper catchment causes sudden increase in the volume of water in the downstream. This causes overtoping of river bank by enormous volume of water and consequent inundation and flooding of the plain areas. The rainfall records of the study area varies from one year to another say for example in 2010 the total annual rainfall was 6224.91mm whereas in the year 2011 it was 4108.78mm. Below the rainfall variation is shown in tabular form as follows-

TABLE 1: MONTHLY AVERAGE RAINFALL DATA OF DIGARU RIVER CATCHMENT (1996-2013)

Months	Average Rainfall (mm)
January	58.67143
February	147.7667
March	359.5667
April	710.1867
May	973.4
June	1404.688
July	2157.871
August	2534.444
September	2884.775
October	3023.713
November	3089.377
December	3099.7



Source: WRD, Tezu.

During high discharge period river brings heavy silt and debris from the upper catchment, this raised up the river bed and flattened, causing severe flood in the lower plain areas. Thus heavy monsoon shower brings immense miseries for the people who have already lost their kin, livestock, houses and fields. Apart from damages to basic amenities and other infrastructure, the colossal damage during flood is caused to the agriculture fields, every year. Annual flood discharge of river Digaru from the year 1991-2012 are presented in a tubular form below-

TABLE 2: ANNUAL FLOOD DISCHARGE IN DIGARU RIVER, 1991-2012

Sl.No.	Year	Annual Maximum Flood Discharge (in Cumec)
1	2000	182
2	2001	165
3	2002	185
4	2003	181
5	2004	280
6	2005	320
7	2006	382
8	2007	364
9	2008	310
10	2009	280
11	2010	292
12	2011	362
13	2012	450

Source: WRD, Tezu.

Flood hazard has become a common problem in the study area because it affect the region every now and then during monsoon season. Though river gets flood very year, but it becomes hazard when it enters the human settlement areas. The damages caused due to 2004-2005 flood in the whole district is presented in the table below:

TABLE 3: DAMAGE/LOSS INCURED DURING 2004-2005 FLOOD IN LOHIT DISTRICT

Sl.No.	Details of Damage	2004	2005	Total
1	No. of villages affected	172	85	257
2	No. of households affected	3043	1200	4243
3	No. of households completely affected	83	25	108
4	No. of households partially affected	2960	1175	4135
5	No. of families affected	9726	1200	10926
6	No. of population affected	42089	30000	72089
7	No. of population threatened by floods	85000	55000	140000
8	No. of relief camps setup	37	2	39
9	No. of victims evacuated to relief camp	16960	350	17310
10	No. of casualties by flood	1	-	1
11	No. of cultivable land/crops (agri & horti) affected	9150.45	3340	12490.5
12	No. of Bridges damaged	55	10	65
13	No. of culverts damaged	44	15	59
14	No. of embankment damaged	89	18	107

Source: District Relief & Rehabilitation Department, Tezu.

The frequency of flood has been increased in Digaru catchment and it has become a big trouble for the people residing there. It has caused immense damage of life, property, crops of the region. During every rainy season, the river not only filled up with water, but excess amount of water also spill over the banks inundating the adjoining regions. Due to its inadequate channel capacity and soil erosion, every year a vast fertile land standing crops and temporary huts of the people use to be damaged by these flood.

CONCLUSION AND SUMMARY

Flood are natural phenomena, one cannot entirely get rid of it but their impacts can be minimise by managing it using man’s technical skill, better warning systems and positive human response to flood warnings and various controll measures adopted by the governments. There no any prime flood protection measures has been taken up since 2004-2005 except some petty temporary works on the following major and minor rivers like Lohit river, Tabang Nallah, Ziri Nallah (Department of Disaster Management, Itanagar). Though, after the flood of 2004-2005, some preventive measures has been taken by the government like construction of boulder bunds, spurs, plugginh structure, giude walls. But were damaged and washed away by later floods (Department of Disaster Management, Itanagar).

Based on the present study it is found that floods occur frequently in the study area, so there is a need to adopt proper flood control measures which should be taken by the government as well as citizen to minimise its impacts. Though one cannot totally overcome the problem of flood but atleast can minimise their impacts, here some controlling measures and steps one should adopt during flood are-

- i) Construction of embankments, dikes, flood walls on the bank of the river, so that the flood water can be confined within the channel. This will include the building of artificial levees of earthen materials, stones or concrete walls.
- ii) Construction of dams and reservoirs in the upper ridge to controll the volume of water. Such structure will also be usefull for irrigation purpose.
- iii) To check the soil erosion and siltation problem, one should adopt afforestation in the catchment and avoid deforestation.
- iv) Construction of raised platforms near the settlement for taking temporary shelter for both man and animal during flood.
- v) Creating awareness among the people about the cause and consequences of the flood and encourage them how to mitigate from the yearly occuring deadly natural phenomena.

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EVALUATING THE PERFORMANCE APPRAISAL SYSTEM (PAS) OF SENIOR LEVEL EXECUTIVES WITH REFERENCE TO INDIAN CEMENT INDUSTRY

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ABSTRACT

Performance appraisal system (PAS) is the backbone of the Human Resource (HR) policies and practices in any organisation. There is widespread realization that performance management practices have the capability to determine the motivational level of employees and could be a powerful vehicle in conversion of employee's potential into performance. The effectiveness of performance appraisal is thus strongly related to the effectiveness on an organisation. PAS has been acknowledged as an important tool to develop individuals. Organisation have managerial personnel and it is essential that the expression 'Performance appraisal usually relates to the assessment of staff or managerial performance. The purpose of this paper is to evaluating the performance appraisal of senior level Executives/Managers. To appraise the performance of another person, may be subordinate, is by no means, an easy task. All the same, performance appraisals have become part of organizational life. Every organisation has some kind of evaluating the personnel. It is generally seen that while some sort of Formal evaluation systems exists for lower and middle level managers, but the systems are not so formal or clear in the case of evaluation of senior level executives/managers in the cement industries.

KEYWORDS

Cement Industry, HRM, HR Policies and Practices, PAS, Senior Level Executives.

INTRODUCTION

Performance appraisal system is an important HR mechanism designed and utilized for the all round development and growth of employees in organizations, also to evaluate whether employees at various levels perform their assigned jobs as per norms. It is acknowledged that PAS should be carried out with a view to increasing the consistency, fairness and accuracy of employee appraisal. The information generated from such performance appraisal programmes generally help the management to implement certain administrative and development decisions of HR policies and practices regarding selection, placement, promotion, rewards, training and termination.

A PAS is a formal record of a manager's opinion of the quality of an employee's work. Performance appraisal requires manager's opinion about exactly how well an individual performed. It is not a document but record of manager's judgement about exactly how good a job has done once past twelve months.

Additionally, the performance appraisal system (PAS) also provides management with information that helps in identifying employee's potentials giving suitable direction to administrative decisions.

Research Studies indicate that, there is no uniformly accepted norms or methods by these organisations for PAS. The drawbacks and limitations observed in the operation of the various performance appraisal systems in these existing companies. A fact which emerged clearly in our study is that the proper and formal appraisal of performance of Senior Level Executives/Managers was practically non-existent.

RATIONALE OF THE STUDY

PAS are one of the most important requirement for successful business and human resource policies. Rewarding and promoting effective performance for Senior level Executives and Managers or other Personnel actions are essential to effective to human resource management (HRM); The ability to conduct performance appraisal relies on the ability to assess the Senior level executives and manager's performance in a fair and accurate manner.

The ability of an organisation should have to evaluate and reward executives & managerial performance in the cement industry but it is of a neglected activity. In this paper, we have to evaluate the performance appraisal system (PAS) of Senior level executives and managers in various cement industry.

OBJECTIVES OF THE STUDY

The present study would examine and evaluate the performance appraisal system of senior level executive prevailing in the cement industries. In particular, the study would aim at-

1. Examining and evaluating the performance appraisal of senior level executives and managers; and
2. Assessing the factors of performance appraisal of senior level executive/managers.

RESEARCH METHODOLOGY

The methodology adopted for the study has been divided into three parts. First part deals with sources of data; Second part is selection of sample of units and third part explains on the method of data analysis.

PART- I SOURCES OF DATA - has been collected from both the primary and secondary sources. Library Research and Review of previous studies, theoretical backdrop, the literature review and the company history has been collected from secondary sources for which various text books. Journals, Magazines, articles, publications, records, reports, dissertations and thesis pertaining to the relevant matter of the subject under study has been surveyed.

Thrust was on collection of primary data and field work. The well structured questionnaire was prepared and distributed personally with the respondents to get their responses.

PART-II SELECTION OF SAMPLE UNITS - The study was conducted among the cement industries in and around Satna District. These can be grouped into small scale industries, medium sized industries and large scale industries. Small scale industries could not be considered as these hardly any senior level managerial position in those industries. Among the rest a sample of 10 medium and large sized companies were selected comprising of well known cement industries. All the senior level managers and executives of these companies were considered for data collection.

PART-III ANALYSIS OF DATA - The data collected were analyzed to bring out the following :

- To identify the philosophy of industries in and around Satna District based cement industries with regard to human resources;
- To bring into focus the types of performance appraisal currently practiced and the existence of managerial performance appraisal system for senior level executives/managerial positions in these companies;
- To describe the 'image or impressions' of the performance appraisal currently being operated; and
- To highlight the need for development oriented appraisal system.

RESEARCH INSTRUMENT**1- QUESTIONNAIRE FOR SENIOR LEVEL EXECUTIVES AND MANAGERS**

About 150 senior level managers and executives from the 10 selected cement companies randomly were given a pre-tested questionnaire to elicit the following:

- Purposes served by appraisal system as perceived by these executives;
- Existence of performance appraisal in their company;
- Type, efficacy and credibility of the systems in practice in their organisation;
- Factors of assessment applicable for assessing senior level managerial positions; and
- Views of these executives on the development oriented appraisal system.

2- INTERVIEWS WITH PERSONNEL/HR MANAGERS - In order to know more about the appraisal system being followed, interviews with Personnel/HR Managers were resorted to by using a schedule. The interviews focused in the existence or non-existence of appraisal systems, type of systems followed purpose for which appraisal data are used, level of satisfaction achieved, problems of difficulties faced and existence or non-existence of evaluation of performance of top and senior managerial positions.

3- DISCUSSIONS WITH MANAGEMENT: In order to know more about the management Philosophy on HRM and the general reaction to performance appraisal systems, discussions with management namely, the chairman/Chairman-cum-Managing Directors/Managing directors/President (P&A)/Vice-President (HR)/Chief Executives of the companies were resorted to using a schedule. The discussions focused on the awareness of linkage between performance appraisal and HRM, Perception of the appraisal system being followed in their organisations, decision making based on appraisal data and the role of the MD/CMD/Chairman in the appraisal process of top and Senior level managerial positions.

4- DOCUMENT STUDY: A check list was prepared to study these documents pertaining to performance appraisal and ascertain the formal and procedure for assessing the performance of top level managerial positions, existence of performance planning, self-appraisal, identification of training and development, potential appraisal performance counseling, career development aspects and checks and balances in the system.

SIGNIFICANCE AND PURPOSE OF MANAGERIAL PERFORMANCE APPRAISAL

Performance appraisal has been considered as the most significant and indispensable tool for an organisation. The information it provides is highly useful in making decisions regarding various personal aspects such as promotion & merit increases. Accurate information plays a vital role in the organisation as a whole. They help pinpoint weak areas in the primary system. It is easier for managers to see which employees need training or counseling because jobs are grouped by categories. Performance appraisal system has been acknowledged to be an important tool to develop individuals. Organisations have managerial personnel and it is essential that their performance is also evaluated. Cole, C.A.(1988) Stated that the expression 'performance Appraisal' usually relates to the assessment of staff or managerial performance.

Harold Knootz (1978), who considers managerial performance appraisal as the key to management itself, says that "managerial appraisal should measure performance as a manager in meeting the goals for which the manager is responsible." Therefore, assessing the performance of all managers irrespective of level is a requirement of any good performance appraisal system.

SOME CONSIDERATION FOR MANAGERIAL APPRAISAL

Successful managerial performance requires certain specified skills. Organisational adoption to environment requires appropriate managerial responses to both the stable and shifting aspects of the environment. Therefore, managerial tasks often tend to be non-routine and un-programmed components. This will need qualitatively different abilities for managerial work.

These different activities can be classified into categories: Skills (Overt behaviour sequences specific to the tasks) and competencies (Mediatational, cognitive self regulation). Skill refers to abilities to engage in overt behaviour system or sequences, whereas competencies refer to intelligent functioning and abilities to engage in cognitive activities. The former is required to handle routine and programmed tasks with set procedures whereas competencies are required for non-routine and un-programmed tasks. Possession of competencies are conceptualized as managerial resourcefulness. Therefore, identification and selection of various factors of assessment (also called attributes) consisting of skills and competencies is very important in managerial performance appraisal. In addition, narrative comments which can provide an opportunity to write freely and informally about the appraisee so that a vivid picture of the appraisee emerges in contrast to the mathematical view given by the numerical gradings must be incorporated in the format.

EVALUATING THE PERFORMANCE OF SENIOR LEVEL EXECUTIVES AND MANAGERS

It is generally seen that some sort of formal evaluation systems exists for lower and middle level managers, the systems are not so formal or clear in the case of evaluation of senior level managers and executives in an organisation.

A research conducted by the researcher during 2012-2014 among the cement industries in and around Satna district of Madhya Pradesh also strengthens this fact. According to Prof. T.V. Rao (1988), in designing any system of appraisal, managerial performance should be taken into consideration. Besides an understanding of the nature of function and type of activities of a Senior level manager as well as his skills and capability requirements in equally important. Despite no differences in types of organisations and nature of product, these normally, remain common for all senior level managers. They are as mentioned below:

I. NATURE OF FUNCTION AND TYPE OF ACTIVITIES

- i) Orientation towards future.
- ii) Strategic and Long range Planning.
- iii) Alternative Analysis and Resource Allocation.
- iv) Policy formulation.
- v) Overall Review and Evaluations for Management control.
- vi) Leadership.
- viii) Critical problem handling, analysis and decision making.

II. SKILLS AND CAPABILITIES REQUIRED

- | | |
|--------------------------|--|
| i) Technical | A few desirable. |
| ii) Managerial | Very important |
| iii) Behavioural (Human) | Many are essential and some very important |
| iv) Conceptual | Essential |

Therefore, selection of factors which can represent the performance of Senior level managers and executives becomes critical. But it is also the most difficult part of the design of any performance appraisal systems. Few aspects to be kept in view are:

- **Applicability** - The chosen factors (attributes) must be appropriate to the level and must be applicable universally to all senior level managers without exception.
- **Observable ability** - These factors must be observable by a superior in the performance of the subordinate (appraisee) in terms of quantity and quality.
- **Distinguish ability** - Each factor is to be different from the other and the performance on each is to be discernible.
- **Number of Factors** - At senior level, there is need to ensure that the total number of factors are kept to the minimum possible so as not to assess these Senior level managers on attributes, not appropriate to them. At the same time the number should be sufficient enough to depict the performance of the executives as a professional as an individual and leader.

- Weight age to Factors - It is advisable to keep equal weight age to all factors of assessment as different weight age tends to complicate the process of evaluation. At the senior levels, the performance both as a professional (on job performance factors) and as an individual (on behavioural factors) are considered equally important. Therefore, it is appropriate to give equal weightage by keeping the same number of factors between these two groups.

FACTORS TO ASSESS THE PERFORMANCE OF SENIOR LEVEL MANAGERS

In the study conducted by the researcher, the selected executives were requested to indicate their preferences for maximum of 21 factors of assessment out of a list of 48 factors supplied to them, which is their opinion are important and applicable for assessing the performance of senior level managers. These 48 factors were selected from existing forms used for assessing the managers as well as, from the recommendations given in literature on the subject and previous studies. These factors depict a variety of dimensions representing professional and behavioural performance of managers and executives are given below in Table 1:

TABLE 1: FACTORS TO ASSESS THE PERFORMANCE OF SENIOR LEVEL MANAGERS

1.	Planning Ability	25.	Hard Work
2.	Organizing Ability	26.	Integrity
3.	Co-ordination	27.	Drive
4.	Supervision	28.	Empathy
5.	Leadership and Dynamism	29.	Assertiveness
6.	Initiative	30.	Originality
7.	Resourcefulness	31.	Data Management
8.	Creativity and Imaginativeness	32.	Concern for others
9.	Development of Subordinates	33.	Dependability
10.	Team ship	34.	Loyalty
11.	Analytical Abilities	35.	Knowledge
12.	Delegation	36.	Vision and conceptual Ability
13.	Public Relations	37.	Stability under stress
14.	Sociability	38.	Judgments
15.	Self-confidence	39.	Result orientation & Task Management
16.	Decision-Making	40.	Cost & Quality consciousness
17.	Co-operative ness	41.	Self Development Interest and Self-Motivation
18.	Flexibility	42.	Negotiation skills.
19.	Problem-Solving	43.	Determination and courage
20.	Risk Taking	44.	Honesty
21.	Ability to motivate Subordinates	45.	Tact
22.	Conflict Management	46.	Resource Utilization skills
23.	Power of Communication	47.	Entrepreneurial skills
24.	Perseverance	48.	Sense of Responsibility

Of the 150 Executives, 108 responded and the factors of assessment which were preferred by 40% or more of the executives are found to be as below in Table 2.

TABLE 2

S.No.	Factors of Assessment	Percentage
1.	Decision Making	97%
2.	Planning Ability	90%
3.	Leadership and Dynamism	88%
4.	Organising Ability	77%
5.	Development of Subordinates	75%
6.	Initiative	68%
7.	Ability to motivate Subordinates	64%
8.	Power of communication	64%
9.	Delegation	61%
10.	Co-ordination	60%
11.	Problem Solving	56%
12.	Creativity and Imaginativeness	55%
13.	Team ship	53%
14.	Cost and Quality consciousness	52%
15.	Knowledge	51%
16.	Integrity	49%
17.	Self Confidence	47%
18.	Sense of Responsibility	46%
19.	Analytical Ability	44%
20.	Loyalty	43%
21.	Result orientation and Task Management	40%

RECOMMENDED FACTORS OF ASSESSMENT TO EVALUATE THE PERFORMANCE OF SENIOR LEVEL EXECUTIVES/MANAGERS

It is seen that the preferences shown by the executives/managers are varied. Of the above Table 2, it is seen that Planning ability, organizing ability and co-ordination can be combined under management of Resources which will automatically include cost and Quality consciousness. Decision-making and problem-solving are one and the same, since by taking decisions one solves the problems and for solving problems one has to take a decision. Besides, the procedure for both are also same. Analytical skill is required for analyzing a problem as well as the alternatives.

In order to take a decision, Development of Subordinates, delegation and motivation can be combined to make one factor 'Motivating Ability'; Thus, by analyzing the selected factors, applying permutations and combination, as well as, keeping various aspects into consideration appropriate to the level of function including the preferences indicated by the Senior level managers and the executives, the following factors were arrived at for assessing the performance of a senior level executives and managers.

I. PROFESSIONAL FACTORS

- i) Professional competence.
- ii) Creativity and conceptual ability.
- iii) Result orientation and Task Achievement.
- iv) Judgment and Decision making.
- v) Power of communication.
- vi) Management of Resources.
- vii) Initiative.

II. BEHAVIOURAL FACTORS

- i) Leadership and Dynamism.
- ii) Human Relations
- iii) Motivating Ability
- iv) Determination.
- v) Stability under stress.
- vi) Integrity.
- vii) Loyalty

FINDINGS AND RESULTS

The findings and results of the study in brief indicated the following :

The management of the companies by and large were aware of the importance of HRM-However, most of them did not fully understand the functions of HRM and the linkage between HRM and Performance appraisal system.

Of these 10 cement companies taken up, one did not favour the study in its organisation on the ground that it did not have any formal appraisal system while another company did not want the study in the organisation due to obvious reasons. Of the balance 8 companies studied, 5 did not have any formal appraisal system. Among the remaining 3, in 2 companies the form for assessing all level managers was the same only one company were having some what satisfactory to good systems for executives and managers including a separate format for assessing the performance of senior level executives and managers.

DRAWBACKS AND LIMITATION

The drawbacks and limitations observed in the operation of the various performance appraisal systems for executives and managers in the above companies were:

- Low frequency of appraisal;
- Lack of clear performance expectations & from employees;
- Limited focus on results or outcomes;
- No proper feedback;
- Lack of performance planning.
- Lack of performance counseling and feedback;
- Non-inclusion of potential appraisal;
- Inappropriate factors of assessment;
- Too many factors of assessment;
- Lack of Transparency;
- Limited use of appraisal data;
- Non-availability of appraisal manual,
- Non-consideration of the views of the executives/Managers in designing a suitable appraisal systems;
- Even the management of some of these companies were not satisfied with the operation of the system but were continuing with the some system; and
- No proper usage of appraisal information.

SUGGESTIONS AND CONCLUSION

Performance appraisal is one of the human resource management tools used to evaluate the job performance of employees. Performance appraisal should focus on three objectives namely performance not personalities, valid, concrete, relevant issues rather than subjective emotions and feelings, reaching management on what the employees is going to improve in his performance and what He/She is going to do. Both the Superior and subordinate should recognize that a strong relationships exists between training and performance evaluation.

The companies must consider the patterns of power distribution across the hierarchical levels at which the appraisal is being conducted. It would be inappropriate to appraisal senior level Managers/Executives in dimensions similar to those for junior level managers. Thus, organisation should exercise maximum caution while deciding about the relevance of evaluation dimensions of the PAS at different Managerial/Executive levels.

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