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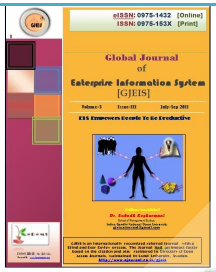

Epistle

Dr. Subodh Kesharwani
Editor-In-Chief [GJEIS]
1st Oct 2011

Today's economy is on trembling ground and the immediate future looks like more of the unchanged. Information is at the heart of today's business, and the all-pervasive impact of information technology in harnessing, collating and processing huge volumes of information is high-tech. The purpose of any information system is to maintain the activities of an organization.

Consequently it is essential to have a high-quality clutch of information technology aspects associated to information systems as well as the business individuality. This particular issue accentuate, on a people as they are suppose to be an important constituent of technology implementation, worked as a performance enabler, and finally aimed at bringing together active researchers in an area of information systems.

This present issue will be of interest to information technology professionals, especially those working on systems integration, databases, decision support systems or electronic commerce. It will also be of use to middle managers who need to work with information systems and require knowledge of current trends in development methods and applications.

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Impact of Technostress in Enhancing Human Productivity:
An Econometric Study

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ABSTRACT

Information Technology in the corporate world, effects of the continuing developments in information technology (IT) on business activities. In the enterprise, information technology has made significant changes on production design, management control, decision-making and organizational design and is becoming increasingly indispensable part of many aspects of business and everyday life. Easy worldwide communication provides instant access to a vast array of data, challenging assimilation and assessment skills. At the same time, there is a need for specialized staff support, training for managers and employees, and a redefinition of jobs. It has also made employees work under greater mental pressure and sense of anxiety and pessimism as they have to keep up with the fast advancing pace of the new ICTs, employees have to constantly renew their technical skills as well as enduring pressure from a more complex system and higher expectations for productivity. Managers need to consider the effects of various new problems aroused by information technology, including overcoming resistance to the use of computers, mental pressure and security of information. Studies have found technostress to have significant negative impact on employee productivity. The paper concludes that results are evident which verified that there is a negatively influences of IT usability on the workforce which specifically has interacting with IT innovations regularly on productivity. This will provide a foundation for organizations to comprehend and alleviate technostress, thus improving employee performance and productivity.

KEYWORDS

MANOVA	Techno stress
Human	Information Technology (IT)

PREFACE

The technostress problem is more evident in information technology (IT) professionals, who simultaneously create new technology and are affected by it. Today, the IT industry is the fastest growing industry in each country and they are facing tremendous competitive pressure. IT professionals must continually learn and apply new technology into their projects as quickly as possible. Due to shortage of time, they are forced to update their knowledge and skills in their spare time including holidays. They are subjected to workload increases due to the complexity of new technology systems and the relatively short time frame to complete IT projects. According to a health survey (Anne, 2004 and Wang *et al.*, 2008), the main causes of job stress for white-collar workers in China are workload and occupational crises. To keep up with the fast advancing pace of the new ICTs, employees have to constantly renew their technical skills as well as enduring pressure from a more complex system and higher expectations for productivity. In the meantime, the introduction of new technologies is often accompanied by organizational downsizing, which means there are fewer people to do the same amount of work. At present, most of the organizations are carrying out IT reconstruction within the workforce. As more and more technologies are placed on employee desktops, the technostress level may also increase while the organizational productivity and work efficiency may suffer. Companies must take practical measures to cope with technostress (Tu, Wang, & Shu, 2005). Various types of stress have been defined by researchers in the past. Especially, work related stress is considered as the major reason for being stressful, i.e. 'technostress'. This is a stress caused by the inability to cope with the new computer technology in a healthy manner. Craig Brod (1984) was the first to define technostress in a more formal manner. This is expressed in many ways: irritability, headaches, resistance to learning about the computer or outright rejection of the technology, etc. Sometime, it turns into anxiety, technophobia or computer phobia by which employees started to hesitate or avoid the use of technology (Rosen *et al.*, 1987). Upgraded information technology has revolutionized the working pattern of the organizations. Technostress affects work related culture and has brought its own problems to many employees of the organization. Inspite of several training programs, employees in many organizations are not able to cope up with it and are unable to make themselves comfortable (Lalitha & Pangannaiah, 2006).

ICT innovations have changed the personal and professional life due to the ramifications of the rapid influx in the technology (Hoffman, Novak, & Venkatesh, 2004). The most conspicuous development in the globalization context has been the Information and Communication Technology (ICT) influx. It seems to have turned the world into a global village. Endless connectivity, interactive organizations, information sharing and infinite access have all become the new ICT buzz words. The new trends in the world market economy have brought to the fore the debate on the impact of the Liberalization, Privatization and Globalization wave. The impact is most visible in the context of developing economies, as it astutely plays down its drawbacks and accentuates its advantages. One of the highlighted positives being the influx of Information and Communication Technology (ICT). If, on the one hand, globalization has precipitated the onward march of ICT, the growing success in ICT initiatives has also brought the global community closer. ICT, in the globalization context, is all about global knowledge, access, participation and governance in the information age. It has radically changed our views about boundaries between organizations and the boundaries within the organizations. . On the one hand dependence on advanced ICTs brings noted convenience and productivity gains. On the other hand, however, people are suffering from being surrounded by overwhelming and rapidly changing technologies. This often leads to ICT related technostress experienced by employees in many organizations which affect employee productivity negatively (Ragu-Nathan *et al.*, 2002 and Tarafdar *et al.*, 2007 and Ragu-Nathan *et al.*, 2008). Nowadays, information and communication technology (ICT) is ubiquitous, and the quality of our home, work and social life is significantly dependent on the quality of ICT-based information systems. Since the majority of ICT and ICT-based information systems are developed and used in business organisations, ICT workers, including ICT professionals and ICT non-professionals or end-users, have both intentional and unintentional power over the general public. They have to recognise their responsibility to the general public and develop a professional outlook

and attitude in order to create and maintain a safe and reliable information society.

Well-organised codes of conduct for guiding ICT workers in their professional behaviour have already been laid down; however, these codes may not function well on their own, unsupported by context. An ICT worker is not necessarily an independent and unchallenged entity; he/she works within a complex environment filled with various types of *stress and pressure.* This complex cultural situation—in which young people are struggling to find direction in their lives or simply to survive, to improve their living conditions, and to develop their identities—has been given various names. Some call it the information or informational age, while others prefer the term techno-culture (Robins & Webster, 1999) or techno capitalism, global media culture, or simply globalization, referring to the dialectic process in which the global and the local exist as "combined and mutually implicating principles". Labels such as post-industrial, virtual and cyber society are also in use (Beck, 2002). The idea behind all these terms is that across the globe, ICT are playing a central role in young people's lives and in society at large (Hand & Sandywell, 2002). This revolutionary change has also enhanced the expectation level of management as far as productivity and work culture is concerned. Employees are often expected to be reachable through email or cell phone while at home or even on vacation. It also influenced psychological health of workers as well as superiors or top management level by increasing their workloads (Duxbury & Higgins, 2001 and Thomee *et al.*, 2007). The objective of this paper is to explain the relationship in the present-day business organizations mainly between IT personals and increased usage of information technology (IT) and how these relationships affect the productivity and efficiency of the employees.

This research paper is divided into five sections. Section 1 i.e. the present section gives the conceptual framework of technostress affecting IT personnel in Indian context. Section 2 gives a comprehensive review of existing literature which is the prime tool in identifying the research gap. Section 3 identifies the research objectives, data and methodology used. Section 4 presents the analysis and interpretation of the results and Section 5 entails the summary and conclusions of the research study.

REVIEW OF LITERATURE

There are many studies conducted which are focused on the stress originating by the use of information technology directly or indirectly, like, Bloom, 1985; Doronina, 1995; Weil & Rosen, 1994 & 1997. It is evidently proved that the organizational environment plays an important role to enhance technostress for employees (Schein, 1971; Murphy, 1987; Farina *et al.,* 1991; Hendrix *et al.*, 1995; Sosik & Godshalk, 2000 and Raitoharju, 2005). Numerous studies identified that technostress integrated with the rapid use of IT/ICTs are as follows: Craig Brod, 1984; Compeau & Higgins, 1995; Clark & Kslin, 1996; Arnetz & Wiholm, 1997; Thong & Yap, 2000 and Sethi *et al.*, 2004). Some studies found that technostress is an important fallout of the inevitable use of ICTs in organization and illustrates the bivalent nature of their organizational influence (Lloyd & Gressard, 1984; Igbaria & Prasuraman, 1989; Brosnan, 1998; Desai & Richards, 1998; Bryan, Ajay & Simon, 2002; Ragu-Nathan *et al.,* 2002; Finn & Korukonda, 2003; Burton-Jones & Hubona, 2005.

Many researchers focused on gender issue and confirmed that female personnel showed more stress than men (Burke & Belcourt, 1974; Davidson & Cooper, 1983; Nelson *et al.,* 1990; Rosen & Maguire, 1990; Smits *et al.*, 1993; Shaw, 1994; Ranson & Reeves, 1996; Gefen & Straub, 1997; Whitley, 1997; Moore, 2000; Venkatesh & Morris, 2000; Ahuja, 2002; Perrons, D., 2002; Day & Livingstone, 2003; Harris & Wilkinson, 2004; Matud, M., 2004, and Cameron B. & Butcher-Powell L., 2006). While others insist that there are no differences between the sexes on the issue of technostress (Martocchio & O'Leary 1989, and Hamilton & Fagot, 1988). Whereas a single study showed that female IT professionals had less self perceived occupational stress than men i.e. Tung, 1980.

Some past literature define the concept of stress as a continuous and dynamic process which affects employees psychologically, (Shirom, 1988; Newton, 1989; Dewe, 1991; Hart, Wearing & Headey, 1993; Hart and Wearing, 1995) which are mostly focused on individual intensity in place of organizational aspects, while, several other are considered organizational phase (Wilkins & Ouchi, 1983; Denison & Mishra, 1995; Ma & Bao, 1999;

Hannakaisa *et al.*, 2000; and Wang *et al.*, 2008). In this paper, Questionnaire technique is used to get an apparent picture about the usual proceedings of the personnel which is also an approved and much used technique for the analytical surveys (Robertson *et al.*, 1990; Cooper & Williams, 1991; Rees & Cooper, 1992; Bogg & Cooper, 1995; Lim & Teo, 1996; Cameron & Butcher-Powell, 2006 and Rajput & Gupta, 2011).

After reviewing the literature, we can define technostress as a reflection of one's discomposure, fear, tenseness and anxiety when one is learning and using computer technology directly or indirectly, that ultimately ends in psychological and emotional repulsion and prevents one from further learning or using computer technology and hence, this leads to major fallouts because of technology, which affects the productivity adversely and to study this is the main focus of this paper. To address these issues, in the form of strategy is vital for the organization and for human resource managers (HR managers) on the ignorance of which there can be major downbeats.

RESEARCH OBJECTIVES

The main objective of this paper is to examine the occupational stress on IT employees and its impact on their productivity and efficiency.

Hypotheses can be formulated are as follows:

***Ho*: There is negative relationship between level of centralization and level of innovation on techno-stress among employees.**

***H1*: High level of centralization and innovation are directly related to level of Technostress.**

***Ho*: There is no impact of innovation and automation in organization on employee Technostress and no effect on employees' productivity.**

***H2*: The organizational environment of innovation increases the level of employee Technostress and affects employee productivity negatively.**

DATA

This paper is focused on analysing the impact of increased techno-stress among the personnel of IT organizations and its impact on productivity and efficiency. To understand this relationship a structured questionnaire was formulate. The interview sessions were also organized to supplement the information which is not elicited by the questionnaire with a further exercise of probing the respondents about their responses on the survey. The data was collected through a combination of mail surveys and semi-structured interviews. Total 580 correct responded questionnaires were used for the analysis. Among 580 participants, 60 per cent are male respondents (N = 348) and 40 per cent are female respondents (N = 232) which is coded by 2 and 1 respectively. Out of total 18.1% respondents are from supervisor or top management level, and the rest 81.9% are other qualified staff. Age is corresponding in three groups, 174 are below 25 years of age, 341 are from 25 to 45, and the rest 65 are older than 45. The staff which is selected from educational background, categorized in four categories, such as, 1: 5% (29) have done high school, 2: 45% (261) have completed 4 years college, 3: 20% (116) cleared graduation and 4: rest 30% (174) have done other courses. The adequacy test of the sample size is done by Kaiser-Meyer-Olkin (KMO) and Bartlett's Test. Reliability test is done by Cronbach Alpha. Validity test was done by factor analysis.

METHODOLOGY

Sources of stress were assessed with 61 items adopted from Cooper et al.'s (1988) occupational stress indicator (OSI). The psychometric properties of the OSI have been established in previous studies. Items were scored from 1 (strongly agree) to 5 (strongly disagree) on a five-point Likert Scale response. Williams (1996) analyzed the data from over 20,000 participants working in over 100 different organizations to evaluate the scale structure and reliability to test the psychometric properties of the OSI on a huge diverse sample and see if the instrument could be improved. The OSI consists of five subscales which tap five dimensions of stress: (1) Techno-overload, (2) Techno-invasion, (3) Techno-complexity, (4) Techno-insecurity and (5) Techno-uncertainty. Tarafdar et al. (2007) further developed and validated a technostress measurement scale based on US data. The scale defined five components of technostress that describe typical situations where the use of computer technology can potentially create technostress. The five components are: (1) Techno-overload: the ICTs pushes employees to work faster; (2) Techno-invasion: the pervasive ICTs invades

personal life; (3) Techno-complexity: the complexity of new ICTs makes employees feel incompetent; (4) Techno-insecurity: the job security of employees threatened by fast changing ICTs; and (5) Techno-uncertainty: the constant changes, upgrades and bug fixes in ICT hardware and software impose stress on the end-users.

FACTOR ANALYSIS

Factor analysis is a statistical method to depict variability among observed variables in terms of a potentially lower number of unobserved variables called factors. In other words, it is possible, for example, that variations in three or four observed variables mainly reflect the variations in fewer such unobserved variables. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modeled as linear combinations of the potential factors, plus "error" terms. The information gained about the interdependencies between observed variables can be used later to reduce the set of variables in a dataset. Factor analysis originated in psychometrics, and is used in behavioral sciences, social sciences, marketing, product management, operations research, and other applied sciences that deal with large quantities of data. In this paper, Gender, age and Educational level are few factors which are categorized in the basis of Centralization and Innovation forms the basis of factor analysis. They are found to be satisfactory reliability scores.

Analysis: The analysis will isolate the underlying factors that explain the data. Factor analysis is an interdependence technique. The complete set of interdependent relationships is examined. There is no specification of dependent variables, independent variables, or causality. Factor analysis assumes that all the rating data on different attributes can be reduced down to a few important dimensions. This reduction is possible because the attributes are related. The rating given to any one attribute is partially the result of the influence of other attributes. The statistical algorithm deconstructs the rating (called a raw score) into its various components, and reconstructs the partial scores into underlying factor scores. The degree of correlation between the initial raw score and the final factor score is called a factor loading. There are two approaches to factor analysis: "principal component analysis" (the total variance in the data is considered); and "common factor analysis" (the common variance is considered). In this paper "principal component analysis" is used.

ANALYSIS AND INTERPRITATION

***Ho*: There is negative relationship between level of centralization and level of innovation on techno-stress among employees.**

***H_1*: High level of centralization and innovation are directly related to level of Technostress.**

Level of innovation and centralization has a positive impact on level of technostress as is evident from table 1 which gives details of descriptive of variables under study i.e. means, standard deviation and correlation. Results reveal an overall significance positive correlation between technostress and the extant of centralization ($r = 0.288$, $p < 0.01$) and innovation environment ($r = 0.156$, $p < 0.01$) and is in congruence to the review of literature deliberated above like (Zhou, 1996). To find out the impact of centralization and level of innovation in the organization after taking into account the possible effects of control variables, ***stepwise multiple regressions*** are used to test the hypotheses, the results of which are reported in table 2. It was revealed that the t-value of both the extent of centralization ($t = 6.029$, $p < 0.01$) and innovation environment ($t = 2.439$, $p < 0.05$) are found to be significant with no collinearity in the regression model which leads us to the rejection of null hypothesis (*Ho*) and acceptance of alternative hypothesis (H_1) i.e. high relationship of centralization and technostress. Hence, we can say that if employees are forced to learn the new technology over long period of time, there is likelihood for them to suffer from technostress which is evident from there level of dissatisfaction and fatigue. On the other hand, in a more decentralized set-up, employees will be more willing to accept new technology which reduces the level of technostress. This is an important implication for the management to balance centralized organizational structures with participation mechanism to avoid high levels of employee technostress and should be incorporated in the strategies.

Table 1: Means, Standard Deviations and Correlation of Measures

Measures	Mean	S.D.	1	2	3	4	5
Gender	0.65	0.019	.	.	.	.	.
Age	1.79	0.027	0.105(**)	.	.	.	.
Educational Level	2.85	0.029	0.121(**)	0.018	.	.	.
Centralization	7.24	0.078	0.007	0.036	-0.117	.	.
Innovations	8.99	0.076	-0.039	-0.034	-0.054	0.242(**)	.
Technostress Level	**71.42**	**0.445**	**0.038**	**0.112(**)**	**-0.003**	**0.288(**)**	**0.156(**)**

*** p<0.05, and ** p<0.01; N=580**

Table 2: Regression Results: Technostress an Organizational Environment

	Unstandardized Co-efficients		Standardized Co-efficients		Sig. Value	Collinearity Statistics	
Independents	*B*	*S.E.*	*Beta*	*t-value*		*Tolerance*	*VIF*
Gender	0.661	0.949	0.031	0.698	0.492	0.963	**1.048**
Age	1.438	0.628	0.094	2.33	0.027	0.981	**1.029**
Educational Level	0.285	0.599	0.023	0.52	0.641	0.974	**1.035**
Centralization	1.246	0.208	0.246	6.029*	0	0.952	**1.059**
Innovations	0.517	0.24	0.102	2.439*	0.018	0.956	**1.056**
Adjusted R^2	0.091						
F-value	**11.472**						

*** p<0.05, and ** p<0.01; N=580**

***Ho*: There is no impact of innovation and automation in organization on employee Technostress and no effect on employees' productivity.**

***H_2*: The organizational environment of innovation increases the level of employee Technostress and affects employee productivity negatively.**

MANOVA followed by a Scheffe's test (for pair-wise comparisons) is conducted to understand the varying level of technostress across various organizational internal environments. The result of MANOVA indicates that the difference of technostress is statistically significant under different organizational internal environments taking computer related technostress as dependent variable and centralization vs. innovation as organizational environment (see table 3). In the contemporary world, to introduce innovations and embedding that in organization culture is inevitable. To have a competitive edge, innovation has become the main strategy of many firms. The analytical results indicate an elevating level of technostress with high levels of innovations, especially when organization rewards an employee with higher level of computer literacy and vice-a-versa, thus, disrupting individual goals, similarly as the study done by Schwartz & Davis, (1981) and Sheridan (1992). Hence, a rational strategy is required on the part of the management to strike a balance between organizational and individual goals with right amount of assistance imparted time and again to all employees which will help in alleviating level of technostress.

Table 3: MANOVA Results: Technostress and Organizational Environment

Organizational Environment→ Technostress↓	Low Centralization & Low Innovation	Low Centralization & High Innovation	High Centralization & Low Innovation	High Centralization & High Innovation	*F-Value*
Techno-overload	9.69	9.91	10.65	10.58	**8.929***
Techno-invasion	24.08	23.98	25.26	25.05	**2.454**
Techno-complexity	19.38	19.99	21.43	21.62	**12.583***
Techno-insecurity	4.26	4.27	4.68	4.89	**10.059***
Techno-uncertainty	11.014	12.25	11.24	12.63	**12.891***
Technostress Level	**67.73**	**70.16**	**72.67**	**74.57**	**12.815***

* p<0.05, ** p<0.01 and *** p<0.001; N=580

Table 4: Scheffe's Method

Quadrant I:	**Quadrant II:**
Low Centralization/Low Innovation	**Low Centralization/High Innovation**
Quadrant III:	**Quadrant IV:**
High Centralization/Low Innovation	**High Centralization/High Innovation**

The above analysis reveals that there are varying perceptions of employees under different organizational internal environments in relation to technostress. Direct relationship is revealed between level of technostress and centralization/innovation of organization. Out of five components, i.e. *Techno-overload, Techno-invasion, Techno-complexity, Techno-insecurity and Techno-uncertainty*, there is no significant difference of "techno-invasion" and the rest are found to be significant. Finally, the analytical results authenticate that the levels of employee technostress are significantly diverse in organizations that belong to the four different configurations of organizational environment shown above (see fig. 1). Organizations in Quadrant I (low centralization/low innovation) generate the lowest level of employee technostress as minimal technology is used in daily operations. Whereas, organizations in Quadrant IV (high centralization/high innovation) create the highest level of employee technostress as there is heavy dependence and usage of technology innovations to achieve the competitive edge. This framework of analysis will help the managerial personnel to develop and counter the negative impacts of technostress.

SUMMARY AND CONCLUSIONS

Technostress is becoming a new nightmare caused by our advancements in this technological age. This is a type of anxiety which is experienced when interacting with onslaught of newly improved and technological gazettes and computer upgrades invading our work, home and leisure time activity. It is on the rise and can appear as irritability, headaches, mental fatigue, panic, anger and feeling of helplessness. On the other side of the coin, these great inventions can save time, money and help us giving the timely information. This paper investigates the impact of different organizational environment, variables on the level of employee technostress. Research about technostress in Indian companies is relatively a new concept and can be extended to other culture setting also. Different marketing strategies, under different ownership types, can be explored on the bases of how employee perceive and respond to technostress. As it is now becoming a high up in work culture for both the system users and IT professionals. Since, it has both positives and negatives, one area of research can be as to how to make new ICTs more lucrative and productive in Indian firms. The results of this study should be useful for IT companies operating in India addressing the issues of technostress from the perspective of organizational behavior. Not only this, it will help the managers to formulate the best strategy striking a balance between innovations/centralization and level of technostress, so that as to alleviate its level.

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Customer's Perception on MTNL Services: *An Indian Viewpoint*

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ABSTRACT

The need/wish of ubiquitous (anytime * anywhere) influence the telecom sector to provide the customer more than the best desired by them. Hyper competition within the market hinges the telecom sector to bring the innovative way to cater the existing customer and also clutch the new market.

In the earlier day's telephone/mobile was only the luxury to the people. Whereas now the same is necessity to them. Hence well structured & organized method should be adopted by the telecom sector fulfill the perceived value of the customer with their expectation. this study helps in highlighting the customer's expectation and their perceived value from the MTNL services.

KEYWORDS

Customer's Expectations	Customer's Perceived Value
Mobile	MTNL Practices

PREAMBLE

The telecom services have been documented the world-over as a significant instrument for socio-economic development for a nation. It is one of the primary support services needed for quick enlargement and transformation of a range of sectors of the economy. Indian telecommunication sector has undergone a foremost procedure of transformation through noteworthy policy reforms.

In the previous days there were no great difference in the telecom and many improvements in technology had been occurred if we compare with present days scenario. However, with hyper competition within the market we find more differences in the telecom sector. Aggressive marketing by telecom sector with hostile advertising, sales promotions, and Public relations focuses on the customer's individually. Major Competitors in Telecom sectors are bifurcated into three types in India:

- **State owned companies (BSNL and MTNL)**
- **Private Indian owned companies (Reliance Infocomm, Tata Teleservices,)**
- **Foreign invested companies (Hutchison-Essar, Bharti Tele-Ventures, Escotel, Idea Cellular, BPL Mobile, Spice Communications)**

Players	Last Price	Market Cap. (Rs. cr.)	Sales Turnover	Net Profit	Total Assets
Bharti Airtel	265.65	100,881.39	35,609.54	9,426.16	35,357.62
Reliance Comm	141.10	29,123.42	13,610.58	2,352.93	82,593.93
Idea Cellular	56.35	18,595.57	11,895.77	1,053.66	18,873.79
Tata Comm	247.75	7,060.88	3,749.43	515.95	9,125.92
Spice Comm	56.95	3,929.12	1,585.34	-1,015.22	1,875.94
Tata Tele service	20.60	3,908.23	2,249.10	-298.01	2,743.96
MTNL	61.55	3,877.65	3,770.41	-2,514.87	12,059.38
Tulip Telecom	890.00	2,581.00	1,608.28	249.58	1,802.84
Nu Tek India	33.45	115.46	159.09	14.48	171.93
Goldstone Infra	27.35	98.68	45.61	6.27	110.56

MTNL as a company, over last nineteen years, grew rapidly by modernizing the network, incorporating the State-of-the-art technologies and a customer friendly approach

MTNL was set up on 1st April, 1986 by the Government of India to upgrade the quality of telecom services, expand the telecom network, and introduce new services and to raise revenue for telecom development needs of India's key metros. Delhi, the political capital and Mumbai, the business capital of India. In the past 23 years, the company has taken rapid strides to emerge as India's leading and one of Asia's largest telecom operating companies. Besides having a strong financial base, MTNL has achieved a customer base of 8.06 million as on 31st March2009. The company has also been in the forefront of technology induction by converting 100% of its telephone exchange network into the state-of-the-art digital mode. The Govt. of India currently holds 56.25% stake in the company.

VISION FOR TOMORROW

- Become a total solution provider company and to provide world class telecom services at affordable prices.
- Become a global telecom company and to find a place in the Fortune 500 companies.
- Become the largest provider of private networks and leased lines.
- Venture into other areas in India and abroad on the strength of our core competency

LATEST TECHNOLOGY: (VLSI & UVLSI)

- With latest switching digital technology.
- Widespread transmission network upto 25gbps
- Web technology.
- DWDM system upto 80 gbps.
- Broadband and more than 400 000 data customers MTNL continues to serve this great nation.
- 99.9% of its exchanges are digital.
- Over 400 000 route kms of OFC network, Bharat Sanchar Nigam Ltd. Is a name to reckon with in the world of connectivity.
- Consider the figure as they speak values on MTNL standing
- The Telephone Infrastructure alone is worth US $ 22.74 billion
- Turnover of rupees 31400 crore

HISTORICAL DEVELOPMENT AND BACKGROUND

- *1911 Establishment of Delhi Telephone system with manual Exchange.*
- 1926 Opening of first automatic exchange.
- 1949 First Manual Trunk exchange opened.
- 1969 Trunk automatic exchange(TAX) commissioned.
- 1971 Opening of exchange at Nangloi, Narala , Najafgarh , Bahadurgarh, Ballabhgarh.
- 1977 Opening of STD services to Indore and Ambala on 05-10-77 by Mr. Brij Lal verma (Minister of communication).
- 1986 Creation of Mahanagar Telephone Nigam Ltd.
- 1987 Large scale introduction of push button telephone made dialing easier (use of DTMF tones).
- 1992 Voice mail service introduced.
- 1996 ISDN services introduced.
- 1997 Wireless in local Loop introduced.
- 1999 Internet services introduced (Use of satellite communication).
- 2001 Launched GSM cellular Mobile service under brand name "DOLPHIN".
- 2002 Launched prepaid GSM mobile services under the brand name "TRUMP".
- 2003 Introduced CDMA 1 x 2000 technology under the brand name Garuda-I.
- 2005 Leading Market in GSM . Launched broad band services under the brand name "TRI BAND".

NEED OF THE STUDY

To understand the following:

1. To ascertain the customer preference of Landline and mobile phones.
2. To ascertain the customer satisfaction level for mobile services as well as landline services.
3. To analyze the customer opinion and satisfaction with specific reference to MTNL.
4. To suggest some guidelines to MTNL in order to provide better focused services.
5. To determine the status of brand awareness and brand loyalty in order to conclude about brand equity.

RESEARCH OBJECTIVES

- To study the existing customer's satisfaction towards MTNL
- To know about new customers services and needs towards MTNL
- To know about customer's expectation & perception for MTNL services

HYPOTHESIS

- Ho :Mean(expectation) Mean(perceived quality)=0
- Ha: Mean(expectation) ≠Mean perceived quality
- a= 0.05

RESEARCH METHODOLOGY

SERVQUAL was originally measured on 10 aspects of service quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer and tangibles. It measures the gap between customer expectations and experience.

By the early nineties the authors had refined the model to the useful acronym RATER:

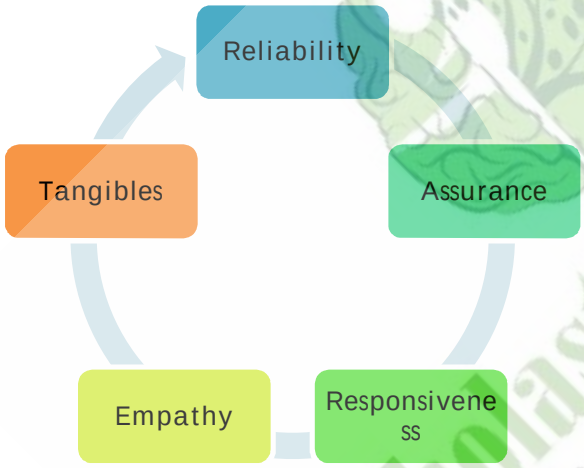


Figure-1: Model OF Rater

SERVQUAL has its detractors and is considered overly complex, subjective and statistically unreliable. The simplified RATER model however is a simple and useful model for qualitatively exploring and assessing customers' service experiences and has been used widely by service delivery organizations. It is an efficient model in helping an organization shape up their efforts in bridging the gap between perceived and expected service.

The five gaps that organizations should measure manage and minimize:

- ***Gap 1 is the distance between what customers expect and what managers think they expect - Clearly survey research is a key way to narrow this gap.***
- *Gap 2 is between management perception and the actual specification of the customer experience - Managers need to make sure the organization is defining the level of service they believe is needed.*
- *Gap 3 is from the experience specification to the delivery of the experience - Managers need to audit the customer experience that their organization currently delivers in order to make sure it lives up to the spec.*
- *Gap 4 is the gap between the delivery of the customer experience and what is communicated to customers - All too often organizations exaggerate what will be provided to customers, or discuss the best case rather than the likely case, raising customer expectations and harming customer perceptions.*
- *Gap 5 is the gap between a customer's perception of the experience and the customer's expectation of the service - Customers' expectations have been shaped by word of mouth, their personal needs and their own past experiences. Routine transactional surveys after delivering the customer experience are important for an organization to measure customer perceptions of service*

Nyeck, Morales, Ladhari, and Pons (2002) stated the SERVQUAL measuring tool "remains the most complete attempt to conceptualize and measure service quality" (p. 101). The main benefit to the SERVQUAL measuring tool is the ability of researchers to examine numerous service industries such as healthcare, banking, financial services, and education (Nyeck, Morales, Ladhari, & Pons, 2002). The fact that SERVQUAL has critics does not render the measuring tool moot. Rather, the criticism received concerning SERVQUAL measuring tool may have more to do with how researchers use the tool. Nyeck, Morales, Ladhari, and Pons (2002) reviewed 40 articles that made use of the SERVQUAL measuring tool and discovered "that few researchers concern themselves with the validation of the measuring tool"

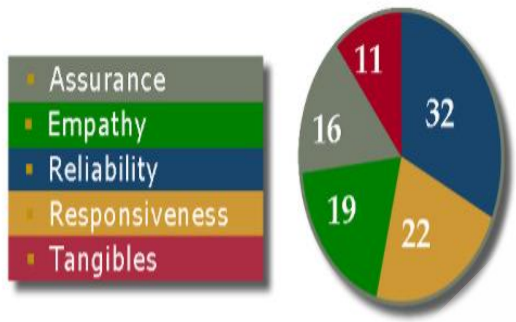


Figure-2: Model OF Rater

Qualitative research is done for the study by adopting survey method for collecting relevant information to analyze the behavior and attitude of respondents towards MTNL connection. The sampling design followed in the survey is random sampling and convenience sampling in which each population elements has a known and has equal chance of selection. Generally customers as a source of primary data collection have been surveyed for the purpose of obtaining information. For this research work Corporate/ General Public are considered as customer's, the sample size of customer's is 50. Consumers have been surveyed through the questionnaire through mail/ Personal visit.

SOURCES OF DATA

Primary data regarding customer's satisfactions and other feedbacks for the study were collected with the help of a questionnaire. Survey was taken by direct interview

ANALYSIS AND INTERPRETATION

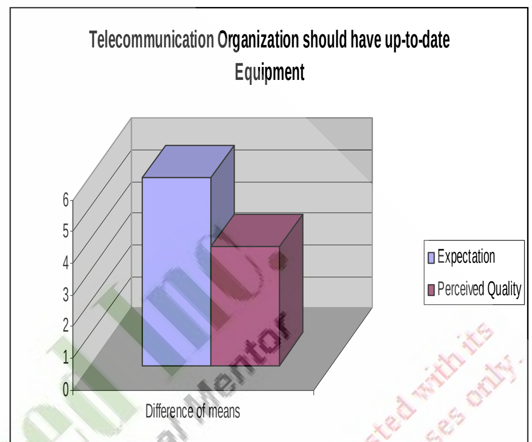
-1: **Telecommunication organizations should have up-to-date equipment**

Table 1

Sample Size 50	Expectation	Perceived Quality
Difference of means	**5.92**	**3.76**

Analysis:
From the above table we can see:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

Graph 1



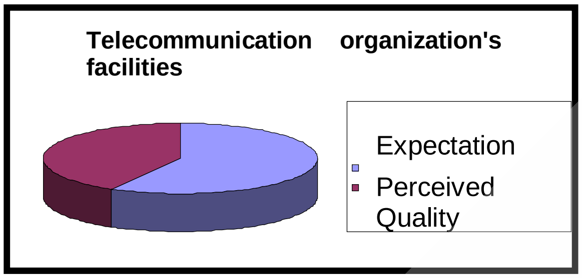
- 2: **Telecommunication organization's facilities should be visually appealing**

Table 2

Sample Size 50	Expectation	Perceived Quality
Difference of means	**4.84**	**3.46**

Analysis: From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

Graph 2



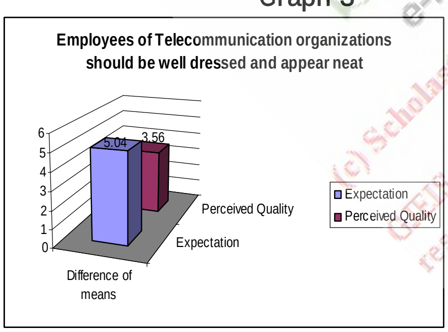
-3: Employees of Telecommunication organizations should be well dressed and appear neat

Table 3

Sample Size 50	Expectation	Perceived Quality
Difference of means	5.04	3.56

Analysis:
From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

Graph 3



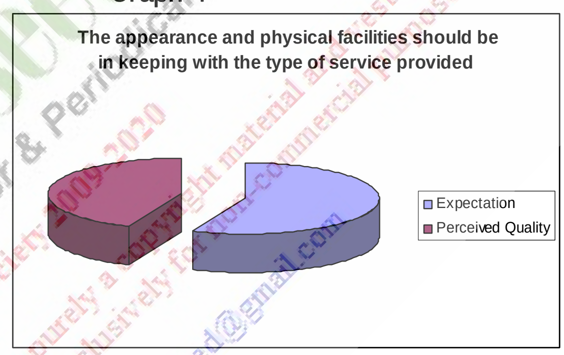
-4: The appearance and physical facilities should be in keeping with the type of service provided

Table 4

Sample Size 50	Expectation	Perceived Quality
Difference of means	4.94	3.84

Analysis:
From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

Graph 4



-5: When these firms promise to do something by a certain time, they should do so

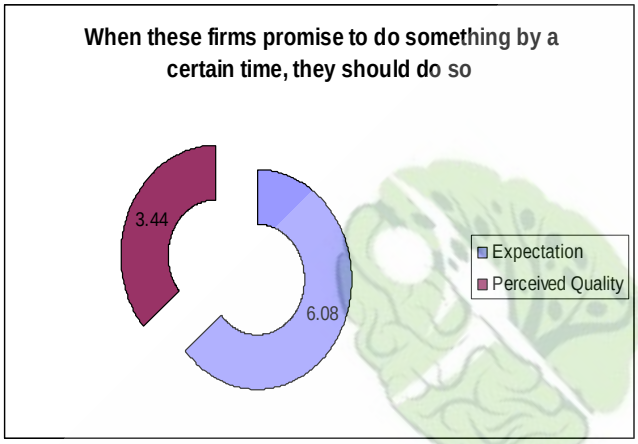
Table 5

Sample Size 50	Expectation	Perceived Quality
Difference of means	6.08	3.44

Analysis:

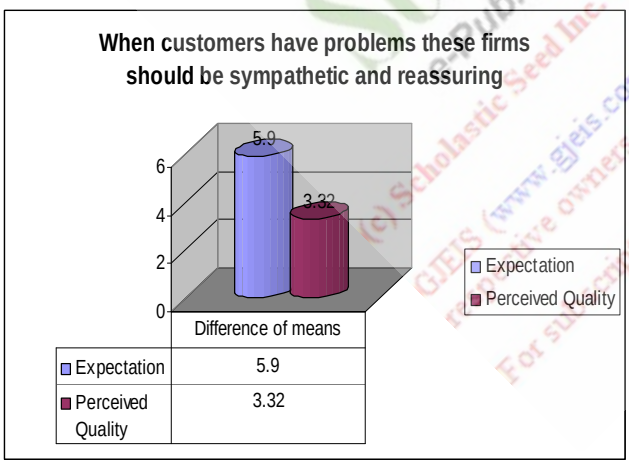
From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low
.

Graph 5



-6: When customers have problems these firms should be sympathetic and reassuring

Table & Graph 6

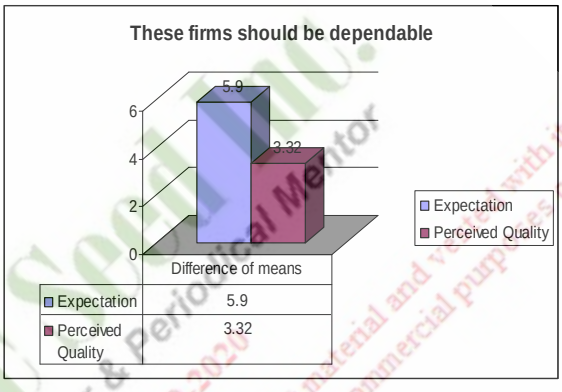


Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-7: these firms should be dependable

Table & Graph 7

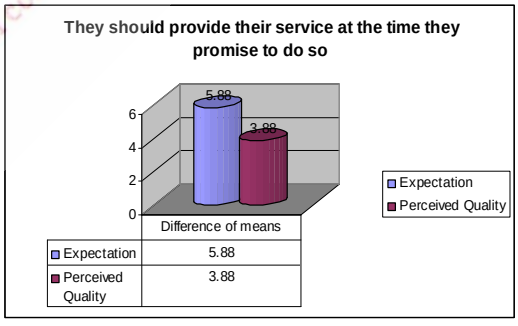


Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-8: They should provide their service at the time they promise to do so

Table & Graph 8

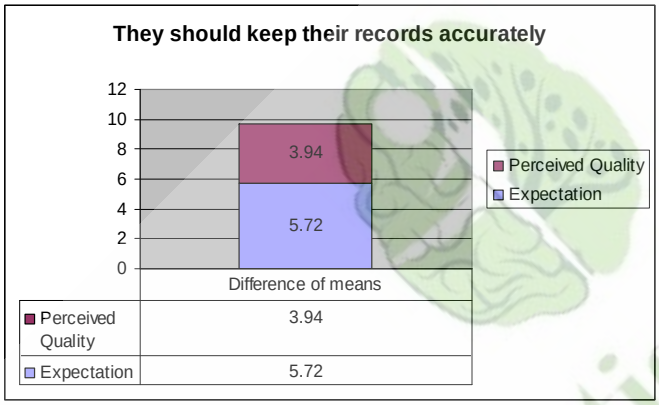


Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-9: They should keep their records accurately

Table & Graph 9

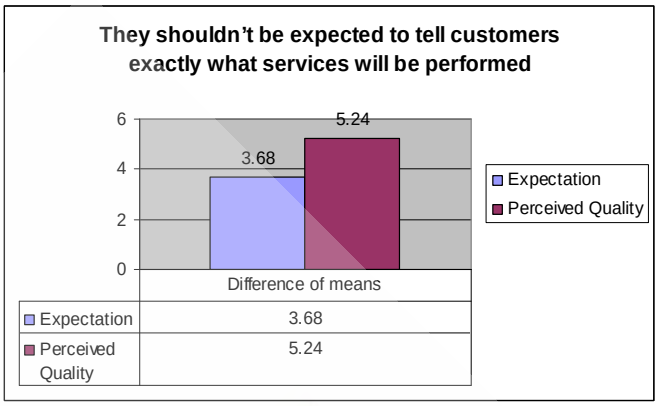


Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-10: They shouldn't be expected to tell customers exactly what services will be performed

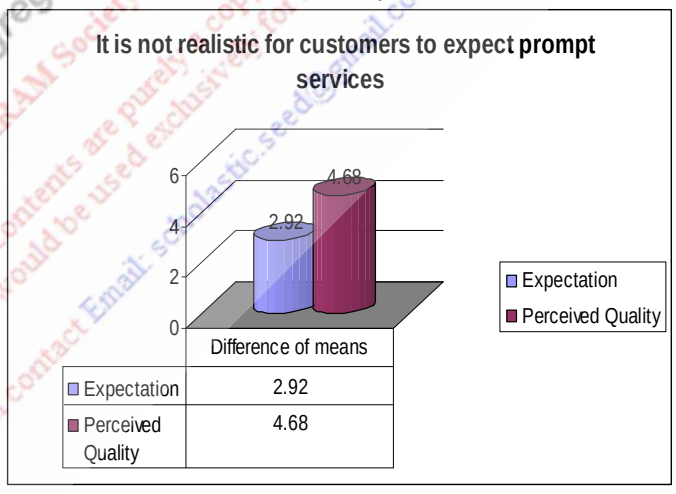
Table & Graph 10



Analysis:
From the above table we can see that:
Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-11: It is not realistic for customers to expect prompt services

Table & Graph 11

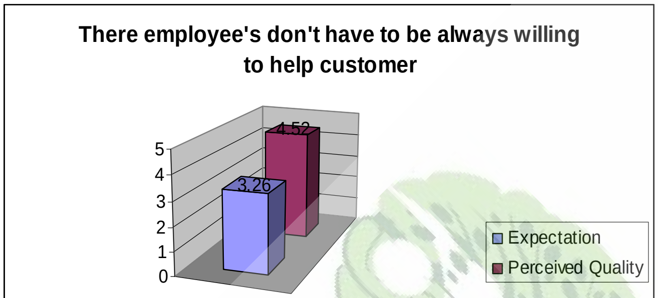


Analysis:

From the above table we can see that:
Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-12: It is not realistic for customers to expect prompt services

Table & Graph 12



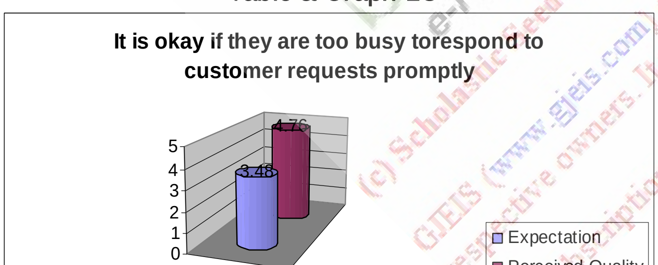
	Difference of means
Expectation	3.26
Perceived Quality	4.52

Analysis:

From the above table we can see that:
Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-13: It is okay if they are too busy to respond to customer requests promptly

Table & Graph 13



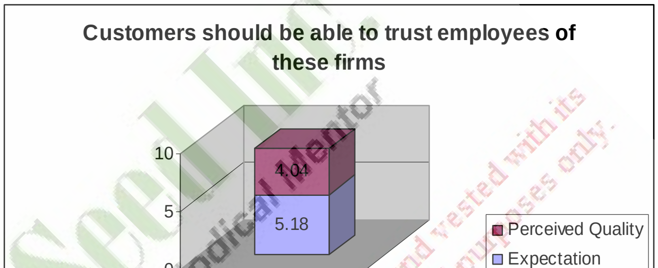
	Difference of means
Expectation	3.48
Perceived Quality	4.76

Analysis:

From the above table we can see that:
Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-14: Customers should be able to trust employees of these firms

Table & Graph 14



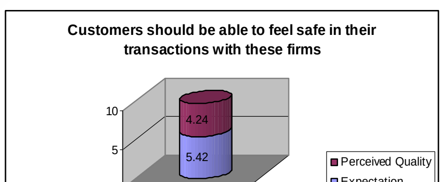
	Difference of means
Perceived Quality	4.04
Expectation	5.18

Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-15: Customers should be able to feel safe in their transactions with these firms

Table & Graph 15

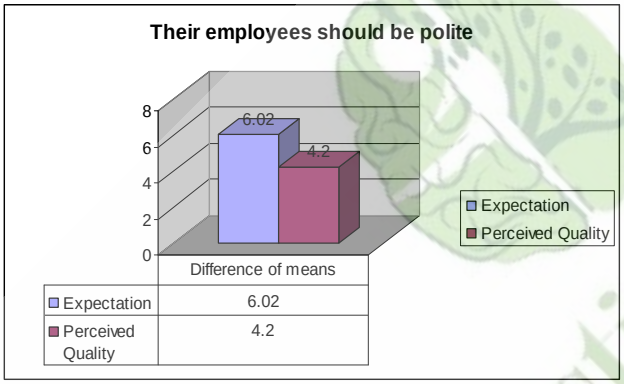


	Difference of means
Perceived Quality	4.24
Expectation	5.42

Analysis:
From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-16: Their employees should be polite

Table & Graph 16

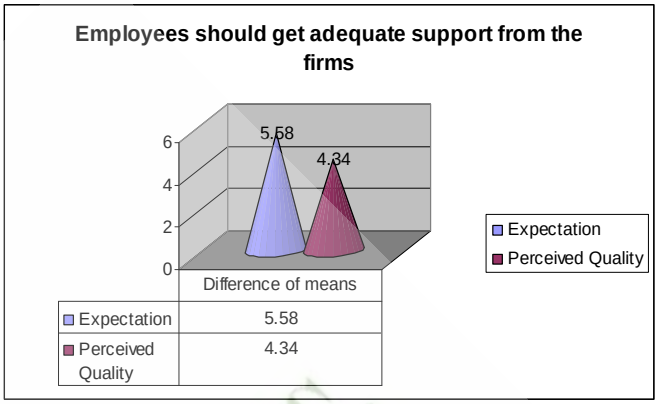


Analysis:

From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-17: Employees should get adequate support from the firms

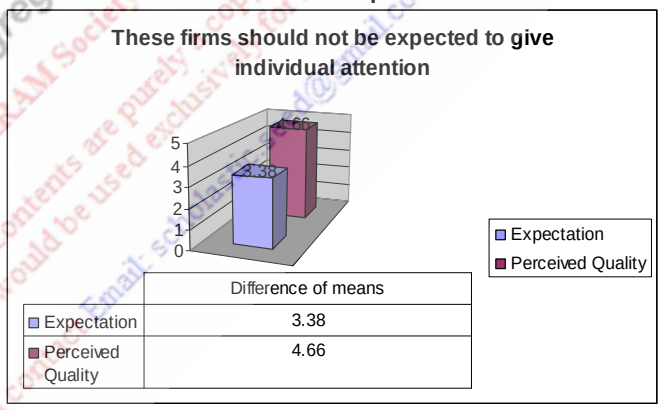
Table & Graph 17



Analysis:
From the above table we can see that:
Expectation of Telephone users is high whereas perceived value from MTNL's Perceived Value is low

-18: These firms should not be expected to give individual attention

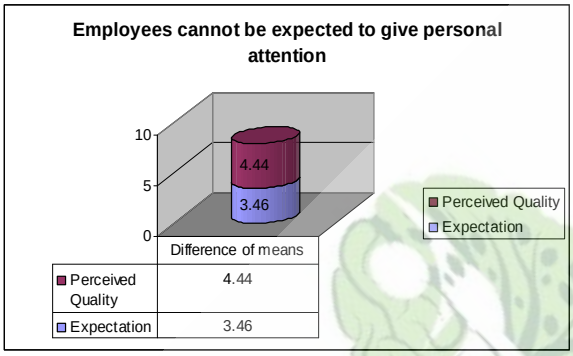
Table & Graph 18



Analysis:
From the above table we can see that:
Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-19: Employees cannot be expected to give personal attention

Table & Graph 19



	Difference of means
Perceived Quality	4.44
Expectation	3.46

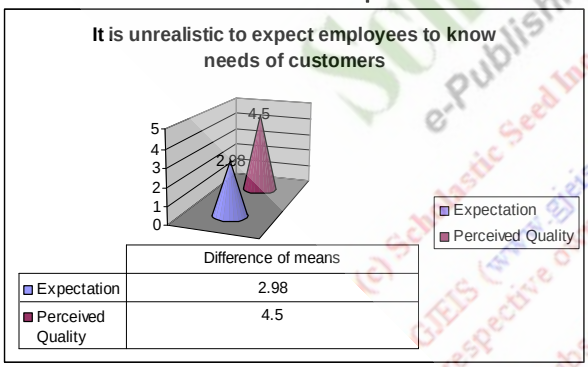
Analysis:

From the above table we can see that:

Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-20: It is unrealistic to expect employees to know needs of customers

Table & Graph 20



	Difference of means
Expectation	2.98
Perceived Quality	4.5

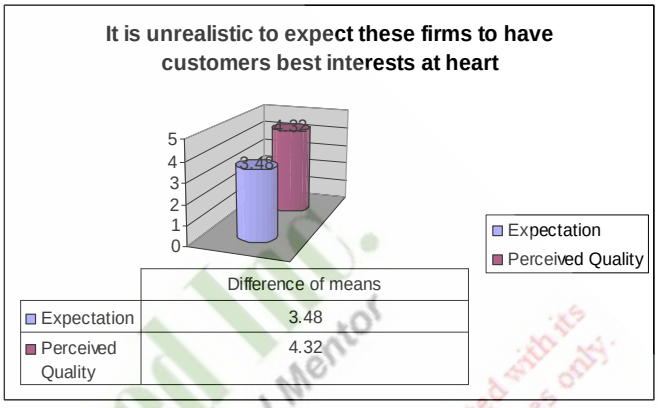
Analysis:

From the above table we can see that:

Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-21: It is unrealistic to expect these firms to have customers best interests at heart

Table & Graph 21



	Difference of means
Expectation	3.48
Perceived Quality	4.32

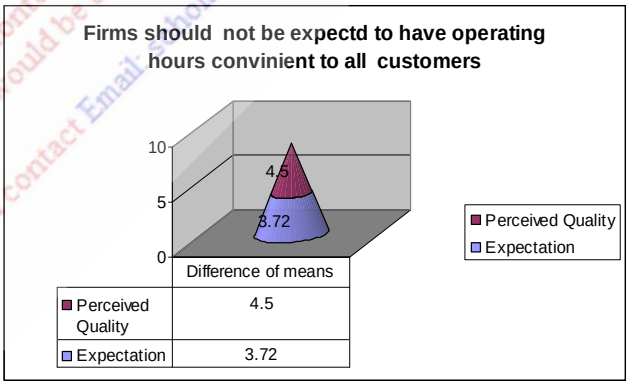
Analysis:

From the above table we can see that:

Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

-22: Firms should not be expected to have operating hours convenient to all customers

Table & Graph 22



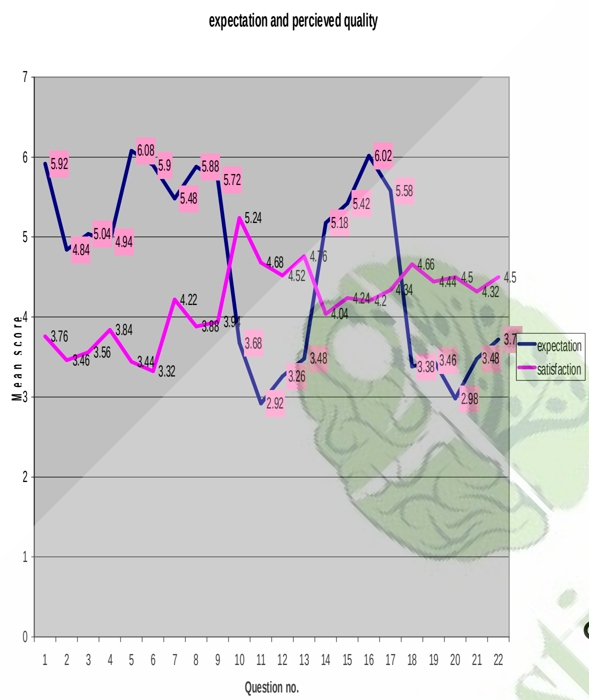
	Difference of means
Perceived Quality	4.5
Expectation	3.72

Analysis:

From the above table we can see that:

Expectation of Telephone users is low whereas perceived value from MTNL's Perceived Value is high

Mean values of expectation and satisfaction



FINDING AND DISCUSSION

STRENGTHS

- MTNL is a PSU enjoying Government Patronage
- Major factor for prevention or a cushioning against losses
- Can therefore afford providing services at a cost lower than others
- Has a wide array of products/services
- Has a wide coverage area – national and international level

OPPORTUNITIES

- Telecom industry is undergoing a phase of rapid growth, arrival of new services and increasing customer base adapting to new technology very quickly
- Abundant technical knowledge is available in the industry
- There are immense opportunities for International collaborations with advantages to both the parties in terms of technology and service transfers

WEAKNESSES

- No Initiative has been made by the Company to provide quality services
- Poor marketing strategies – right from their vision to their advertising
- Array of services added in competition with other players in the field with limited employee technical competence and support
- The company has an unclear positioning – It has been trying to copy others rather than creating a position for itself
- Entering into all arenas with no market identification
- Internal bureaucratic system
- Has not been able to communicate its services to employees effectively
- Has not been able to maintain quality of services at par with customer expectations
- The processes are at place but the implementation of processes are poor

THREATS

- Other private players with marketing strategies
- Profit orientation of other players resulting in fierce competition for market share
- Rising levels of customer expectations
- Fast pace changing technology and innovation

TANGIBLES

Character	Mean (Expectation)	Mean (Perceived quality)	Difference of means
They should have up-to-date equipment.	5.92	3.76	2.16
Their physical facilities should be visually appealing.	4.84	3.46	1.38
Their employees should be well dressed and appear neat.	5.04	3.56	1.48
The appearance of the physical facilities of these firms should be in keeping with the type of services provided.	4.94	3.84	1.1
	5.185	3.655	1.53

Value of t test= 2.94
For a=0.05, t at 3 degrees of freedom= 2.353
Tcal>t expected. So null hypothesis is rejected

Reliability

Character	Mean (Expectation)	Mean (Perceived quality)	Difference of means
When these firms promise to do something by a certain time, they should do so.	6.08	3.44	2.64
When customers have problems, these firms should be sympathetic and reassuring.	5.9	3.32	2.58
These firms should be dependable	5.48	4.22	1.26
They should provide their services at the time they promise to do so.	5.88	3.88	2
They should keep their records accurately.	5.72	3.94	1.78
Mean	5.812	3.76	2.052

Value of t test= 3.18
For a=0.05, t at 4 degrees of freedom= 2.132
Tcal>t expected. So null hypothesis is rejected

Assurance

Character	Mean (Expectation)	Mean (Perceived quality)	Difference of means
Customers should be able to trust employees of these firms.	5.18	4.04	1.14
Customers should be able to feel safe in their transactions with these firms' employees.	5.42	4.24	1.18
Their employees should be polite.	6.02	4.2	1.82
Their employees should get adequate support from these firms to do their jobs well.	5.58	4.34	1.24
Mean	5.55	4.205	1.345

Value of t test= 3.647
For a=0.05, t at 3 degrees of freedom= 2.353
Tcal>t expected. So null hypothesis is rejected

Responsive

Character	Mean (Expectation)	Mean (Perceived quality)	Difference of means
They shouldn't be expected to tell customers exactly when services will be performed.	3.68	5.24	1.56
It is not realistic for customers to expect prompt service from employees of these firms.	2.92	4.68	1.76
Their employees don't always have to be willing to help customers.	3.26	4.52	1.26
It is okay if they are too busy to respond to customer requests promptly.	3.48	4.76	1.28
Mean	3.335	4.8	1.465

Value of t test= 5.29
For a=0.05, t at 3 degrees of freedom= 2.353
Tcal>t expected. So null hypothesis is rejected

Empathy

Character	Mean (Expectation)	Mean (Perceived quality)	Difference of means
These firms should not be expected to give customers individual attention.	3.38	4.66	1.28
Employees of these firms cannot be expected to give customers personal attention.	3.46	4.44	0.98
It is unrealistic to expect employees to know that the needs of their customers are.	2.98	4.5	1.52
It is unrealistic to expect these firms to have their customers' best interests at heart.	3.48	4.32	0.84
They shouldn't be expected to have operating hours convenient to all their customers.	3.72	4.5	0.78
	3.404	4.484	1.08

Value of t test= 3.08
For a=0.05, t at 4 degrees of freedom= 2.132
Tcal>t expected. So null hypothesis is rejected

CONCLUSION

- MTNL is falling short on perceived quality of customers on all the **5 determinant of quality**:
  - Responsiveness
  - Assurance
  - Reliability
  - Empathy
  - Tangibles

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SUGGESTIONS

- MTNL has to cover GAP – 3 i.e.
  - Gap between service design and standards and the services actually delivered.
- ***To overcome this Delivery gap:*** MTNL needs to **ensure service performance meets standards**
- **Employee development**
  - Technical training- Latest technological developments, delivery of technical services, overcoming technical faults, innovation, designing, etc.
  - Supportive trainings-priority setting, time management, communication skills, understanding customers
  - Clarify employee roles – reducing bureaucratic set ups
  - Develop good reward system – rewards based on performance and not years in service, seniority, etc.
- **Organizational development**
  - Learn from mistakes, develop service standards and ensure delivery of timely services
  - Provide quality services instead of quantity services
- **Communication channels**
  - Clear positioning among customers – better advertising, better public relations
  - Open communication between employees
  - Prompt customer complaint redressal system

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Estimation of the Cocomo Model Parameters Using Genetic Algorithms for RTS Software Projects

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ABSTRACT

Real time systems have to fulfil real-time requirements, and therefore correct system functionality depends upon reliable and correct implementation of software projects

It is very difficult task to correctly define estimated cost of the project estimated cost, duration and maintenance effort in the software development life cycle (SDLC).

Structures of Many models are available in the literature. These model structures consider modeling software effort as a function of the developed line of code (DLOC). Building such a function helps project managers to accurately allocate the available resources for the project.

In this paper, two new model structures to estimate the effort required for the development of RTS software projects using Genetic Algorithms (GAs) are discussed.

A modified version of the famous COCOMO model is provided to explore the effect of the software development adopted methodology in effort computation. The developed models are able to provide good estimation capabilities.

KEYWORDS

COCOMO Model	Genetic Algorithms
Real Time Systems (RTS)	Genetic Programming Technique

Empirical Article

PREAMBLE

In recent years an increasing number of software applications are using simultaneous generation of test cases and their testing. This often entails that activities (tasks) occur (execute) in parallel and the order of the incoming events trigger those activities (tasks). This is particularly true for real-time and distributed systems.

Being able to define, the software size, the development duration and the required facilities become a more and more challenging task. The reason is software architecture, requirements, tools and techniques become more complex [2, 3]. The Project manager significantly needs to identify the cost estimates so that he can evaluate the project progress and have better resource utilization. It was found that the main cost driver is the effort [4]. The primary element which affects the effort estimation is the developed line of code (DLOC).The DLOC includes all program instructions and formal statements.

One of the famous model structures used to estimate the software effort is the Constructive Cost Model (COCOMO). COCOMO was developed by Boehm [4, 5]. This model construction is built based on 63 software projects. The model helps in defining the mathematical relationship between the software development time, the effort in person-months and the maintenance effort [6].

Soft-computing techniques were explored to build efficient effort estimation model structures [7].

Fuzzy logic and neural networks were used for software engineering project management [8].

Recently, many questions about the applicability of using evolutionary computation techniques to build estimation models were introduced [10].

The objective of this paper is to focus on building an evolutionary model for estimating software effort using genetic algorithms.

GAs will be used to estimate the parameters of a COCOMO type effort estimation model. Genetic algorithm is an adaptive search algorithm based on the Darwinian notion of natural selection. GA searches the space of all possible solutions using a population of individuals which is considered as potential solutions of the problem under study. These solutions are computed based on their fitness. The solutions that best fit to the objective criterion survive in the upcoming generations and produce "offspring" which are variations of their parents [24].

There are many engineering and computer science problems for which no adequate, robust and global algorithms exist. Most of these problems are optimization problems [11]. There are two classes of algorithms often used to deal with such complex problems. They are the deterministic and the stochastic algorithms.

The deterministic algorithms usually provide approximate solutions and not optimal ones. A *prior* knowledge about the starting search location affects the search process. Poor starting points significantly direct the search toward local optimal solution. For hard optimization problems, it is often recommended to use probabilistic algorithms.

These algorithms do not assure global optimal solutions but they have the advantage of randomly generating solutions with higher level of performance accuracy.

GENETIC ALGORITHMS VERSUS CONVENTIONAL SEARCH ALGORITHMS

One of the major advantages of GAs compared to conventional search algorithms is that it operates on a population of solutions not only a single point. This makes GA results more robust and accurate. The solution provided by GAs is more optimal and global in nature. GAs is less likely to be trapped by local optima like Newton or gradient descent methods [22, 23].GAs require no derivative information about the fitness criterion [13,14].This is why it is very suitable for both continuous and discrete optimization problems. In addition, GAs are less sensitive to the presence of noise and uncertainty in measurements [24, 25].

There are some features which make genetic algorithms different from conventional search algorithms. Goldberg [13] stated that:

*** Genetic Algorithms implement the search using a coded solution not the solutions themselves.**

*** Genetic Algorithms is based on a population of candidate solutions, not just a single solution.**

*** Genetic Algorithms evaluate individual based on their fitness function not the derivative of the function.**

*** Genetic Algorithms use probabilistic operators (i.e. crossover and mutation) not deterministic ones.**

PROBLEM FORMULATION

To see how these ideas are applied to function optimization, suppose without loss of generality that we want to minimize a function of *n* parameters $f(a_1, a_2, ..., a\ n)$. A domain Di= $[\alpha_i, \lambda_i]$, $(i=1,2,...,n)$ is identified as a search space for each parameter. $f(a_1, a_2, ..., an)$ is positive function. $a_i\ \varepsilon D_i$ Candidate solutions are defined as *n*-dimensional vectors of parameters of the form: $a_1, a_2 ... a_n$ which can be viewed as "Chromosomes" and the individual parameters as "genes". For each such vector of parameter values, its associated function value serves as

its fitness, with lower values preferred for minimization Problems.

The GA search process is based on using a population of individuals each of which is evaluated based on its fitness value. Individuals with higher fitness are selected to produce offspring which inherit many but not all of the features of their parents. This is achieved using genetic operators like mutation and crossover [13, 14].

FITNESS FUNCTION

The evaluation criterion to measure the performance of the developed GA based models is *selected to be* the Variance-Accounted-For (VAF).

The VAF is calculated as:

[1 var (Effort –Estimated Effort)/ var (Effort)] × 100%

EXPERIMENT

The experiments have been conducted on a data set presented by Bailey and Basili

[1] So that we can develop an effort estimation model.

The data set consist of two variables. They are the Developed Line of code (DLOC), the Methodology (ME) and the measured effort. DLOC is described in Kilo Line of Code (KLOC) and the Effort is in person months. The dataset is given in Table 1.

Project No.	KDLOC	ME	Measured Effort
1.	90.2000	30.0000	115.8000
2.	46.2000	20.0000	96.0000
3.	46.5000	19.0000	79.0000
4.	54.5000	20.0000	90.8000
5.	31.1000	35.0000	39.6000
6.	67.5000	29.0000	98.4000
7.	12.8000	26.0000	18.9000
8.	10.5000	34.0000	10.3000
9.	21.5000	31.0000	28.5000
10.	3.1000	26.0000	7.0000
11.	4.2000	19.0000	9.0000
12.	7.8000	31.0000	7.3000
13.	2.1000	28.0000	5.0000
14.	5.0000	29.0000	8.4000
15.	78.6000	35.0000	98.7000
16.	9.7000	27.0000	15.6000
17.	12.5000	27.0000	23.9000
18.	100.8000	34.0000	138.3000

Table: 1: Software Project Data

The data for the first 13 projects were used to estimate the model parameters and the other 5 projects were used for testing their performance.

EFFORT MODEL BASED DLOC

The Constructive Cost Model (COCOMO) was provided by Boehm [4,5].

This model structure is classified based on the type of projects to be handled. They include the organic, semidetached and embedded projects. This model structure comes in the following form:

$$Effort = a\ (DLOC)^{b} \quad (1)$$

Normally the model parameters are fixed for these models based on the software project type [4, 5].

Our goal is to use GAs to provide a new estimate of the COCOMO model parameters. This will allow us

to compute the effort developed for the Real Time Systems (RTS) software projects. The estimated parameters will significantly generalize the computation of the developed effort for all projects. We used GAs to develop the following model.

$$Effort = 4.9067(DLOC)^{0.7311} \quad (2)$$

In Table 2, we show the actual measured effort over the given 18 projects and the effort estimated based the GAs model.

Project No.	Measured Effort	GAs Estimated Effort
1.	115.8000	131.9154
2.	96.0000	80.8827
3.	79.0000	81.2663
4.	90.8000	91.2677
5.	39.6000	60.5603
6.	98.4000	106.7196
7.	18.9000	31.6447
8.	10.3000	27.3785
9.	28.5000	46.2352
10.	7.0000	11.2212
11.	9.0000	14.0108
12.	7.3000	22.0305
13.	5.0000	8.4406
14.	8.4000	15.9157
15.	98.7000	119.2850
16.	15.6000	25.8372
17.	23.9000	31.1008
18.	138.3000	143.0788

Table: 2: COCOMO: Measured and Estimated Effort Values using GAs

The tuning parameters for the GA evolutionary process, to estimate the COCOMO model parameters, which include the population size, crossover, mutation types and selection mechanisms are given in the Table 3. We used the GAOT Matlab Toolbox to produce our results [26].

Operator	Type
Selection Mechanism	normGeomSelect
Crossover type	arithXover
Mutation Type	nonUnifMutation
Population size	10
Maximum generation	100
Domain of search for a	0:10
Domain of search for b	0.3:2

Table 3: Tuning Parameter for GA

The computed VAF criterion was 96.3138. Figures 1-3 show the measured and estimated GA effort, the convergence process for GAs (i.e. the best so far curve of the VAF) and the convergence of the GA model parameters after each generation.

PROPOSED EFFORT MODELS BASED DLOC AND ME

To consider the effect of methodology (ME), as an element contributing to the computation of the software developed effort, we proposed two new models

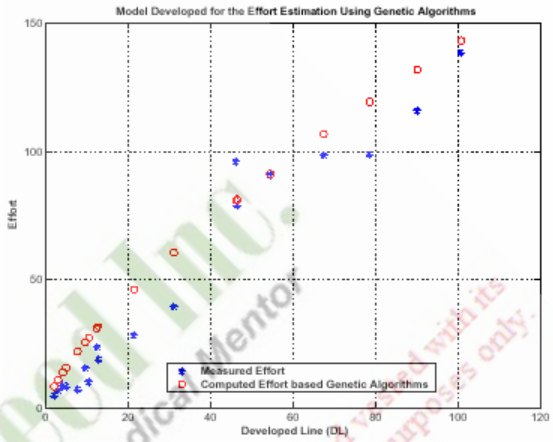

Fig. 1: Measured effort and estimated effort using genetic algorithms

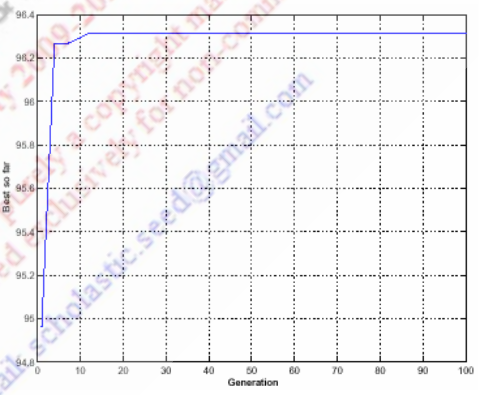

Fig. 2: Best so far curve-fitness function (VAF)

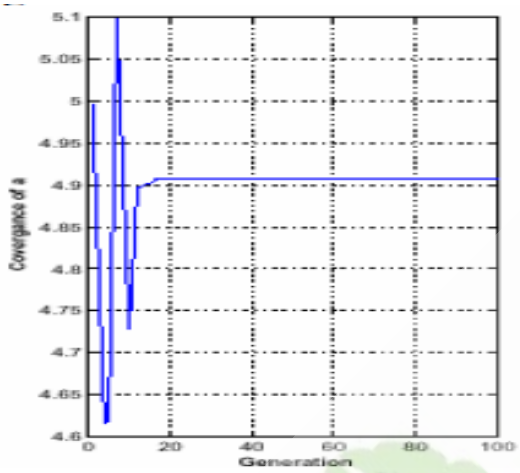

Fig:3(a)

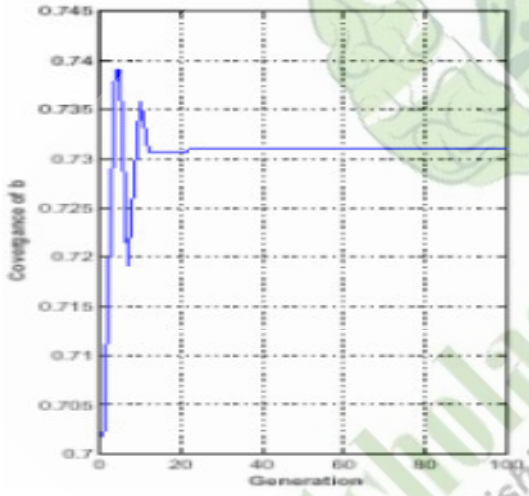

Fig:3:(b)

Fig:3(a) & (b): Convergence of the model parameters *a* and *b* structures.

We will call them model 1 and model 2. Now we will explore the modeling process of the proposed models and describe the mathematical equations for the two models. We proposed these models based on some theoretical aspects related to linear model structure development process. Adding the effect of ME will improve the model prediction quality as given in model 1. It was also found that adding a bias term similar to the classes of regression models helps to stabilize the model and reduce the effect of noise in measurements.

Model 1

The proposed model structure considered the effect of ME as linearly related to the effort. The proposed model structure have their parameters a, b and c.

$$Effort = a(DLOC)^{b} + c(ME) \quad (3)$$

Our goal is to find the model parameters which most suited to accurately and the software effort for project development.

In Table 4, we show the actual measured effort and the estimated effort based on the proposed model 1 using the same dataset. The model parameters were estimated and the developed model was as follows:

$$Effort = 3.1938(DLOC)^{0.8209} - 0.1918(ME) \quad (4)$$

Project No.	Measured Effort	GAs Estimated Effort
1.	115.8000	124.8585
2.	96.0000	74.8467
3.	79.0000	75.4852
4.	90.8000	85.4349
5.	39.6000	50.5815
6.	98.4000	99.0504
7.	18.9000	24.1480
8.	10.3000	18.0105
9.	28.5000	37.2724
10.	7.0000	4.5849
11.	9.0000	8.9384
12.	7.3000	13.5926
13.	5.0000	1.5100
14.	8.4000	8.2544
15.	98.7000	110.5249
16.	15.6000	18.2559
17.	23.9000	23.3690
18.	138.3000	135.4825

Table: 4: Model 1: Measured and estimated effort values using GAs

Model 2

A slightly better estimation capability was achieved using developed model 1. This is why we decide to modify the model by adding a new bias parameter to the above model and re-estimate the new model parameters, model 2, using GAs. The proposed model 2 is given mathematically as follows:

$$Effort = a(DLOC)^{b} + c(ME) + d \quad (5)$$

The estimated parameters a, b,c and d for model 2 were estimated using GAs as follows:

$$Effort = 3.3602\,(DLOC)^{0.8116} - 0.4524(ME) + 17.8025 \quad (6)$$

Figures 4-6 show the measured effort and estimated effort based the GA model 2, the convergence

process for GAs and the convergence of the GA model parameters after each generation. We computed the fitness function of the developed GA model (VAF) as 97.5648.

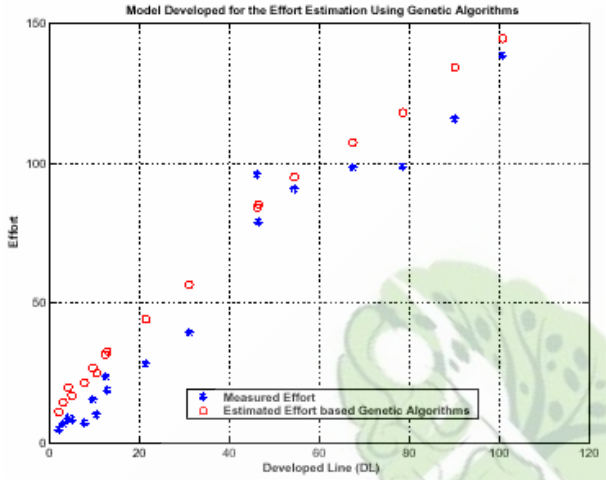

Fig. 4: Measured effort and estimated effort using Genetic algorithms

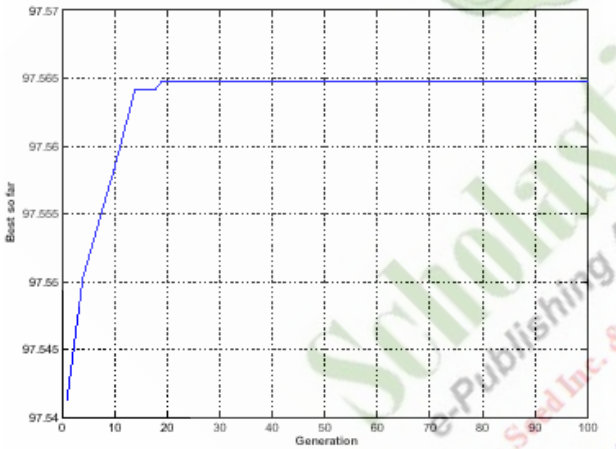

Fig. 5: Best so far curve-fitness function (VAF)

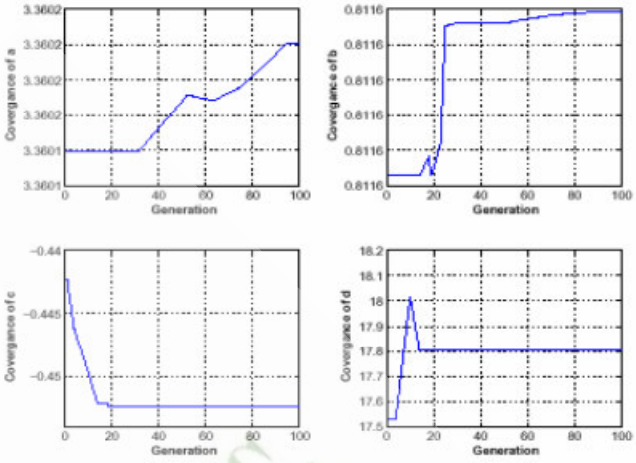

Fig. 6: Convergence of the model parameters *a, b, c* and *d*

In Table 5, we show the actual measured effort and the estimated effort based on proposed model 2.

Project No.	Measured Effort	GAs Estimated Effort
1.	115.8000	134.0202
2.	96.0000	84.1616
3.	79.0000	85.0112
4.	90.8000	94.9828
5.	39.6000	56.6580
6.	98.4000	107.2609
7.	18.9000	32.6461
8.	10.3000	25.0755
9.	28.5000	44.3086
10.	7.0000	14.4563
11.	9.0000	19.9759
12.	7.3000	21.5763
13.	5.0000	11.2703
14.	8.4000	17.0887
15.	98.7000	118.0378
16.	15.6000	26.8312
17.	23.9000	31.6864
18.	138.3000	144.4587

Table 5: Model 2: Measured and estimated effort values using GAs

The tuning parameters for the GA evolutionary process which includes the search space for the model parameters, population size, crossover probability and mutation probability are given in the Table 6.

Operator	Type
Selection Mechanism	normGeomSelect
Crossover type	arithXover
Mutation Type	nonUnifMutation
Population size	10
Maximum generation	100
Domain of search for a	0:10
Domain of search for b	0.3:2
Domain of search for c	-0.5:0.5
Domain of search for d	0:20

Table 6: the tuning parameters for the GA

RESULTS

We discussed two new model structures, as variation of the COCOMO model to compute the effort required for each of the 18 projects. Our intention concern the development of model structures which can generalize the effort computed for all projects under study.

Genetic Algorithms were used to estimate the COCOMO model parameters. Two models, model 1 and 2, were provided. The prediction capabilities for the three models are shown in Table 7. From the Table, it can be seen that taking into consideration the effect of ME helps to improve the computed VAF. The two proposed models successfully improved the performance of the estimated effort with respect to the VAF criteria.

Model Input	Model Output	VAF
KDLOC	Effort	96.3138
KDLOC and ME: Model 1	Effort	96.8496
KDLOC and ME: Model 2	Effort	97.5648

Table: 7: The computed variance-accounted-for (VAF) criterion

CONCLUSION

In this paper we discussed two new model structures to estimate the software effort for projects using genetic algorithms.

Modified versions of the famous COCOMO model were provided to consider the effect of methodology in effort estimation. The performances of the developed models were tested on software project data presented in [1]. The developed models were able to provide good estimation capabilities.

We suggest the use of Genetic Programming (GP) technique to build suitable model structure for the software effort. GP can find a more advanced mathematical function of both the DLOC and ME such that the computed effort will be more accurate.

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Social Customer Relationship Management

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ABSTRACT

There is a word that begins to be more and more important for the society and the companies, and this word is community. We can talk about social networks, people seek the social demand they already had as a part of their lives for a long time, and this means that it appears in the electronic society as an essential need too. The community is not enough, activities are also needed and this is the point where the companies link in, who promotes their goods and facilities to the outside world and with this they use the next stage of customer relationship management, the fulfilment of social needs. We live in the age of social shopping, communities are everywhere and everyone shares information, and up to the present classic CRM systems ran from static databases. On the contrary social CRM systems perform a two-way communication, start a conversation with customers and encourage them to tell their opinions, which always changes on social media, so they build a dynamic database and communicate with customers through response-reactions. Does this new strategy bring a whole new world to companies or is it only another step in the development and another channel of CRM?

KEYWORDS

CRM
Social Customer Relationship Management
Dynamic Database

PREAMBLE

Influenced by the crisis, the GDP of the world increased by 1.8% in 2010 and this rate was -0.2% in the EU zone. After that the goals were the following: operational cost-saving (68%), increase of incomes (53%), retention of cash (45%), search of new investment sources (25%) and the winding-up of assets (9%). Despite the support of goods development (48%), they also planned to invest in information technology (48%) with business intelligence, CRM and virtualisation as priorities. Besides, the IT budget decreased with 6% in 2009. (Ed, 2010) After this the company IT leaders had to find new solutions for the suppliers to realise individual marketing, so they could reach the potential consumer with the support of an adequate IT architecture. Companies can approach the question from different views, global enterprise resource planning systems are already set to serve the increasing demand and CRM systems have also been operating successfully for a long time.

The next important aspects are that communities, people, consumers, customers all want to join to some kind of a community and this significantly changes consumer-related communication. If we analyse system-related crisis management with the consideration of CRM, their goals were cost-saving, ensurance of greater efficiency and the development of new technological solutions, priorising cloud computing, business intelligence and community softwares and networks related to CRM systems. It is worth to consider them, because their volume has increased despite the crisis, and they only have to take advantage from social relationships and business intelligence, which is qualified to provide basis for the variations of response reactions.

CRM has several definitions, but many agree about that customer relationship management is a strategy that places the demand of customers into the centre of organisation's operation, hereby to make a contribution to the profitability of the company and the satisfaction of customers. The definition of CRM is also difficult to find because the solution carriers approach the question differently, despite that the principal direction is the same. Companies rather emphasize on customer-centric methods, they also consider it as a main goal inside the company. Every process and department is in connection with CRM solutions on account of strategic goals. There are CRM systems that allow consumer demands to enter the level of product-innovation, which in our days has to be a basic requirement, such as considering the opinion of the consumer.

The mostly accepted definition can be related to Adrian Payne, who named customer relationship management the rejuvenated form of relational marketing, and the connection to numerous customers can not mean a problem with the support of technological development. It is important to note the three levels: the first, when the project leading to the technological solution is named CRM. The second, when they mention the integration of customer-centric technological solutions. The third, when customer relationship management is a strategy with which we wanted to present value. (Payne, 2007)

CRM is not only the utilisation of possibilities given by new technologies, but the raise of relation marketing to a whole new level, where the customer is truly essential and everything is subordinated to them in the hope of profitable and long-term relationships. The demand of consumers changed and so did the marketing environment, so the classical relation marketing concept had to change too. At the present the emphasis is on interactivity, which was implemented into a relation system with quality management, customer-orientation and business strategy plan related processes, the importance of customer service and commitment. (Ed-Marandi, 2005) The transformation of marketing approach resulted the born of two-way communication, without that, any kind of CRM system or skilful marketing worth nothing at all, if communication between the company and customers was not effective enough to strengthen the shaping of partner relationship. It is important to note that the CRM system is only a technological solution, so to say a background architecture, a cloud, which can be found behind any other application, for example business intelligence applications. The success of an effective CRM system depends on the background marketing methods and philosophy.

The marketing concept has changed and can be divided into three periods. The first was the sales concept, where quantity was the priority and the main goal was to sell even more. The second was the brand management, where the personalised brands and messages have appeared, but the real breakthrough was brought by the informational period. That was when the two-way communication appeared, because customers received the information communicated by companies in the first two periods, but there wasn't a response backwards.

Two-way communication appeared at the informational period, where there was opportunity for a feedback too. (Doyle, 2002) In my opinion the development of informatics helped these strategies to come to existence, because despite that relation marketing has already existed, but it can only be truly effective with the use of computers. It would be difficult to handle more hundred thousands of customers manually and at the present marketing is unimaginable without objective applications, namely without ERP and CRM systems.

Customer centricity became the new strategic goal, where companies build their brand and image together with their customers. So relation marketing is such a customer-oriented strategy which is strongly in connection with two-way communication and relation management, with which they could effectively process information given by customers. The task of marketing information system is to provide information about consumers, the market and the competitors in an extensive way. The strategy of relation marketing can be realised effectively if information management and decision support are also effective in the organisation's system operation.

The realisation of CRM is such a system-level organisational application, which is elementally part of the business philosophy. Information technology supports the implementation which serves the constant communication with customers and parties affected by the company. The management of customer relationships is altogether a strategic way of thinking, a customer-centric business philosophy and the aggregate of process supporting IT solutions. (Ed-Marandi, 2005)

The shortest CRM definition is probably the "production of value for business parties". They shouldn't put emphasis on information technology solutions, but on customer relations and that is the root mistake in connection with CRM systems: it is not enough to only introduce them, we also have to be committed to the operation and have to actively participate in the in-company domestication.

Customers should be segmented, so we could adjust marketing communication, can provide information in a more personal way and campaigns are more precise, making the whole communicational process more effective and cheaper. The gaining and effective processing of information obtained about customers establishes the opportunity for the company to keep the profitable customer and to create buoyant possibilities from loss-making connections.

Many authors, for example Payne, do not differentiate between CRM systems established for electronic markets and classic CRM systems. As for the definition, e-CRM emphasizes on the use of electronic channels. But this is also a part of the CRM system, so they do not define it separately. (Payne, 2007) In my opinion, those who do not want to separate e-CRM systems are also right, because this is only a channel between the others, but these channels also have a growing importance. Networks are our every days now, email and electronic communication advance in an incredible way; we could mention infinite statistics about their distribution and effectiveness in company life.

There are some approaches where CRM means emotionless marketing, where rational reasons and data are the main aspects. (Törőcsik, 2000) According to another view, the forming of customer relations is influenced by hardly documentable factors such as emotions and interactions. (Révész, 2005) Scientific bibliography also confirmed that the development of informatics and communication go a long way towards the development of CRM systems. (Hennig, 2001) Beyond that, the Internet is the one that really changed the whole CRM philosophy. (Zablah, 2003)

It is worth thinking about the real meaning of CRM, because the lot of definitions and the Hungarian translations are as manifold as our world. The English acronym CRM stands for Customer Relationship Management. Many authors mention it as customer-management, which is also a correct definition, but if we want to understand the real essence of CRM, we must not leave out the word relation, which means the interaction, and that is what we could expect from a modern system.

This philosophy can be adjusted to the structure of companies too, they have to pay attention to electronic commerce, so these days there aren't any pure "brick" companies anymore, they have to be familiar with virtual space and exploit these channels. Virtual companies spread all over the world trading their products and services on the Internet. These can also be virtual goods, for example content providers.

At this point we arrived to the definition of social CRM, where the connection is not between the customer and the company, but the customer and the customer. Community is the prior aspect, where the customer tells their opinion about the product or service and the other take up these opinions, communicate with each other and also express these opinions. Companies should examine these relations and interfere if needed. With this philosophy CRM systems should open toward communities, applying the newest web 2.0 technologies. From the view of the community it does not matter if the used tool is a forum, Facebook or Twitter, these can change from one day to another, but the base concept is the most important, because communities have opinions, but also each and every people within them.

They should think in the terms of systems. The whole relation marketing and the customer relationship management worths nothing if they don't have the adequate system in the background. These bases were supported by the development of information technologies, so we can think explicitly about CRM systems, but if we want to subordinate the whole company to be customer-centric as a strategic goal, then we should think about the use of ERP systems. ERP systems build business functions and processes starting from the master data.

ERP SYSTEMS

The route leading to Enterprise Resource Planning as a notion was long, because the culture that could receive this new philosophy had to evolve at companies. The constant developing technology played a role in this evolvement. It has been a long time since integrated applications appeared to support each groups of business processes, and knowledge engineering exists from the very beginning of informatics. We can talk about for example integrated financial, accounting, human resource management, logistics, stock management and other systems too. But if we want to establish greater efficiency at a corporation level, then we have to carry out integration between the different processes too. (Hetyei, 2009) The characteristics of integrated systems differ from unique systems, because they can process information in subsystems only if the subsystems tightly cooperate, are based on each other and use the same data built on the one database. They establish connection between the insular systems or they have built integrated processes from the beginning.

Wallace thinks that ERP is not a software, rather a philosophy, and sometimes company transaction processor software systems are also called ERP, but these programmes usually do not fully realise effective resource planning. They use many corporate management procedures that do not belong into the category of resource planning. Wallace named these software ES-s, which means Enterprise Software/System, but does not contain usual ERP functions and can give solutions that are not part of the ERP system. (Wallace, 2006) For all intents and purposes ES is a misleading denomination, they mean unique software that exist in an insular way or possess minimal integration, but they perfectly provide the given functions.

Affected by globalisation it is not enough to work with national ERP systems, because at the present border-arcing companies and solutions exist and these requirements have carried a new ERP system to live, and this would be the global ERP system.

GLOBAL ERP SYSTEMS

In contradiction to national companies, multinational companies solve their data processing and management tasks with the help of more national ERP systems (for example Shell uses more than one hundred). In 2005 Shell decided to arrange these into a transparent structure, so to unite the existing and different ERP systems inside the concern. (Kulcsár, 2006) The authors Eggert and Forholz analysed 34 ERP systems advised by the German market, which can serve to establish the unified data processor system for a multinational company. Their aspects during the analysis are the same for all systems: industrial/professional orientation, consideration of country-specific differences, language manageability (for example: Arabian, Persian, etc.) and the assignability to the globalised models of Gronau. (Eggert, 2009) Globalised ERP-s can form a unified system inside the multinational company, for example with equivalent database administration and standardized integration interfaces. Based on our researches the forming processor structure is not homogeneous, but nationally specific and multi-level.

The nationally specific form is illustrated by the example of Stäubli AG. A machine manufacturer concern which is based in Bern (Switzerland) and sells its products through subsidiaries, introduced financial and production management modules at production units (int different countries), while the CRM system was established at Asian sales companies and the financial controlling and leader system processes took place at the headquarters. (Szabó, 2009) The examples for forming of the multi-level ERP structure meant processes organized into regions. An American based company who sells software all over to the world has its Eastern-European management headquarters in Budapest. At the national level the processor system's main unit is a newly introduced CRM. The trade data are merged in Budapest and then they are forwarded to the next regional management system, where the European-level summary happens. (ELTE, 2010) It is a general characteristic of company ERP structure that national-level processing (module) forwards data to the centralised (main) system, to assure the informational demand of the concern-level management.

THE CUSTOMERS

Several marketing bibliography mentions that today's consumer do not only decide based on the brand and the price, but the connected services play role too. Among others the service, the warranty, the quality of customer service, so the good will of the company. Today's products started to be homogeneous, it is worth to think about that how difficult it is to decide between the best cell phones, because their price and quality are the same, so consumers can be convinced with the related services, which means that companies should provide such values that makes them prominent among others.

This was the opinion of CRM 1.0 about the processes, which is a sufficient service nowadays. The next step of CRM towards the consumers is to see deeper over the two-way communication, to know the will of consumers, what is on their minds and what their opinion about us or our products is. We have to be there when they form their opinions, take active part of the conversation, and all of these should be automated. The customer should feel that we care about them and they are not only a grain of sand in the "profit-making machine", so they are truly important for us. This is called personalized marketing, which was only available at the B2B area first, but at the present the performance of information systems enables this field of marketing solutions at B2C areas too.

At the present the customer is in relation with the other customers and if they have an opinion about the product of the company, they tell it to the community they are living in, so the company is not inevitably the first who is informed about their problems. They discuss their problems, happiness and sadness forming social networks and this is increasingly natural for them, because the "Facebook generation" is growing up quickly into a consumer layer of society who has an effective demand and hangs on the Internet all the time, and nowadays they do not browse mashups and forums, but social sites-networks and blogs. Companies do not only have to focus on company-customer

dialogues, but also on customer-customer relations too. The interpretation basically does not matter, there are authors who do not mention customer-customer relations, but customer-prospects, which is practically the synonym of the previously discussed processes, but truly deceptive, because in the background the customer is in relation with their friends and acquaintances. (Leary, 2009)

The new guideline of marketing supports communities too, which are called tribes by Seth Godin and goes to the depth where they say that people are members of more tribes based on social motivation and communication occurs inside these tribes. People like to gather into communities, because we have different communities like family, friends, work and many more. All of these are easily applied to electronic solutions. (Godin, 2008) Web 2.0 technologies gave the base for this and companies have to link to the customer according to that. The area of rumour marketing is where they analyse that how, why and where we declare about products and how we share our opinions. An obvious solution is the social network, which plays an increasing role in our lifes. The function of today's CRM can be appositely defined: how can the company build its brands without irritating the consumer. (Bublik et al, 2009)

SOCIAL RELATIONS

Social networks are based on the theory of relation's net, which is a social structure built from nodes. These nodes are linked by one-one or one-to-many dependency relationships, for example family, friendship, values, opinions, business or any kind of other relations that can be found between communities. These relations are strengthen by possibilities like the "like" button, which creates a new community in the second when the possibility of the button was made accessible to the content and we become the members of these communities after pushing that button. CRM point of view social network are not only the ones to matter, but every solution, blog, and forum in connection with the community where customers could give their opinions.

It is worth to have a look at statistics, because while we spend approximately one and a half hours using Google's services (mostly searching), the time spent on Facebook is about 6 hours in a month, which is 66% more than last year. (NielsenWire, 2010a) We spend most of our time on social networks and the usage of emails decreased with 28%. About 14 minutes are spent on social networks from every hour of being on the Internet and if we add other important CRM elements then this value increases to more than 20-25 minutes. (NielsenWire, 2010b) Just Facebook has 500 million users, 50% of them logs in daily having 130 connections and are related to 80 social sites on the average. An average user publishes 90 contents in a month, which means 30 billion monthly contents sum total. (Facebook, 2011) There are specific social websites, for example LinkedIn centred around business, so professionals share information among themselves, which means more relevant contents, than a general social network. On the latter ones it is the "fun factor" that is characteristic, while LinkedIn is about business, so companies have to consider which social network content worths more for them in the actual case. (McKay, 2009a) Innocentive is one of the most well-known problem-solving sites, where 125 thousand researchers and engineers are related to each other dealing with social problem-solving. This can be a goldmine for companies, because they can meet the innovative solutions of their own products and services. (Greenberg, 2009) Based on Gartner's forecasting social CRM will be a business worthing 1 billion dollars till 2013, which means that the global CRM business will worth 12 billion dollars. (Ed et al, 2011)

CRM 1.0 AND 2.0

CRM systems go back in the past only 10-20 years, so they are still in their infancies, but the technological background changed a lot during the time. Relations marketing researches showed that the most important question is the following: is CRM 2.0 only the utilization of opportunities given by the technology or a real functional development of CRM systems? The answer is quite simple: while CRM 1.0 was a one-way transaction based communication, 2.0 is two-way and thinks in the terms of business processes. It is worth to have a look at the initial steps. Every book discussing CRM history has written that during the morning of CRM, nobody knew what it was really about. Adrian Payne collected some definitions about data warehouses,

campaign management and the automatization of sales function. (Payne, 2007) In my opinion we should not close our ears to these definitions, because they are all part of the complete solution and this is why I think that CRM solves customer relationship management by itself, but can not manage the total company's customer-centric mission, because that demands an ERP system, and an adequate corporate culture and strategy.

CRM 2.0 is like a dialogue based marketing solution supported by information system tools, where we do not only want to sell, but to know what happens inside the customers, why they are dissatisfied, why they like our products, what their problems are and how we could make them satisfied again. Starting from Kotler everyone has written that the cost of acquiring a new customer significantly exceeds the cost of resources directed to keeping an existing customer. This does not mean that it is needless to recruit new customers, because they have to put everything into acquiring new customers, but also considering the existing customers. The way of obtaining new customers has changed too, remembering Samsung's Twitter message, where they offered free Samsung Galaxies for dissatisfied iPhone 4 users. (Gibb, 2010) We could tell several examples, but one of the bests is the case of Dell, when a known blogger told a negative feedback and the other dissatisfied customers seized upon the story and told their opinions. Dell did not live on their name and quickly built a website where customers could exchange their complaints. (Myron, 2007) At this latter example we could not talk about popular social networks, because in 2007 Facebook was only rising. Social network gave companies that CRM 2.0 is really good about: masses of customers who group themselves around a brand. All this happens without re-registration or regiving their data, only pushing the "like" button or sharing content. Several authors think that CRM 2.0 should be the part of the company's main strategy, but it should not be the only main strategy and customer-centeredness should not depend on this. (Lager, 2007) Many researchers have written that in 2008 CRM suppliers did not know which direction to go. Greenberg wrote that they created a lot of platforms on account of the goal, where they could form communities. (Greenberg, 2008) They saw the directions and used today's important key expressions for example, SaaS, mobile solutions and best practises. (Tsai, 2008) The fight of Oracle and Microsoft can be mentioned too from 2008, where the stake was the earlier CRM on-demand solution. (Ferguson, 2008)

CRM 2.0 systems automatically observe social media with automatic responses and actions based on the collected data, so there are so called actions to respond based on conditional presets. These actions apply to the mass and can not preset more thousands of conditions, so these solutions can only be used generally. The unique demands of small communities can be further managed by human interference, but they have to start a dialogue towards the customer in any case. Content presented by the customer is the most valuable, because even if it is positive or negative, the content was received through the company's channels in both cases.

The company needn't use its resources, when a customer tells their opinion, they needn't use questionnaires, they needn't gain information with marketing tools, because the information appears in the social media by itself and they only have to acquire it. (Goldenberg, 2008) The next step of social CRM could be when they bring users to provide content by themselves with the use of social media, so they use such marketing tools that give a personal feeling to the dialogue and the customer feels like being cared for too. Customer relationship management combined with the adequate tools can process information found in the social media and can reuse it in the future, for example like in the case mentioned in the source: a comment in connection with a software arrived to a forum solving the problem of another customer, so if the CRM stores the information, they can use it anywhere else later on the Internet. Of course this demands another innovative technology which also needs business intelligence, but today it is not the technology, but the solution that matters. (McKay, 2009b)

We must not forget that social CRM does not substitute classic solutions and till the generations mentioned in the next paragraph do not grow up, our approach will not change and classic CRM and its methods will have place in our lives. After all we still watch the television, listen to the radio and read the printed media. Even if their popularity is decreasing, they are still with us and this is why the generation

researches are important, because we have to now the targeted segment, the customer itself. A statistics from 2008 wrote that a CRM system worked with a background database offered free opera tickets for 1000 people, who haven't been to an event like this earlier, but the analytics showed that they could be interested in this way of entertainment. 75% of them accepted the ticket and hopefully they will be potential consumers in the future. This worked in 2008 and should function today too, but databases are expensive and the data should be purchased, while "free" content sharers provide this information themselves, so they only have to be reached. This should be the CRM 2.0 and the social customer relationship management. (Bland, 2008)

Social customer relationship management has an element that has to be mentioned and these are the widgets or mini-applications, which are part of the social life, speaking about smartphones, social networks or simply our desktops. These are the applications that make our lives easier and give the chance to choose from channels and opportunities. The foundation of Bill Gates developed an application for schools that helps learning, but we could also mention The Schumacher Groups, who created an application for hospitals helping to avoid dangerous situations for example during a threat of hurricane. Another example is the Trash-It solution of Microsoft Dynamics CRM Live which manages refuse collection vehicles with the help of Tom-Tom Work online. (Ferguson, 2008) There are applications that show data from the CRM system next to the Facebook profile, supporting the use of social relations. (McKay, 2008)

We could bring up several examples, online prestige becomes more and more important for companies, such as Lancomé, L'Oreál, or Rolex, who introduced relation marketing elements besides the usual marketing tools on social networks with CRM support. The source is from 2008, when companies thought that the future is their own websites and not the social media. (Mignot et al, 2008) There is a trend named customer intelligence that tells why the customer was not loyal or how to give them a level of freedom. (Myron, 2009)

We have to raise the question: is social customer relationship management more than a new channel or a technological question? Time goes by and customer-preferences change, don't we want to receive postal letters, because we already manage everything electronically? The question is not decided yet, because both sides have supporters and there are authors, who want to make Google a universal CRM provider. The idea can be good, because Google is the first medium if we have problems and it is the first place to look for things to buy. Scientific literature considers social networks like Facebook and Twitter as new channels, having their own strong points of course. (Jacobs, 2009) The introduction of CRM is getting simpler, consumers provide data, use the newest technologies, so companies can realise personalized marketing with the help of a modern CRM system. (Bublik et al, 2009)

As for the statistics, the ratio of CRM systems is 90:9:1 (operation, analytical, social), and based on Gartner's analysers, this rate will change to 70:20:10 till 2010. 60% of the Fortune 100 list has some kind of a community that can be used for customer management functions. (Musico, 2009)

If we want to analyse CRM generally, the below mentioned three innovations are the ones that really affected these systems:

- Content created by the consumer, which is called peer-to-peer content by the scientific literature. This is the information that can be found everywhere from comments under a product to the social media.
- Mobile applications. It is doubtless that mobile is the future, but this rather means those mini-applications that can be runned on cell phones and on our desktops too.
- Bringing in the user and making them committed to further products. This means that companies ask the consumer what they wanted, how they wanted and generally care about them. (Bublik et al, 2009)

It is worth to look at the fact that there are CRM suppliers, like Microsoft, who make the social media manager component accessible for free. At Microsoft Dynamics CRM this is the „social

networking accelerator" or „partner relationship management accelerator", where available customer information can be monitored. (Tsui, 2009)

SOCIAL MARKETING

Marketing got a new expression too, which is social marketing, a new way of relation marketing enriched with several information technological elements, for example social networks, CRM or the social applications. We must clarify that social marketing is used in more constructions. The first is when it is named collective marketing, where a product's, product group's or branch's all producer participates, so it comes to existence as a constraint union. (Tomcsányi, 1988)

Today's marketing experts define social marketing as a form of marketing activity that exceeds a company's marketing work and completes marketing tasks for the given branch in cooperation with its characters. (Totth, 2003) They really consider social marketing from the social point of view, as a strategy which starts and keeps an active, but not aggressive connection towards customers and potential customers. So if we consider the marketing tools, then CRM and social networks help social marketing, even while browsing search results, but social marketing only means social websites in this case. It is important to notice that community and social marketing are two different expressions.

For me social marketing is an expression where generation researches can really reach and segment the customer with the use of new technologies. Many authors think the same way and want to reach the customer on every existing and available channel, speaking about online games, podcasts, forums, livecasts and several new and old technologies. (Vebtraffic, 2010)

Social marketing needs to have a very important element and this is generation research, so the effort to get to know the coming generations, their habits and demand. These researches can be approached from two sides, the first is during the generational signals, for example the "Facebook generation" who can be described as people who spend their all day on Facebook, know the newest technologies, want to belong to communities and want others to understand them and make themselves understood. They were born between 1982 and 2000 and will be grown up soon, leave the teen age and will receive the torch, having the newest technology and philosophy totally natural. (McCrindle, 2004)

There are people who already talk about always on, always connected and always marketing which is compatible with social CRM philosophy, because we have to target that group with these tools. Read in the referred literature, 44% of the US grown-ups can be called content creators, who write blogs and share their experiences on social networks, and this information should be used by companies. Barely more than the half of the 12-17 year-olds can be named content creators and there are 70 million blogs only in the United States, while a new one is created in every second. (Goldenberg, 2008) These are great statistics born in 2008, when there wasn't anything like micro blogs, or a social network boom, but it is doubtless that these content providers are here with us, share information and they are grown-up to mean solvent demand for companies.

The other way differentiates seven kinds of customers between social media users: inactives, look-arounds, entrants, collectors, critics, companions and creative. Each group has a typical behaviour and with the help of statistics we get that how many percent of them belong to the seven descriptions separated by their ages. For example 36% of the men between 25 and 34 are creative, after projecting the results to the groups. (Forrester, 2009)

We can infer from both sides that how much these people watch TV, read newspapers, how they use the Internet and every other important aspect. It is worth to pay attention if we wanted to know our customers. Every generation prefers different channels, earlier if we wanted to find a company, we searched their email address on their websites or wrote a message on the given form. This is natural for a "baby boomer" or a customer from the "X generation", but for "Y"-s and "Z"-s the email does not mean anything, their primary channels are

instant messaging systems and social websites. (Fluss, 2009)

The philosophy behind social marketing comes from the middle 90's, when Don Peppers and Martha Rogers thought that every customer relation is a transaction where information is the most important. In those days there wasn't any technological background management for managing these transactions; that was brought by a new social media for companies. There are several opportunities, tools that can be collectively named info stream. (Pombriant, 2009)

Community-provided information can be grouped as below:

- Profiles: customer data can be found here, where their actions are summarized in an infostream.
- Connections: here we can see whom customers are related to, it does not matter which social media we are talking about, connections counts everywhere.
- Content: this is the most important, where our thoughts, images, videos, links, opinions and problems are, everything we want to inform the world about.
- Activities: what we do on these channels, for example becoming friends with someone or liking the products of the company.
- (Carfi, 2009)

There is a trend between researchers, who think that social sites will take control from company websites and CRM, and the time has come, when we reached 2011 and the age of "social colonization". The next ages are the "social context" and the "social commerce", but we can already get a view of it with social shopping, where customers are in connection with each other, which gives base for social customer relationship management systems. (Owyang, 2009) This is confirmed by the reasoning saying that customers update their own data on social networks, so they aren't only important because of the content, but since users maintain their personal data, they will also result more accurate data which is cheaper for companies too. (Shih, 2009)

REQUIREMENTS OF SOCIAL CUSTOMER RELATIONSHIP MANAGEMENT

Nobody has composed the requirements of a social customer relations management system yet. I think that over the basic CRM requirements, the following items are needed to make such a system successful:

- Fast development, because social CRM has to follow the changing conditions of social media. The structure of Facebook changes from one day to another, which is noted in the Facebook Development programme, but a company has to authorise the process. We did not mention the mobile solutions, because a year earlier there have not been tablets on the market and now everyone develops for them: bigger screen, other requirements. They also have to consider aspects like few clicks with the mouse, the adequate utilisation of business dashboards, which is the question of UI, but they also have to pay attention on business processes, like the 360 degree customer view.
- Rapid customization, as we raised the question in my previous writings, this is more likely present in connection with social customer relationship management, adequate to the changing conditions, but not in development questions. Rapid applicability is important, even if we are talking about an inner corporate change, or an outer change of conditions, it is important to fulfil the conditions of rapid customization. (Szabó et al, 2011)
- SaaS facilities, as CRM stands near to cloud-technology, every data source that it works from takes place in the cloud. Furthermore they have to possess such data synchronization that enables online/offline work. It has to accommodate to standards and standard processes at database level, so they could import/export data between different cloud based services.
- Knowledge management, adequate real-time and relevant data. As the community is changing all the time, the system has to utilize data with the same speed. Furthermore data has to be

able to simplification, so we could see only what we wanted and not more. Or its opposite: to only see what we originally do not see from the data.

- Returns, online traceability from the view of the solution's returns. It does not matter that which method we use to analyse the returns, but we should see the details and the root data. We have to see the details of the tools' returns, so we could trace the critical performance indexes.
- Instant decision making. At the present decisions have to be made rapidly, so every condition has to be provided to the decision maker: data, statistics, business dashboards, detailed explanations. So they can make instant decisions and the company can accommodate to the demands of today's accelerated world.

Anyway, the most important is to see that consumers do not turn to our company in the first place, but rather Google, Facebook and their friends/acquaintances. Not to mention that companies do not recognize that customers do not want or like to sign up, apply or communicate at newer channels. That is why Facebook developed the connect button, where users can log in into several services and do not have to do more laps. This could be an advantage for companies too, because if they get customer information from Facebook, then they will surely match and be up-to-date in the company database too.

CONCLUSION

Sands are shifting and not one strategy or information system can avoid development, but the question is that are they the evolutional steps or one industry for another which results this unavoidable development. In my opinion this question is still open, because informatics had a meaningful effect on the evolution of CRM systems and the philosophy had to change too. Not to mention the social solutions, where users provide the content and you do not even have to ask for it, it is just given, but it is still open that how companies could use these methods and the given opportunity. Social CRM is a solution which has mixed informational solutions, called web 2.0 with opportunities given by the social media and the new marketing philosophy, where the customer is the true king and we start to converse with them and really ask what they wanted. The expression customer should be renamed to digital customers, because nowadays every customer has some kind of a connection to the digital world. Just think about it, who wants to receive postal letters about the newest offers? We must not forget the important aspect of customers having connections and the connection of the connection has a connection too, so the whole social media is centered around content sharing and even those people can get information about our opinions who we don't even know. Social customer relationship management is rather a philosophy than a technological solution. It is a bit of everything, the classic CRM, social marketing and in the end, information technology. We must not forget classic CRM solutions either, because a social solution does not tell us what we purchased in the store or when we will go shopping next and it will not tell the amount we spent, but on the other hand it can be linked to the classic solution, which can tell us this information. The two of them together provide such a service for the company that helps to know "everything" about the customer, mostly social customers.

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Cyber Criminality & Its Legal Control: Fighting With Stones in Jet Age

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ABSTRACT

Cyber criminality has revealed the loopholes and shortcoming of national systems, exposed the inability of combating Trans border criminality and inability of the legal systems to deal with the cases involving virtual realities where paper based identities, physical location, national borders depicting jurisdictions melted out. The existing legal systems are mostly paper based and very much sensitive to the geographical maps where artificial boundaries create national jurisdiction, which is the only legitimate medium to take cognizance of crime. It is also very much sensitive to paper based identity, physical location, legal recognition of criminal act. The electronic technology has potential to crack the old age principles, which hardly stand in cyberspace.

The present article has focused upon the gap between the traditional ideologies to combat the crime and varied nature of cyber criminality. It clearly demonstrates the difference between Cyber crime and traditional crime. It highlighted the causes, nature, and difference of technology and ultimately demands the modern approach to deal with the crime. At the end, it also press upon the international policy, regulations and standards to deal with such trans-national criminality.

KEYWORDS

Cyber Crime	Legal approach	Genetic algorithm
Cyber criminality	Technology	

THEME BASED PAPER

PREAMBLE

Cyber crime is one of the deadliest types of crime. It can disturb existing set-up within the fraction of seconds. This can be evident from the 9/11 incidence when two airplanes were crashed against twin towers of World Trade Centre in New York. Within a couple of minutes all the data within the server located at twins towers lost and the transactions corresponding with these computers, which were taking place, halted. More dangerous would be the situation when globalization provides the connectivity to any computer from any corner of the world. Thus, it may be possible that within the fraction of seconds, some of the server would collapse and the transactions pertaining to those servers may also come to halt. Thus the major threat appear today is due to the globalize nature of Computer & Information Technology which may spread its effect beyond the boundaries. Thus if anything would go wrong in China, it may effect in the business market of India. If any American Bank would become bankrupt either due to e-theft committed or due to hacking, the share market index of Bombay Stock Exchange may fall down!! Thus, Cyber criminality has potentiality to show its effect across the globe.

Therefore, the present article has focused its attention upon how Computer Technology helps to revolutionize the concept of Information Technology and how its globalised nature would have probable threat to the national legal systems. At the same time, the investigation will be carried out in keeping the present wave of globalization and its effect on criminality in view. Ultimately, an analysis will be made about the Cyber criminality and how it has been activated and affected due to invention of Computer & Information technology.

UNDERSTANDING CYBER CRIMINALITY

Why Cyber criminality - What went wrong?

Another aspect about Cyber criminality should be taken into consideration. Why, today, does the stage have arrived to make hubbub about Cyber crime? Exactly what went wrong? In mid of the twentieth century Cyber-Technology appeared on the scene and it is adopted by the society for conducting transactions, communication and for other purposes. Due to wide alternatives, capability of carrying out assignments, speed, executing operations, memory storage capacity, it spread with leaps and bounds and soon encompassed entire globe.

Till the end of last millennium Cyber Technology had advanced throughout the world on experimental basis and it had been started to make impact in different corner of the world and different sphere of life. But unfortunately, ***despite*** it's increasing use, ***despite*** the increasing automation process, ***despite*** increasing dependence of man on the machine, **no sincere research base effort had yet been undertaken to check its impact on other aspects of life**. Thus by the end of 20th century, we had contrast picture. A developed technology and underdeveloped legal mechanism to deal with.

CYBER-TECHNOLOGY VIS-À-VIS CYBER CRIME – CHANGE OF PACE

The problem of Cyber crime can be understood by understanding Cyber Technology. The world is witnessing the situation of ever-growing field of Cyber-Technology. The technological growth rate is too fast. In last decade itself, the number of netizens increased by 1500 % in India. Banks, insurance companies, railways, and universities are installing computers for their speedy operations. Thus Technological Adoption is at it peak. However, the problem of Cyber criminality oozing out of Technological Adoption is not properly tackle along the line of its growth. Thus, the period has been witnessing the different pace of development between Cyber Technology and infrastructure in preventing Cyber crime. Within a short span of decades, a huge gap between Cyber Technology and Cyber criminality has happened without any hope of bridging the gap.

Consider the example of India itself. India is considered as a 'think-tank', 'best brains', 'silicon valley' of computers, having maximum numbers of computer engineers and experts, and we are also exporting our software and hardware engineers equipped with specialized technological brain to America too! Thus statistical data manifest that India is one step ahead in Cyber-Technology than rest of the world! India is fit country for outsourcing material form developed countries! But what about the knowledge and mechanism of controlling the Cyber crime?

The same situation is prevailing in the world. In fact, it is desirable and expected that during the infant age of Cyber-technology; the legal mechanism would have to start to shape its utilization, distribution, dissemination and consumption. However, since from the beginning the Cyber-technology was started to use, experimented, exhausted and consummated, but not legally regulation till late 90s. This leads to wide gap between technological development and legal regulatory mechanism. The social mechanism in general and legal mechanism in particularly would have to come forward with their regulatory weapons. If those strategies would have been followed, there might exist the Computer Technology and controlling mechanism at the same level of development. However, it can be clearly evidenced that the pace of development of Computer Technology vis-à-vis Legal mechanism to control Cyber crime was not at the same pace where former has been growing with leap and bound and latter remain hidden and laying dormant. Thus, it is regretful situation to evidence our failure to safeguard the present generation. Today, adoption of technology has no alternative without any protective wrapping against its evil effect on society.

Speaking about India, to educate kids about computers, technology, computer games, chatting, by compulsory MS-CIT courses, by making computer education compulsory at primary level of education become fashion, but words like Cyber crime still sound new to their ears! Thus when generation together is assimilating computer literacy without legal awareness and criminal implications. The educational curriculum of these courses about of computer technology hardly contains the awareness about Cyber crime.

The ignorance of computer related crime can simply be understood in India when in banks, government offices or at sensitive places; the office personnel are using simple passwords like names, surnames, pet names, and school names. Such use of simple 'guessable' password at sensitive places clearly evident how sensitive the people in India about security aspects of their computers. At number of occasions, it has been observed that the Internet ID and Internet password is same in most of the institute which may facilitate to cause theft of Internet hours.

In short, the demand of alteration in the existing situation is already overdue!

CYBER CRIME – A DISCUSSION FROM LEGAL POINT OF VIEW

Cyber crime - Law prescribes, not describes Cyber criminality.

Crime is phenomenon, which requires focusing on *Sociological, Political, Economic, Law and other related* branches to understand it in comprehensive manner. As this article undertaken from legal point of view, it is essential to analyze Cyber-criminality from legal point of view. It is should be borne into mind that crime is the phenomenon which is generally considered from legal point of view.

Understanding Cyber crime from legal point of view causes difficulties because law can only prescribe, couldn't describe. Thus legal literature says, 'What is crime'? But mute about 'Why is it so'?

General Characteristics of crime - Considering some prevailing notions

'Crime mean the act punishable at law'. 'Crime mean the act for which the law prescribes punishment', 'Crime are harmful, anti-social acts' are general prevailing notions into the society. Crime without legal prescription is myth and merely remains evil or sin if legal aspects are withdrawn. However, careful study of word 'crime' reveals some objections.

By way of generalization, some common principles may be extracted that (can) apply ideally to all crimes and are the criteria actually used in determination of certain act branded as crime or is not crime. They are consistent with the ideal characteristics of the whole body of the criminal law. Basically politicality, specificity, uniformity, and penal sanctions are considered general major constituent for categorizing any act as crime.

Whether 'offence' or 'Crime'

It is surprised to note that the major lex-loci on law of crime[i] is silent about the definition of word 'crime'. And even in the said statutes, word 'offence' is used instead of 'crime'. Incidentally, too, the IT Act, 2000[ii] does not define the expression 'Cyber crime' but only punishes a few of the many Cyber crime.[iii]

Again, Indian Penal Code, 1860 word 'offence' defined :-

"Except in the chapters and sections mentioned in clauses 2 and 3 of this section, the word **'offence denotes a thing made punishable by this code.'**[iv]

In the same manner, word 'crime' has not been defined under Indian law.[v] General Clauses Act also

defined the word 'offence' instead of word 'crime'. The same scheme has been adopted in Criminal Procedure Code, 1973.

The word 'offence' defined under Criminal Procedure Code, 1973 is as follows:

"Offence means any act or omission made punishable by any law for the time being in force and includes……."[vi]

Thus according to penal law, 'offence means any act or omission for which the any law time being in force imposes penal liability.' In short, those acts fall within the preview of penal laws for which any law time being in force prescribes punishment. The scheme adopted to describe the act or omission to be attracted the attention of criminal laws is based on positive approach. Therefore in generic sense 'the act or omission that is not yet made punishable by any law time being in force is outside the scope of criminal law.' Again the definition of 'offence' is seems to be circular. Because it only says that offence is the act punishable at law.

Difference between 'Offence' and 'Crime'

Though penal statutes make use of the word 'offence', it is not synonyms with word 'crime'. Despite some common constituent elements like *'act forbidden by law'* '*legally prescribe penal liability', 'by state enactment'* are common factor of 'offence' and 'crime'. However the nature and scope of word 'offence' and 'crime' differ on various grounds.

'The difference between the two is one of (the) degree: A moral culpability is involved in a crime, such as theft, homicide; but there may not be any moral condemnation in a statutory offence, such as a violation of the provisions of the Motor Vehicles Act, or rash driving. They are, no doubt, acts prejudicial to the society, but they are punishable only because the law has prohibited certain conduct, and not necessarily because the act or omission is regarded by society as morally wrong. From the wrongdoer's standpoint, again, '*mens rea'* or a guilty intention is, generally, a necessary ingredient in a crime but not so in a statutory offence. In short, all grave offences involving moral turpitude and punishable by the State are called crimes. The object of punishing crime is to set an example, that is to say, to give a warning to persons in general not to cause such injuries affecting the interests of the community as whole; while the object of punishing an offence is the interest of improving the social condition and efficiency.[vii]

This is clear from the above discussion that 'offence' is a wider term having extended connotation than word 'crime' and definition of offence (according to criminal law) also encompasses the criminal act. Thus offence includes 'act regarded as crime' as well as 'act punishable due to public policy' (more specifically, like negligence, accident). From the generic sense, the approach adopted in penal statutes can appreciate. Because entire legislative framework comes forward with enactments declaring certain act prohibited by law irrespective whether they fall strictly within the definition of crime. And on the contrary some act, which may fall within the definition of crime, may not occupy place in the strictly enacted statute.

When the crime has to be studied from various angles including legal one, it is required to step out of the strict legal definition. Because, in order to consider those premises of act which though not fall within the strict definition of law, but are harmful, anti-social in nature, legal definition restrict the coverage area. Again, statutes, acts, cases are too much logical where the effort has been made to analyze whether the act fall within the strict wording of printed law or not. However, from the academic point of view, it requires to study the act, its effect and harm it causes, despite printed law may not describe it.

It should also be noted down that the rules of criminal law contain only definitions of specific crime, such as criminal conspiracy[viii], obscenity[ix], theft[x], extortion[xi], Robbery[xii], Criminal breach of trust[xiii], Stolen Property[xiv], cheating[xv], Criminal Trespass[xvi], Forgery[xvii], Defamation[xviii], and Criminal Intimidation.[xix] However study of criminology reveals that legal scholars have been able to abstract certain general principles from such definitions. These general principles apply ideally to all crimes and are the criteria actually used in determination of whether any particular behavior is or is not criminal.

Thus the definition of crime (in positive way) that appears in the statutory enactment may differ from the standpoint of criminal jurisprudence. Because the coverage area of criminal jurisprudence definitely wider than merely the criminal enactments which deal criminality focusing strictly on the provisions of imposing criminal liability. So far as criminal jurisprudence is concern, the extract of the study consistent with the ideal characteristics of the

whole body of the criminal law. Thus the present research writing has been executed with the approach of 'to abstract certain general principles (that can be) apply ideally to all Cyber crime[s] and are the criteria actually used in determination of whether any particular behavior is or is not criminal'.

Then can Cyber-crime really categories as crime?

Genetically, no person can be prosecuted for an act, which is not declared as crime at the time of commission of an act. The Constitution of India also guaranteed,

Art 20: Protection in respect of conviction for offences. -

No person shall be convicted of any offences except for violation of law in force at the time of the commission of the act charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence. [xx]

Thus in India, punishment without prior declaration of any acts as an offence or crime is bared by Constitutional mandate. The majority of an acts fall under new category as 'Cyber crime' is still to be declared as an offence. The Information Technology Act, 2000[xxi] has neither described the 'Cyber crime' nor categorized it. Only the punishments have been prescribed for certain act such as tampering with computer source documents,[xxii] hacking with computer system,[xxiii] publishing of information, which is obscene in electronic form.[xxiv]

However, apart from these traditional crimes there are other categories of Cyber crime that are not covered by the Information Technology Act, 2000 for e.g. Cyber stalking, vandalism, the Spam, and network worm, **Packet Sniffing, denial of service attack etc.** Cyber crime is equally harmful, anti-social having all the characteristics and qualities being declared as an offence but it is still out of the purview of the Information Technology Act, 2000 or any other law time being in force. Therefore, within the couples of years of its inception, most of the jurists are considering the Information Technology Act, 2000 as outdated.

Considering these aspects, and reading it with Article 20 of the Constitutional of India that guarantees a protection from ex-post facto law, it is difficult to treat it as an offence. Thus genetically, and strictly speaking from legal point of view, have discussed about crime in this article and analyzed it from the angle of crime may be out of the purview of legal literature.

CYBER CRIME - GRAY AREAS: A COMPARATIVE EVALUATION WITH TRADITIONAL CRIME

During the past decade, the growth in the use of the Internet and the (Cyber) space it has created, has developed from science fiction into a socially constructed reality. Cyberspace possesses some unique qualities which create a series of challenges for our existing laws.

These qualities are: its lack of respect for jurisdictional boundaries, the sheer volume of traffic that it can handle virtually instantaneously, its openness to participation, the potential for anonymity of members of the virtual community, its apparent economic efficiency. It is these very qualities of Cyberspace, which has today become its nemesis and has necessitated the need for Cyber law.

Cyber law exists at the (cutting) edge of law, where the ability of existing law to achieve its goals is challenged. In this sense the "law" in Cyber law is a much broader concept, it is "law in action" as opposed to "law in books" as it applies to situations where Law cannot cope. Moreover, the technological revolution has wrought in its wake various security issues and there was an urgent need for security experts as well.[xxv]

i. Present system - suits to traditional criminality & fall short for Cyber-crime

Today, Cyber crime has settled on Indian scene. But Indian Legal System is still alienated towards it. It is expected that the regulatory mechanism should pick up the task of controlling the process before it outweigh and collapse. But in this respect, machinery of legal control is clearly seems to be lagging behind. Therefore, new development in this area posing challenges to the fundamental principles of law, which worked well before the advent of this technology. Our legal literature is worn out, if not become outdated. The present system is suitable to some extent to deal with traditional criminality only.

Need of reformation in this regard is already overdue.

ii. In the age of ICT, threat is non-optional and bound to increase

We are aware that today, the life without computer is difficult to imagine. It is observed that, "Only a hermit would be unaware of the degree to which computers have permeated every aspect of our lives. From the cradle to the grave our activities are influenced, tracked, recorded and controlled by computers".[xxvi] Computers get associated with a person before his birth when CAT scanners detect birth defect or determine sex and remain associated for sometime even after the death till insurance issues are settled. Computers have invaded every aspect of the life and the impact has been so quick that it caught the institutions of law and justice unawares.[xxvii] Thus for modern generation, computer associated with human life from womb to tomb. The new developments are posing challenges to the fundamental principles of law, which worked well before the advent of this technology.

And with the increase in automation and use of Cyber Technology, the scope and its danger is bound to increase. No words can better describe the present scenario of technology than the following stated by Cosmos-the villain in the movie "Sneaker" in following words -

The world is not run by weapons any more, or energy or money, it is run by ones and zeroes-little bits of data. It is all electrons. There is a war out - a world war. It is not about who has the most bullets. It is about who controls the information. What we see and hear, how we work, what we think. It is all about information.[xxviii]

However, Cyber Technology throughout the world is with its full magnitude, but socio-legal awareness amongst the people is not yet highlighted. Therefore, the Cyber criminals today are wandering freely, without threat and fear. We can compare the present society with the innocent baby who is trying to play with fire-works unaware of its potential danger it may cause. The present society is also too much innocently dealing the Cyber Technology remaining deaf and blunt from the probable danger the Cyber criminality may cause.

iii. What role can Legal system be loaded with?

In modern civilized societies, 'Law' can be the most effective instrument of social control and social change. 'Law' should like filter paper, anti virus, gatekeeper and purifying machinery for Cyberspace. Therefore, if 'Law' has to fulfill social expectations, it must keep itself one step ahead, well equipped, advanced and sensitive towards social change. In modern days, 'Law' cannot afford to remain oblivious of these developments and lose relevance.[xxix] Today, 'Law' must be advanced and well prepare and acceptance of new development into the society should be under strict supervision of legal system. Legal system should armed and guard society against any probable danger from changing process. For effective controlling and safeguarding the social interest emerging from challenges of developmental process, it is expected that 'Law' must keep its supervisory eyes on all the changes before it reach for application and use in society and must be scrutinized and filtered through 'Legal' machinery before passing to social hands.

iv. New challenges before legal machinery

It is therefore, a time to redefine the role of 'Law' and legal machinery in present context. Before 'Law' loss it relevance, it must modernized, define new terminology which can suits to existing situation, develop framework and network to check challenges. Cyber crime should have its own vocabulary, terminology, jurisdiction base and each level need special attention. The situation demands that there should be a concrete effort on the part of the Lawyers, Judges and Legislature to resolve the legal issues rises while information sharing, dissemination, distribution and consumption. There is genuine feeling that the new world of digits demands training not only to the Bench and Bar but also to law enforcement agencies as new language has been introduced which has given new meaning to old words.[xxx] The Colonial law had its own working methodology. The colonial methodology restricted with conferring rights, imposing duties and creating liabilities, the responsibility with strict colonial execution, and rest things would follow. But, today, when we claim is being made to be 'welfare state', this fashionable 'colonial way' of working pattern is outdated. Affirmative action on the part of law enforcing agencies is simply a need of an hour.

v. Need of balancing offline world and online world

It is necessary today to give a thought of balancing the offline and online world. As stated earlier, the Cyber-technology has opened the entirely different

world, the space where we live in electrons, breath it and move along in the form of electrons and bytes. It has created a visual world, entirely different than our social world. The Cyber-space has computer games, conferences, chat rooms, shopping complex everything we have in real world, but with different atmospheres.

Just take an example of computer games. There are traditional games like cricket, carom, ***Gulli-Danda, Kabbaddi*** etc which used to be played by children with their counterparts. But computer games are being played by these kids of present generation by sitting in closed rooms without human company, and most of the time, they are even unwilling to be got disturbed, and these games hardly provide any social atmosphere which would doctrines the process of socialization. The youth, one can find, sitting hours together in closed cabin of Cyber café wandering in chat rooms, but more resembling liking sitting in toilet, because he is lacking social surrounding. It gives a sense of belongingness in different world. The kids before TV cartoon, or youth in chat rooms are playing in isolation. They are entirely in different world where they don't need their classmates, no friends, nothing, and if having, everything is imaginary! The computer games are satisfying their lust, fantasy, visualizing them as a powerful winner! Ultimately this makes them computer-worm, the kid who just likes to play with computer and don't like the company of others. Even they don't need their parents.

Today most of the parents are making complaints that their kids are becoming addict of computer games, and TV cartoon shows, and youth are computer savvy, and driving out of their bond of love. They spend maximum time before computers - surfing and fun-liking games. This is equally true with the youth who are spending their valuable time in chat room where they can meet imaginary friends and can share their fantasy. They can fall in love, share emotions, goes on dates but hardly anything is real![xxxi] The social ties existed before are much more solidified, exerting social pressure, and capable of holding social members with social adhesion. Thus, a couple of generation before, man who has been ex-communication, banishment, isolation, confinement, and keeping outside the society would considered as punished and would felt lowering down of image in society. Person would have felt uneasy even to think about it. However, today, everyone is running towards electronic machine. In past, persons used to feel amusement, entertainment and consolation from social relation, today electronic toys are provided lots of amusement, visual powers and playing fun where nobody want to spare time for others, even for parents, brothers, and friends too!

In nutshell, life in virtual world is responsible for mushrooming various psychological problems amongst the generations. They are becoming addict of computers which is able to satisfy their fantasy, sometime good - sometime bad. But definitely this visual world is driving them away from real world. Though the present article has attentped the enquiry and focused from the pointing of view of the controlling criminal aspect of this Cyber-technology, but the seriousness of the problem can not be easily side-tracked. To add statistical figures, NESCOM research data forecasted that Indian Computer Market has possibility to raised 40 million Dollars by 2006.[xxxii] Imagine how much kids, youth and fun lover in near future will be affected by it?

Revolution in Information & Technology is admirable, but its impact on human generation cannot be blindly appreciated. It is, essential, therefore that much attention should be given to balance between visual and real world.

CYBER CRIME - WHERE THE DIFFERENCE LIE?

Consider a situation existing before a couple of years. What was the concept of securing the money? How did a few lakhs rupees in Government Treasury use to secure against theft? There was vault constructed by sturdy metal, the location of strong vault-room was either in the centre of premises or underground. One has to pass through two to three doors that were guarded by codes or locks having several keys held by different persons. There were narrow passages, dim lights and security guards patrolling aground the premises with standing orders to arrest any unauthorized, suspected persons. He would be immediately taken into custody for interrogation. Even patrolling security guards with guns had standing order to shoot the person attempting to commit robbery. Notwithstanding these safeguards, there were electric current running through the iron bars, security sirens, police dogs. And even if, the robbery would have been committed, the police machinery could seal all the barriers to trap criminals. Numbers could trace the stolen currency;

the suspected accomplice could be arrested to get any clues.

HOWEVER, WHAT IS THE SITUATION TODAY?

Today, the Cyber-Technology has entirely changed the concept of security and safety. Printed currency is transformed into electronic bytes and capable of moving through optic fibers. Now one can have a simple ATM card, which carries Crores of rupees, and e-banking has facilitated the withdrawal of amount from any place, even from any corner of the world! The currency is in the form of electronic bytes and can be flow through wire, can be transferred by satellite transmission and capable to carry on a simple Credit/Debit cards. But can we rest assure about the safety of these digital money? Though being controlled by bank's server? Does bank server secure as strong vault-room *were*? How much security aspects of previous days are significant today? Today anybody can hack, intrude in the bank website and make changes to commit theft. No need to have physical presence! No need to breaks locks, no need to have duplicate keys, even no need to have identity cards, need not have to face patrolling guards, no fear of guns, checking at barriers, chasing by dog squad, check posts, or tracing by currency numbers! Today one can easily breaks strongest firewalls of bank server. What is needed? A few lines of programming!

It is therefore taken into consideration that the study of any sort of crime is continuous process. Whatever best study made in past may be good but not relevant during the course of time. This is equally true with other dynamic concepts, because it require continuous indomitable perseverance. The study material of this subject is continuously subjected to change and therefore, it needs a fresh look each time. The study material of crime is just like a flow of current stream where present will be soon imbibed by recent past. Also in this electronic age, concepts are subjected to the change with electric speed.

Thus, the Cyber-Technology has made the life transactions more dangerous and deadliest in modern days, because it has entirely changed the concept of money, property, security, safeguard and has brought everything at the stake! In the Cyberspace, nobody is safe, nobody can feel protected! Today, even one cannot sleep quietly with the thought that his money is safely laying in his bank account? Really does one think that he, his money, or even banks, which were once having safest lockers, has remained as strong enough to protect his money? Just read any newspaper! Go to columns covering news relating to Cyber crime, relating to economic frauds through ATM (Automatic Teller Machine).

Guess, this is only one example of Cyber crime related to money transactions, thousands of new types are yet to describe, yet to emerge and yet to face!!

INDIAN LEGAL SYSTEM – NEITHER INDIGENOUS NOR MODERN

According to Puchta, "Law of the nation grow with the people, strengthen with the nation as it strengthen and lastly die away when nation lost its nationality".[xxxiii] Thus basic thrust of those thinkers who belongs to Historical School feel that law of the nation reflect true picture of nationality and by studying law, one can understand the socio-political situation existing into society. However, the statement does not appear true if scrutinize with the Indian scenes. As Indian Legal System reflects colonial dominance, present laws of the nation neither provide true picture, nor display reality. This is equally true with respect to criminal justice system in India.

i. Intricacy in pursuing Law as a mirror image of social reality

In India, while attempting to define legal terminology from social point of view always encounters some cynicism, particularly to figure out the concept like crime. While attempting to understand and conceptualize legal mechanism for socially correlated issues, it come across with some difficulties and necessitates stepping out of legal reservoir to make this article more relevant. Because Indian Legal system reflects, peculiar colonial influence and culminated to define law in way of Austinian logical rationalization. Thus development of Indian legal system, during pre-colonial and post-colonial period manifests the dogma of imported rhetoric idealization and nationwide generalization of law in Benthamite way that makes it difficult to discover indigenous characteristic features and appreciate it as well. Particularly, when we envisage the purpose and functionalistic approach of law for social reformation and renovation like, ***'law as an instrument of social change'***, *OR* ***'Law as a product of culture and tradition'***, assigning socio-functional role (and

values) to ***'law',*** the careful study reveals some objections.

ii. Colonial impact on India Legal System make it alien for natives

Another problem of Indian legal system is that of colonial impact on legal system. From Language to Law in Indian Legal System, everything manifest colonial influence. This makes Indian Legal System alienated to indigenous society. In India most of the laws are either of British origin or passed during the first three decades after Independence. During the colonial period, though some development was took place, but it was enacted focusing the interest of ruler. Thus law enacted during this period supported colonization and true spirit of law as an instrument of social development was totally sidetracked. In the first three decades after independence, though the effort had been made to make overall system socially compatible, the computers were not dawn on the scene.

Therefore, the law passed during this period totally unaware about computers, and it is equally true about the system develop during this period.[xxxiv] Thus the period when computers had not made so much of influence as we see today and Internet, during this period, simple did not exist.

Most of the existing laws assume physical environment, geographical boundaries, and tangible documents as prime concern and created jurisdictional limitations for administration of criminal justice system. As against this, in a digital world every thing is recorded in digits, without any respect for political boundaries and can be modified, altered and replaced without any murmur.[xxxv] Born as part of an intelligence military system, Internet has become an essential means of communication and information with great democratic potential as an organizational tool for social movements challenging the domination of political and economic power.[xxxvi]

iii. Law incompatible with society & understanding Society by reading law is futile

Commenting on the difficulties encountered to understand India from legal standpoint, Mark Galanter remarked-

The attempt to use law as a path to the understanding of modern India (Indian law as well) encounter skepticism from several quarters. Before proceeding to examine the possible significance of legal studies, I shall attempt to state (and label) these objections -- which derive, in turn, from the nature of legal materials, from their relation to society and from the peculiar features of Indian law. First, **legal materials are normative rather than descriptive**. They are so immersed in technicalities and at the same time so given to rhetorical idealizations as to obscure rather than reveal social realities. Second, **doctrine does not necessarily reflect practice**. The actual behariour of regulators and regulated does not necessarily bear any constant relation to doctrine; doctrine, therefore, provides no reliable index either of actual pattern of regulative activity or of the degree of conformity of the behaviour purportedly regulated. Third, **nationwide generalizations are of little value**. India is a vast and heterogeneous society. Since the law largely ignores local conditions in favour of nationwide generalizations, it is of little value in understanding local conditions and inevitably obtrudes misleading generalizations. Finally, **Indian law is foreign**. Much the greater part of modern Indian law is palpably non-Indian in origin and it notoriously incongruent with the attitudes and concern of most Indians.[xxxvii]

Therefore it is felt indispensable by present researcher to touch the facet of 'Cyber crime' *and* mechanism of its legal control from various perspectives; sometime within periphery of legal circumference and sometime stepping out of it. This article deals with concepts like Cyber crime from the viewpoint of components of 'Criminality' at national and international level and at the same time the impact of 'Globalization' and 'Information Technology'. In addition, what so far this trio offered to Legal system to cope up with the problem of 'Cyber-criminality' in India. It underline theme is, how far the present legal system need to upgrade to deal with the crime of new millennium.

iv. Indian legal system - A compound mixture of traditional and Modern

It is interesting to note down that Indian society is neither completely modernized, nor completely traditional one. We fail to accept modernized thought and fall short to reject colonial past. Therefore, here we are having advance law dealing with computer virus and hacking passed in third millennium[xxxviii] and also the law dealing crime like thug[xxxix], the crime, which is hardly exist today.

This clearly shows that the Indian Legal system is trying to balance between traditional old pattern and struggling hard to switch over the new one. It is also

keep into mind that merely the new legislation does not solve the problem of modernization. It requires that system should be modified from the top to bottom level. Legislation is only one part of the legal system. To change the system to make it compatible for new emerging problems, it is essential that it should be changed at every level, including substantial and procedural level too.

CYBER-CRIMINALITY, GLOBALISATION AND RELATED ISSUES

Marshal McLuhan in his book Understanding Media said that due to invention of new technology used in the communication mechanism the **'World is reduced to global village'**. And it is true to some extend. Today, accessibility to any corner of the world with the help of wireless technology is easily possible. Globalization has shrunken the world and bring world into closed room and can be remained present everywhere by sitting before computers. The Globalization and Information & Technology has added different flavours to Cyber-criminality. This give different dimensions to the concept Cyber crime. It is essential to view Cyber crime from various angles like criminality, globalization and Information & Communication Technology.

Today, technology has already changed the concept of time and space. One can remain present anywhere, anytime, and participate. In read sense, today, the world is shrinking into space and time. With the above vision, in forthcoming sections, issues relating to criminality, Globalization and Information & Communication Technology have been discussed.

CYBER CRIMINALITY - NATURE AND SCOPE

i. Criminality is omnipresent - Crimeless society is a myth

Crime is a socially correlated phenomenon. The confirmation of crime-existence can be substantiated from each representative snaps of 'society' reflecting different developmental span. With time, changes occur in the nature, scope, and definitions of crime for given society. Crimeless society is a myth and it is non-separable component of society. Crime, despite branded by various expression, *such as philosophically* - as human weaknesses, masked demon, necessary social evil *or explained scientifically* - as genetically disorder, anthropological disproportionate variation, psychological abnormality, impact of imbalance human composition, always has proved existence with varied degree of rationalization, changing definitions, fluctuating magnitudes, compatible with politico-psychological recognition. Nature of crime, whether simple or complex, depends upon the nature of society.

Thus within the simplest form of society, simple crime exists and as society grows up towards more complexities the magnitude of criminality also attain corresponding complex level. At the same time, preventive and corrective machineries of society are always following up the crime and delinquencies in society. In short, criminality is a relative phenomenon that depends upon not only of the time and of space but influence by the various socio-economical and political riders, as well as even population of the society. In short, study about crime requires verifying all those factors influence and contribute it.

i. The Advanced age and automation process has create fertile land for Cyber-criminality

The age of automation, with stepping scientific advancement, produces new social, economic, and political problems, where the technology instead of providing solution, is an instrumentality of new complex situation to be dealt with. In the present scenario, the legal system though equipped with its tool of logic and reasoning, finds it unable to apply the same efficiently to the arising situation where the facts and even law is difficult to understand and apply. In the words of William Zelermyer, -

> 'We live in an age of automation. The displacement of human hands by machines has been going on at an accelerated pace. The washing machine has replaced the scrubbing board; the automatic transmission, the shift stick; the typewriter, penmanship; the computer, the pencil. Speed and efficiency have become prime objectives. The machine has outdone man in physical matters, but it is conceived, fed, and controlled by the human mind. New social, economic, and political problems arises with each scientific advance, but no mental machine has yet been devised to grapple with them. An electric saw may produce a swift and clean cut, but the mind travels a longer course and views the scenery on the way. As King Solomon well knew, no satisfactory decision could be

produced by the sharp blow of an axe. We have no coin-operated courts. Univac may make predictions but cannot make decisions. The formula of logic is the closest we come to automation in thinking, but its power as an instrument is limited by the scope and accuracy of its premises as well as by the object sought to be achieved.[xl]

Modern society is on the peak of its advancement. We have already switched over to the electronic age leaving behind electric age. Vast communication facilities have reduced the world into global village. Scientific and technology help human being to exhaust its entire limit to taste the fruits of development. Today, it is possible to access any corner of the world (or visually remain present) by sitting in a room. Today, technology has liquidified the barriers of time and space. Are we at the vanishing point?

i. Global connectivity via internet has proved boon for Cyber criminality

Today, feasibility of global connectivity has been facilitated by Cyber-technology. The Internet permits netizens to interact and transact with one another across (and beyond) geographical boundaries with luxurious ease. Internet networking provides its users the ability to migrate from one website to another almost without realizing the complexity (and other legal complexities too) of the software tools that makes this possible.[xli]

Conventionally, geographical and territorial fragmentation of world by national boundaries and segregation of community on national and territorial index provided at least a facility of deciding jurisdictions of legal systems. However, global connectivity helps to evaporate artificial boundaries and via Internet, you can have your (visual) presence at any time and place.

Internet is a borderless world in the world of geographical borders, which has given rise to one of the most debated problems of determining jurisdiction in disputes pertaining to cross border transactions over the Internet. When we are using the technology consummated globally, it is difficult to control it by local governance, not compatible with cross-border governance.

i. 'Peace-Period' motivated technological inventions and shrink world into global village

Advent of Technology has also provided room to some evils to be crept in. With every invention, uses and misuses are always clubbed together. Similar is the case with Cyber-technology. No doubt, that Cyber culture provides us an electronic base of interaction vis-à-vis electric speed to our impulses that is entirely useful in every walk of life. Nevertheless, the evil effect like Cyber crime also crept in and now we are facing great threat of its impact on world society. Particularly when we are dealing in a globalize village, where mechanical automation is occupying a greater part of human life giving way for more and more scope for mechanical dependence of human being, the human society posing great threat from the categorical criminality like Cyber crime.

ii. Trans-national criminality - the International concern for Cyber crime

The present millennium affected by the process of globalization where there is echoing of information-superhighway within the whole community, the matters seems to be more complicated. Because as known from its trans-national nature, Cyber crime is global phenomenon. The terminology is totally borrowed and its application package entail barrier less jurisdiction.

During the past decade, the growth in the use of the Internet and the (Cyber) space it has created, has developed from science fiction into a socially constructed reality. Cyberspace possesses some unique qualities which create a series of challenges for our existing laws.[xlii]

Under these situations, the traditional way of nation wide generalization of definition of crime seems to not workable. Particularly with respect to those crimes falling in the categories of trans-national criminality pose some challenges. In different words it can be put as follows:

[Thus] the difficulties lies in properly defining the laws needed to allow for Cyber criminals' apprehension and prosecution. While seemingly a straightforward task, difficult issues are raised. One is whether the definitional scope of Cyber crime should include only laws that prohibit activities targeting computers or should outlaw crime against individuals affected through the computers as well,

such as Cyber stalking and Cyber terrorism. Another is whether these laws should be focusing Cyber crime specifically targeting only crimes committed by exploiting computer technology. Is it, for example, necessary for a country to add a "computer fraud" offense if it has already outlawed fraud? Both these issues are national in scope and go only to the nature of legislation a nation should adopt.[xliii]

Therefore, to wrap Cyber-criminality within national pocket would make regulations irrelevant. It is essential to think about to give international recognition for defensive mechanism against Cyber crime.

ii. Some incidences of Cyber-criminality - The threat is not imaginary

Therefore, though Cyber-stalking is not a new phenomenon, and in real life there are not a less incidences of stalking, the sea change has occur in the phenomenon due to vast difference transpire in Cyber-stalking due to the specialty that Cyber-technology produce for these criminality in general and Cyber-criminality in particular. Thus Cyberspace has proved a boon to these deviants.

Consider some incidences of Cyber-criminality that can be happened to anybody:

Mr. X shocks to see that his 14 years old girl is watching porn, obscene and vulgar websites, though due to her tender age she should not have to access to such porn materials. **This is an example of Pornography.**

Mrs. P starts to receive obscene calls from the person asking her to meet in deserted place and they are ready to pay for that. First she ignores such calls, but when inquired about it, she shocks to listen that the callers are getting her photos and telephone ID from the website where the information has pasted that she is a secrete slut and anybody can have her if ready to pay. When she makes complaint to police, it has been traced out that somebody has pasted it on the website. As website is registered in America, nothing can be done. Website owner refuses to provide the name of culprit. **This is an example of Cyber-Stalking.**

Mr. A finds that whenever he starts using his computer, one massage uses to appear on his screen and he is unable to avoid it's repeated appearance. While inquiring about, it reveals that virus has infected his computer. Might be due to any websites or e-mail he has received! **This is an example of Virus transplantation**.

Mr. D finds that outstanding balance of his ATM card is debited by thousands of rupees. When inquires about, bank has informed him that as per bank's statement, on a particular date he withdraw the amount but in fact Mr. D never! Banks official personal fear about the money theft committed by anybody by using fake password of Mr. D. **This is an example of ATM fraud.**

Mr. T complains that his computer system is running deadly slow. It has been observed that his machine memory has full off swam/worm, which eat up the maximum machine memory making the process deadly slow. **This is an example of worm/Spam.**

When concerned police officer tries to match the fingerprints of culprit with that of fingerprints available in his computer, he is unable to extract data and file is unable to open. It has been discovered that somebody has tampered the data and either extracts useful data or destroys it. It is advised by experts that he will have to re-enter the entire data, which may cost several hours' manpower, money power and mental harassment. **This is an example of Data tampering/theft of data.**

A famous website of TV new channel having electronic news agency is unable to access by netizens. It is either displaying unreadable data or giving 'error' massage and unable to display on the computer screen. It is revealed that somebody had hacked it. It causes tremendous lost of time, manpower, money, market and reputation to the news agency. **This is an example of hacking.**

Mr. H has purchased Internet hours for surfing the Internet from his home. But to his surprise, after surfing few minutes, he receives massage from ISP (Internet Service Provider) that his time of surfing is over. After investigation, he comes to know that somebody has committed theft of his Internet hours from different computer using his password and Internet ID. **This is an example of theft of Internet Hours**.

Mr. G approaches to his bank for withdrawal; however, he is informed that his balance was almost 'nil'. His bank account is displaying the entries that money has been already withdrawn from his bank account a couple of days earlier. It is afterward unearthed that one of the bank intruders (might be

employee or even outsider having frequent and convenient access to the server) fraudulently misappropriated and transferred the fund from the account of Mr. G to another's account. It is learnt afterward that the programming into the Bank computers and making miner changes in the software running the computer systems of the bank has materialized the transfer. **This is an example of e-fraud.**

These several examples can be quoted here which are based on the real incidences. However, main gist of these problems lies in computer related crime that is now dawning into reality in the Cyber-space and it requires urgent attention.

GLOBALIZATION: CONCEPT NATURE AND SCOPE

i. Globalization - Dismantling national barriers

Globalization implies dismantling of national barriers to carry on production and distribution activities with the objective of deriving optimal benefits in the production and distribution.[xliv] The process of globalization is, basically, termed to be phenomenon correlated with economical activities as the motivational factors for globalize activities is moneymaking or profit making. Nevertheless, it affects and impresses its impact on other section of life. Thus as it basically understood, the process of globalization starts with economical interests of the front fostering other interest within.

ii. The Neo-Globalization - Old wine in new bottle

This is, in generally, wrong conviction that globalization is a modern process. Actually, it is an old wine in new bottle. Thus when East India Company was incorporated on 31st December 1600 A.D. with prime objective to trade in the eastern part of the world, keeping economic interest as objectives on their memorandum, but while solidifying those objectives in colonies, gradually other interests were crept in and their activities were not restricted to trading activities. During the course of time, these European countries were engaged in the battle amongst themselves and with native rulers. Race of grabbing more and more territories was begun. In Asian and African continent, these European countries were fighting for their illegitimate share. And in India, ultimately Britisher emerged as fortunate invader and succeeded to overthrow French and Portuguese and Duchess except in few parts. The process was common throughout the world except European continent and even America was soon grabbed by British Empire under their reign.

Though America soon overcame the foreign rule, other poor nations were not enough fortunate to overthrow iron pawn of these powerful and advanced European giants. Particularly, Asian and African nations were fallen pray to these rulers and get exploited almost till middle of 20th century and it was only after the Second World War they could breathe the free air of independence after fall of big powers. The course adopted by these European Big-powers to find out routes for the nation for trading purpose and search for the market, which could provide raw material for their industries as well as serve as consumer market for their industrial product can be conveniently termed as "Globalisation".

Therefore, even though today, the globalization seems to be new in its forms and features, but it is old wine in new bottle, only with following variations.

iii. Neo-Globalization - Its new variations over the past

Recent wave of globalization is restricted only to acquire the territory and established the rule over the provinces. During 15th and 16th centuries, globalization took place in curiosity of new territories, for new business opportunities by undertaking valiant voyage by European nations followed by military operations. Operations under physical observation were unique key of medieval wave of globalization.

Today, the situation is entirely changed. Technology has provided drastic dimensions breaking the bond of time and space restrictions. Anybody can be acquired character of omnipresence just by remaining connected through networking. Thus, the territory has lost its importance and value. Today, physical barriers are meaningless as nobody is interested in occupying the land. There is no military invasion, no king, not a single royal troop, nor a need of battle necessary to penetrate into land. But there is multinational companies having huge amount and technology to invest and well equipped with money-power, machine-power and muscle power too!!!

Secondly, in recent wave of globalization, 'electrons' are sufficient medium for globalizing the world.

Today, technology has changed the concept of time and space. Anybody can access any corner and block of the world sitting in closed room without being remain present there. Therefore, National boundaries are meaningless and only electrons are sufficient tools that are helpful instrumentality for giving a sense of visual reality.

Thirdly, the driven force of neo-globalization is backed by economic interests, not by military forces. Thus, today, multi-national companies are on the front taking every chance of reaching every corner of the world. These multi-national companies are too much powerful and giant, that they don't need permission as sought by East India Company by ***Mughoul Badshaha Jahageer***, rather they has started adopting a tactics of compelling underdeveloped and developing nation to mould their economic policies suitable for their economic interest. Most of the time, these companies diplomatically put on the mask of funding International Organizations like World Bank, International Monetary Fund, WTO to ensure back-door penetration. Thus, gradually the government of the developing and under-developed nations becomes puppet in the hands of these Multi-national Companies.

Lastly, the modern globalization attacks on money, market, consumers, commodity, and resources as against the preceding process of globalization, which was characterized, by attacking on Rulers, and their territory.

iv. Neo-Globalization - Its effect on world scenario

Consequently, globalization has entirely changed the world scenario. Moreover, this gives raise a complex situation over the traditional one. Because due to technology, the entire co-related concept can be differently interpreted. What are the products? Who are the sellers? How can be consumers protected against the services providers? Which rules should be made applicable to? Who are Masters & Labourers on net? Because, in Cyberspace, lot of points needs to be considered.

Though the process of networking in Cyber-space is in its formative years, still it has intensely changed the rules regarding business, communication, product, jurisdictions, and overall, scope for criminality in Cyber-space. And as maximum transactions and business has been carried out via web-pages it provides lot of scope for criminals and wrong-doer to hide behind the fake identity, lot of scope are there where nobody can search him, and police machinery can compete against time factor, too to search criminals on the net.

As the process of globalizations mainly revolves round the economic activities (though it touches other aspects of life too!) it is necessary to consider the driven principles of New Economy in Cyber-Space in the age of globalization and scope to deal the Cyber-criminality.

v. Driven forces of Cyber-Technology

It should be borne into mind that economic interest is basically the driven force behind Cyber-technology and automation process. As reiterated earlier at number of occasions, information is basic resources for survival in competitive modern world. The winner of the competition is decided by possessing potentiality of manipulation, the way of accessing and utilizing market information. The technology that helps to assimilate the information fast and effective manner, therefore, bound to get importance in modern world. And thus, Cyber-technology, which has ability to support the market, has no alternative. The purpose and support provided by Cyber-technology is beyond imagination, the potential disturbance it caused is comparative low. Thus economic equation of profit and loss favours the acceptance of automation process. Speaking with example, banks that adopted Cyber-technology, the automation process, computerized data and internet connectivity is in position to spread over the world provide 24 hours services, low cost due to paperless data storage, and no dependency on manpower, no unions, no red-tapism. Thus the bank depends upon the new technology has better chances of survival though it has threat from hacker, intruders, electronic fraud. But comparatively this cost is low and any bank can prefer the computerization of its branches.

On the other hands suppose banks refuse and resist the process of automation, computers, internet connection due to fear of Cyber crime, can lag behind in the competition and reduces to satisfy only local costumers which would be very less in numbers. The services provided by these banks may restrict a few hours a day and there is lots of problems have to face due to traditional way of dependency on the manpower.

In short, there is no reserve gear to the Cyber-technology and Cyber crime, only one way is out to protect and curb the Cyber crime. Today, the mechanism we have to develop keeping in the view

of globalization. Any banks, institution, government office, universities, railways should develop its system considering the globalize world as its market. Think that one has to be in the globe and will remain in the globe despite there are threat of global criminality, like Cyber one. There is no way to go back into 'Jungle', no way out.

Thus globalizations has made Cyber-criminality easy, fertile and greater magnitude and left no option to reverse back.

vi. Cyber-Technology & Globalization - fuel to the fire

It is interesting to consider the impact analysis of Cyber-technology on globalization and vice versa. Both the process has it's own impact but in present scenario the perfect tie of both these process added new dimensions and directions. The process of globalization has acquired greater magnitude due to the Cyber Technology. At the same time what is the basic requirement of globalization has been, Cyber-technology provided fertile platform for its growth.

There is a total transformation of paper-based technology to paperless technology in the area of e-commerce. Cyber-technology facilitates e-transactions, money transfer across the world. Today, due to Cyber-technology there is complete change in the meaning and methodology of various terminologies in the field of e-commerce. For e.g. currency, note, denomination, cheque, draft, banking all concepts has undergone complete transformations.

What changes at all occurs at the melting points of Cyber-technology and process of globalization? Lets us considering following points.

GLOBALIZATION IN CYBER-WORLD - A PANDORA'S BOX

i. Matter Doesn't Matter in Cyber-space.

Today, in Cyber-space the concept of matter and its corresponding value has entirely changed. Therefore, it is not essential that heavy, sizable, weighty, solid commodity cost more. Thus, big machinery may be cheaper than computers and computers may cost less than the software's used in it. Therefore, as in Cyber-space we can deal in Crores of Rupees by simple transactions and just within software maximum risk has involved. Moreover, we don't have facilities available in Cyber-space to control the things similar with that of physical world. In short, the modality applied in the physical and real world is not applicable in Cyber world. In physical world we can control automobile, machinery, commodity and check it against loss, misuse, theft, and procedure to deal with traditional criminality has its own way of search, arrest etc. But the same procedure is difficult to follow on the networking where criminals are difficult to locate, and even impossible to identify!

ii. Global village: The shrinkage of space, time and territory.

Networking has entirely given a new opportunity for the business has changed the traditional bond with space and time. Via networking, it is possible to access customer worldwide and at any corner. It is not important to have show-rooms, big hoarding on the side by the roads, to have physically located shop so that customers can visit and required to open shop open during market hours. This traditional condition have now changed in the networking where any person can remain available round the clock on the networking and able to access from any corner of the world. The entire networking world is market and customers' connectivity is possible around the globe. E-business on network neither requires a fix location nor binds to fix time schedule. It is truly said that Cyber-world has changed the concept of time, space and location in the sphere of marketing.

But the several issues have been raised due to this changed scenario. First, concerning about the location - the issue can be raised about what rules and regulations that should be made applicable? Because, traditionally, the court is bind by the jurisdictional limit, either pecuniary or territorial while entertaining the briefs arising out of legal disputes. It is statutory limit on court's power. Therefore, court's jurisdiction to take cognizance of dispute is based on the location of the dispute. However, in Cyber-space, it is difficult either, to fix the location of the wrongdoer in several cases, and while in some cases even-though it is possible, he might be sitting in the other corner of the world.

Secondly, the criterion of 'space' applicable in traditional legal system has entirely meaningless in Cyber-space. Cyber-space is full of web pages, without any limitation. Traditionally, law has concerned about the space. In market, rules and regulations are applicable on the basic that where

the shops, showroom, industrial unit is situated and how much space it occupy.

Even in case of dangerous or volatile products are produced and placed far away from the 'living' area. Again, in traditional legal system, it matter that whether the place is 'public' or 'private'. How to judge the valuation? Is it possible to treat it agricultural land or Non-agricultural land? How can we decide the value of 'inches' of land available in Cyber-space? Nevertheless, in Cyber-space how can one decide about it? It needs a serious consideration.

Thirdly, time is important aspect and one of the criterions for many statutory considerations. Time matters, because it is one of the criterions to apply for limitation. In Cyber-space, anybody can remain present for every moment. Again due to electronic-speed, subjected to congestion in network, it is difficult to follow the time-schedule on the Cyber-space that causes difficulties in framing the legal issues in legal disputes in general and offences in particular.

iii. Information that matters in Cyber-space

Information is becoming the lifeblood in Cyber-space. It is easy to circulate and make available within the network. Anybody either consumer or curious net surfer can access to it. One of the utilities of information in networking is its accessibility. The information that is kept in the 'pocket form' in various computers or hubs can be accessed from any corner of the world.

Thus irrespective of the place of net surfer or the location of the information, it can be brought on the screen of the terminal. It is now only make accessibility of information quickly, but make overall system user friendly. The search engines that make the categorization of information websites according to key words for user add maximum utility of Cyber-technology.

Thus information has value on networks. The power of Cyber-technology rest with the information it is capable to provide. Therefore, though misleading, Cyber-technology is seems to be synonyms with information technology. But needless to add, Cyber-technology has much more scope than merely information-distributing machinery. Basically, today Cyber-technology is utilized to shift statistical, mathematical, logical work of workman.

iv. Changing concepts of value, values and valuables

In Cyberspace, there is complete change of the concepts like **value, values** and **valuables**. The **VALUE** of any material has undergone drastic change in Cyber space. Now the size of article is not important. Previously, the automobile is more costly that bi-cycle. But today, the computer is more costly than automobile and the computer program written in few lines are even more costly than computer itself. Therefore, the dimension of value has undergone drastic change in Cyberspace.

In the traditional market there are lot of thing, which is depended upon the relationship of buyer and seller. In past the credit system was existed where words were valuable, reputation of a person had market value (Not his salary or bank account), each person had his different reputation which govern the relationship. Thus traditional market had some developed **VALUES** and these values were respected everywhere. Most of the time, the products were sold because seller, though he would not be the producer of that product, guaranteed about its creditability.

Those days were known for the faith in the seller rather than product. But at present, the Cyber-space has shrunken the world to great extent. There is no value to words, personal reputation, identification or even guaranteed. These words become meaningless. Prior to that, the buyer-seller relationship does extinct with the process, but it continued. Buyer-seller relationship was not like a customer-shopkeeper relations, but there was a social bond strengthening it. However, presently, the selling process is not bound to these considerations and there hardly social relations amongst buyer-seller exist any more. Thus values that were important consideration in past lost its importance in Cyberspace.

Next is a **VALUABLES**. In Cyber-space, the golden article or diamond necklace is not valuable. It is the information, knowledge and programmes that facilitate towards desirable result are valuable than even products. Therefore, the websites providing more facilities, programming that generating better results are more valuable than other things.

Thus, in Cyberspace the terms like values, value and valuables has got different meanings and dimensions.

v. Cyber-space is a departmental store

Today, in the era of globalization, Cyberspace has become just like a departmental store where you can order anything and you will have it! It is just like a complex where you can wander, surf and get everything. At the same time, very less regulating agencies are there which can prevent you. There is no Cyber policing, no traffic rules, no body is watching netizens, despite it even minor can have access pornographic material. Therefore, in this respect, Cyberspace is the entirely a different place where the rules of this offline world do not apply, at least till this moment.

vi. Regulating the competition - The world market is at stake

In Cyberspace is full of competitors. For securing customers, one has to tile hard. Once upon a time, companies had to compete with others in the same city or region, but now they have to compete with companies around the world. With the limitations of geographical boundaries eliminate, competitors that one never dreamt about are suddenly possible. Thus in Cyberspace one has to compete for customers around the globe. Amazon.com is a digital library, not only computers with bookstores in this country, but with books, stores all around the world.

vii. Not 'Global village, but Global den'.

Marshal Mcluhan in his famous book ***'Understanding Media'*** had said that due to modern means of communications, the world is reduced to a 'Global village'. But due to computer revolution of 20th century and information technology, the world is again reduced to 'Global den' where you can access it sitting in the closed room. Thus by sitting in front of computer in bedroom, one can make transactions, deposit money, withdraw & transfer it from bank account, give the advertisement of product which can be circulated all over the world, and also can communicate with your relative residing in opposite part of the globe! Thus, today, the fashionable concept like 'Global village' has become outdated and replaced by 'Global den'!

It is crystal clear from the above discussion that under the process of globalization national boundaries are vanishing away. Particularly in Cyber space where the technology does not respect the geographical barriers, the fate of security and safety aspect are always at stake. The threat will be bound to increase with the increasing use of technology and with process of speedy automation; conversion of each data and everything into electronic form will have no alternatives. Therefore, it is high time to devote a considerable time for security the Cyber space. Controlling the movement is not a easy task, but we have to do it! There is no alternatives for it!

viii. Information Technology: the life blood of modern era

The last decade of the twentieth century witnessed an exciting and exhaustive explosion in the arena of information amplification. Generally information means the data that is put into a meaningful and useful context.[xlv] From time immemorial man has been using certain signals to amplify the information such as bonfires, semaphores, drumbeats, etc. All served as signals of some kind of information. Later it became an accepted fact that information is the vital resource in developmental activities. As a result of this, more and more devices were introduced such as telecommunication, mass media, computers and internet.[xlvi]

New communication systems and digital technology have made dramatic changes in the way of living. A revolution is occurring in the way people transact business. Businesses and consumers are increasingly using computers to create, transmit and store information in the electronic form instead of traditional paper documents.[xlvii] This is an age of Information Technology. The rule of 'survival of fittest'[xlviii] remains unchanged, but its definitional rider-cum-dimensions differ in present context. Today, one can remain fit and sustain in competition not with the help of muscle power or weapons, but only with the help of information. Today only information can ensure the survival. Such is the essentiality of information. It is information that comes first, and then knowledge follows. Therefore, information is pre-requisite condition for knowledge. Thus, despite it is old saying that 'knowledge is power', but without information, knowledge loss its relevance. Apparently, the technology that generates, stimulate, diffuse and distribute information fast is best suited in present world. Commenting on the importance of information, the Standing Committee on Science & Technology, Environment & Forests for examination and Report while referring 79th Report on the Information Technology Bill, 1999[xlix], stated as follows :-

In the present day world, it has been the electronics and now the Information Technology (IT), which influence our life the most. There is

hardly any area of human endeavour where electronic gadgets have not reached. There is barely any industry that does not depend, for its efficiency and productivity, on the application of electronics in its different manifestations. Technology has emerged as the vehicle of rapid change in the work culture and the way mankind communicates in the century. India has been no exception to this phenomenon. Whether in the field of telecommunications, roads, ports or air travel, the hallmark has been more efficient and cost effective technology. Thus from slow-moving majestic automobiles the country has moved to smart and fast technologies, which have given us much, more advanced vehicles, coal guzzling steam locomotives, which have been replaced by electric traction engines.[I]

This is clearly evidenced that world is now moving through the transition stage and soon there will be a complete transformation. The tiny electrons have capability to change entire world. Evidently, law has taken the cognizance and the national legal machinery is warming up to get ready to fight with Cyber criminality. In fact, it is moral as well as legal duty of 'LAW' itself to react in time so as not to loss its relevance with social pace.

CONCLUSION

It is crystal clear from above discussion that Cyber criminality is spreading with leaps and bounds whether able to get timely legal response or not. Unfortunately, the difference pace of development of Cyber technology with controlling mechanism lead to imbalance in execution and implementation. The wide gap of technological understanding between Cyber criminals and legal executions are making problem worst. The legal response by the world community is at very superficial level, but situation is alarming and need serious attention. The potential capacity these electrons having within them to destroy the world are beyond imagination. We have already witnessed an example of 'the power of electrons' in the form of 'Uranium Bomb' that had caused massive massacre at Hiroshima and Nagasaki in August 1945.[Ii] Now the same electron based technology is being used in Information dissemination.

Secondly, the globalization has made the issue more complicated and apprehending. Now with addition of 'Silicon', the entire world transcend to 'Electronic conductivity' facilitating free flow of information. There is maximum thrust on the technology for its use upto its maximum. This makes use of Computer Technology more crucial and Cyber crime inevitable. Globalization in fact has provided a launching pad for Computer Technology. Today, technology is globally consummated but locally governed. If global consumption of technology cannot be restricted, it is governance, which should be upgraded to global level. In nutshell, the threat should be timely estimated, and effectively tackle.

Thirdly, beside food, shelter & clothes, Information has become the fourth index of basic needs for survival, not only for individual, but every society and nation. In fact, world has realized that information is pre-requisite need for knowledge, and knowledge is power. To be remained equipped with information is need of an hour and necessary for survival.

Thus to be remained powerful, one should be equipped with information. Therefore, there is growing necessity has been felt for fast, speedy, easily capable of manipulation, storage technology become non-option and when computer were invented, world community visualize a future of information into technology.

Thus Information Technology and Globalization lead superhighway on the path of development and progress. Now Cyber criminality has now become non-separable part and if global consensus is in favour adaptation of Globalization & Information Technology, Cyber criminality has to be accepted as non-optional phenomenon as an integral part of it. Cyber criminality is now as real as Globalization and Information Technology, and there is hardly any way out. Only way out is to overcome the threat pose by Cyber Criminality, face it without ignoring it!

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Web Content Management

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ABSTRACT

The concept of *content delivery* (also known as content distribution) is becoming increasingly important due to rapidly growing demands for efficient distribution and fast access of information in the Internet. The WCM market includes software that helps manage content for extranets, intranets and Internet domains.

KEYWORDS

Content Management | **Web Internet**

PREAMBLE

A Web Content Management (WCM) system facilitates the publication of content to a website and removes the need for the user to possess technical knowledge of editing HTML files. Such systems allow content creators to directly add or update content on a website without involving an IT department or external company (i.e. Unlike website builders, a WCMS allows non-technical users to make changes to a website with little training. A WCMS typically requires an experienced coder to set up and add features, but is primarily a website maintenance tool for non-technical administrators). A WCM system therefore empowers members of each department within an organisation to update their own sections on a website, therefore reducing the number of resources involved in the end-to-end process and ensuring that timely updates can be made. It should also provide controls such as security and templating, to
ensure a consistent appearance and solid control over who can edit and view content,
and depending on your business process requirements, should also provide workflow and approval processes. WCM systems provide authoring tools which allow users to edit text and upload images and other media in a WYSIWYG (what you see is what you get) manner, i.e. giving an experience similar to editing text in a word processing application such as Microsoft Word.

GARTNER DEFINITION OF WCM

Gartner defines WCM as the process of controlling the content of a Web site through the use of specific management tools based on a core repository. These may be procured as commercial products, open-source tools or hosted service offerings. Product functionality goes beyond simply managing HTML pages to include:

- Content creation functions, such as templating, workflow and change management
- WCM repositories that contain content or metadata about the content
- Library services, such as check-in/check-out, version control and security
- Content deployment functions that deliver prepackaged or on-demand content to Web

Source: Gartner.

WHY WCMS ?

Now a day's CMS is simply not providing a platform for publishing and managing web content but Web CMS platforms are fusing the best of marketing automation practices with content management, allowing marketers to leverage content in new and innovative ways as part of their core marketing and sales strategies.
Institutions/Organisations have no shortage of 'content' - be it data, information or knowledge. When the creation and publication of content is well managed then the organisation functions more cost-effectively; it is also likely to lead to better decision making.The key goal of a CMS is the increased integration and automation of the processes that that support efficient and effective Internet delivery.

CMS OVERVIEW

A content management system (CMS) is responsible for the collection, management, and publishing of chunks of information known as *content components.*

Fig: Overview of a content management system (Boiko)

COLLECTION SYSTEM

A CMS collection system is responsible for all processes which helps to convert raw information into well organized set of contents before the content is ready for publication. The processes involved in Collection system are:

- **AUTHORING**: to create content from inception.
- **ACQUISITION**: to collect information related to content from subsisting source.
- **CONVERSION:** discard the unnecessary or extraneous information created or acquired into a specific markup language used in CMS.
- **AGGREGATION**: edit the content, breaking information and separate it into components to place it into desired metadata.
- **COLLECTION SERVICES**: CMS collection services help the collection process.

- **MANAGEMENT SYSTEM**: The management system is responsible for storage of content. The management system includes the repository (where to store the content) ,workflow(how to publish the content) ,administration facilities (how to configure the CMS). The management system helps to know about the details of contents, how it is being used , who has access what content or we can say that it answer all questions about your content, publications, or collection system.

- **PUBLISHING SYSTEM**: The publishing system is responsible for getting out content and other resources from the repository and build publication automatically from them. A publication system includes: publishing templates, publishing services, connections, web publications, other publications. Publication is not limited to web publication it can be used for other form of publication like electronic publications (CD-ROM), Print publications (PDF), and syndications (packaging and distributing content to other consumers of the content, such as other Web sites).

PRIMARY COMPONENT OF CONTENT MANAGEMENT—INCLUDE S

WEB CONTENT MANAGEMENT for creating, managing, and deploying multiple Web sites.

- **DOCUMENT MANAGEMENT** for capturing, securing, and sharing digital and paper-based documents and reports .
- **RECORDS MANAGEMENT** for creating, declaring, classifying, retaining, and destroying business records .
- **DIGITAL ASSET MANAGEMENT** for managing and providing access to rich media and digital assets.

CAPABILITIES OF WEB CONTENT MANAGEMENT SYSTEM (WCMS)

1. Automated templates help in changing the appearance of content easily these are output templates made in HTML and XML can be integrated with new and existing contents which help to quickly redesign the websites and of course a template-based Web CMS offers a powerful means for marketers to rapidly create and deploy pages with contents.

2. It is easier to manipulate and edit content using editing tools in WCMS .Hence WCMS helps information to be fresh, consistent, & high Quality, also it makes easy to reuse the content across multiple websites.

3. Most Web Content Management Systems includes plug-ins or modules that can be easily installed which makes the extension of the exiting website quicker and effortless.

4. CMS software assists in managing the life cycle of a document beginning from initial creation time, through revisions, publication, archive, and document destruction.

5. Helps to bring new products and information in minutes by making updates quickly by providing links to single content on various pages, which means that when content or item is update the changes are carried out across the site.

6. WCMS enables decentralized content creation. It provides privilege to staff (both technical & non technical i.e. it provides the opportunity to all departments of an organization to update their web pages easily without involving the IT Department.) to access and edit relevant information to their sections but they cannot touch other content items by providing them limited access of the content .Content creators take the responsibility for the information they provide.

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Corporate Governance Values and Ethics with case studies

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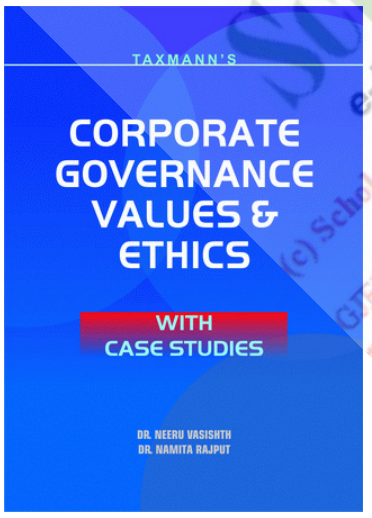
ABSTRACT

Corporate Governance is necessary to avoid corporate frauds, scams and irregularities. The book under review highlights various concepts of Corporate Governance, ethics and values and analyzes their relevance in the fields of Business management and Organizational Behavior. The book has been written lucidly with a self-explanatory approach with various examples from Indian case studies.

The book on Corporate Governance Values and Ethics with case studies is extremely useful for Under Graduate and Post Graduate students of Business Administration and also for students pursuing other professional courses.



KEYWORD

	Globalization		Strategic Planning
	Corporate Social Reporting		Quality Control
	Scriptures and Ethics		India
	Benchmarking		Diversification
	Benchmarking		Logistics

This book is a simple presentation of various concepts of corporate governance and business ethics in an easy to understand language. It comprises relevant case studies to gain a deeper insight into the subject.

Each chapter begins with an introductory paragraph and states its objectives. Every paragraph begins with an introductory comment that clears its objectives and relates it to the text at relevant places.

The book encompasses 21 chapters covering different useful concepts of corporate governance, Values and Ethics.

The 1st chapter includes meaning, need, importance, principles and objectives of Corporate Governance.

The 2nd chapter talks about Code of corporate practices, corporate Governance in India mentioning Cadbury Committee, Birla committee Report, SEBI Code and CII code.

The 3rd and 4th chapters discuss Corporate Social Reporting and Role of Board of Directors respectively.

In the 5th chapter, authors discuss Corporate governance in Global and Indian context throwing light on corporate disclosure practices and Investor protection in India.

Following chapters corroborate the concepts of Values, Teaching ethics, Teachings from scriptures, ethical issues and market systems, Corporate social Responsibility, ethics and financial areas of business, moral reasoning and theories, Globalization, Information technology and decision making.

The last 6 chapters throw light on corporate strategy, Benchmarking, Quality control, Promotion management and brand building, growth strategies and supply chain management.

There is an underlying need to study various concepts of corporate governance to gain a deeper insight of corporate health and its relationship with investors. Governance ensures ethics in corporate management. Ethics comprise the values and social system for organizations promoting orderly corporate life and a disciplined society.

In the current scenario, business and society are deviating from ethical practices towards maximization of personal gains. Corruption, scandals, black marketing, tax evasion have become rampant and pervasive in modern business societies. Study of Ethics goes a long way in shaping the culture of individual, firm, industry, nation and world at large.

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Blockchain Federation of India [BFI]

Blockchain Federation of India is the primary and principal body of blockchain professionals in India. It was founded on 13th March 2019 by a few academician and Cyber professionals including its co-founders Col. Inderjit Singh Barara and Dr. Subodh Kesharwani which has now grown to be the national body representing blockchain professionals on a PAN India basis, in fact informally through social networking cites group exists from 2017 onwards. BFI is a non-profit professional meet to exchange views and information learns and share ideas. The wide spectrum of members is committed to the advancement of theory and practice of Blockchain and Technology Systems, Science and Engineering, Information Processing and related Arts and Sciences. The Federation also encourages and assists professionals to preserve truthfulness and aptitude of the profession and fosters a sagacity of partnership amongst members. Besides formulating the activities held at the chapters and student branches, the society will also conducts periodic conferences, seminars. The society will be in touch with various International bodies of blockchain for an international alliance.

BYLAWS OF BLOCKCHAIN FEDERATION OF INDIA

Blockchain Federation of India known for its acronym (BFI) is an Indian customized international organisation dedicated to raising digital competence standards in the workforce, education and society in blockchain perspectives. BFI have a certain vision and mission:

- To bring all block chain researcher and technocrats under one roof
- Formulation of Block chain Virtual university
- Developed Own Teaching Contents in Block chain

BLOCKCHAIN VIRTUAL UNIVERSITY

Blockchain Federation of India is an international organisation dedicated to raising digital competence standards in the workforce, education and society vis-à-vis blockchain. Our proposed certification programmes, delivered through an active network in multiple countries, enable individuals and organisations to assess, build and certify their competence in the use of blockchain tools to the globally recognized BFI standard, known as BFI worldwide. As a nonprofit social enterprise Blockchain Federation of India (BFI) benefits from the exclusive support of experts from national technical societies and partners international to enlarge vendor-independent standards which define the skills and knowledge required to use blockchain technology in actual fact. We work with education and training partners, local and regional authorities, national governments, international development organisations as well as public and private sector employers in all sectors, in the delivery of our programmes. The quality and reputation of BFI is built on years of expertise earned by it's founders and associated office bearers. Our accomplishment is maintained by our forthcoming innovation in certification programme development, our commitment to rigorous test design methodologies, and consistent adherence to our quality assurance standards. Blockchain Federation of India planning to support the initiatives of National Operators of the programme in various parts of world. All Blockchain Federation of India operations work closely with regional, national and local partners to develop the global network of BFI Accredited Test Centers.

BYLAWS OF THE BLOCKCHAIN FEDERATION OF INDIA

ARTICLE I. NAME

- The name of the Federation shall be the "Blockchain Federation of India", and it shall be incorporated as a nonprofit corporation in Republic of India with a Headquarter in New Delhi.

ARTICLE II. PURPOSE

- The purpose of the Federation shall be to promote Blockchain education through faculty development and to encourage that the teaching and learning \ related to blockchain implementation in various upcoming field.

ARTICLE III. RESTRICTIONS ON ACTIVITIES

- Section 1. No part of the earnings of the Federation shall inure to its members, officers, or other private persons, except that the Federation shall be authorized and empowered to pay reasonable compensation for services rendered in direct support of its purpose.
- Section 2. No part of the activities of the Federation shall be directed towards influencing legislation or intervening in political campaigns.

ARTICLE IV. MEMBERSHIP

- Section 1. The Board may establish and/or change the membership classes. The Board of Directors shall set the dues amount and the criteria for each class of membership.
- Section 2. All individuals who are members in good standing shall have the right to vote, hold office, and serve on committees. To be in good standing, a member must not be more than six months in arrears in his/her dues and financial obligations to the Federation. Individuals more than six months in arrears in their dues will be declared inactive, but retained on the membership rolls for an additional six months. Inactive members can reinstate their good standing by payment of current and all past dues.
- Section 3. Individuals whose dues are more than one year in arrears shall be dropped from the membership rolls.

ARTICLE V. OFFICERS

- Section 1. The Officers of the Federation shall be the President, President-Elect, Secretary, Treasurer, and the Immediate Past-President. The election procedure is as described in Article VII.
- Section 2. President & Secretary. The President and Secretary of BFI is the highest ranking officer of the Federation and are directly accountable to the membership and the Board. The President leads the Board of Directors as a chairperson and Secretary will be the Convener in development of the strategic goals and objectives of the organization and provides direction and leadership. The President serves as the Chair of the Board of Directors, Executive Committee and Annual General Meetings. A detailed position description, approved by the Board, shall be maintained on the Federation's website.
- Section 3. Immediate Past-President. In those years when a new President is elected, the current President assumes the office of Immediate Past-President. The Immediate Past-President remains in office until a new Immediate Past-President assumes the office. A vacancy in the office of Immediate Past-President cannot be filled by appointment. A detailed position description, approved by the Board, shall be maintained on the Federation's website.
- Section 4. President-Elect. The President-Elect is the third highest ranking officer of the Federation and shall support the President and secretary to advance the work of the Federation. At the end of the term, the President-Elect shall assume the office as President of the Federation. In the event that the President is temporarily unable to fulfill her/his duties to the Federation, the President-Elect may be appointed Acting President by the Board of Directors. If the President resigns or is unable to fulfill their duties for an extended period, the President-Elect shall become the President and a new President-Elect shall be elected by a majority vote in a special election of the Board of Directs within 30 days. A detailed position description, approved by the Board, shall be maintained on the Federation's website.
- Section 5. Secretary: The Secretary oversees the recording of proceedings of meetings of the Federation and the Board of Directors, and is responsible for the Federation's correspondence. A detailed position description, approved by the Board, shall be maintained on the Federation's website.
- Section 6. Treasurer: The Treasurer oversees the financial records of the Federation according to standard accounting practices, and, whether performed personally or through the Federation's administrative office, is responsible for safeguarding the Federation's funds. The Treasurer presents periodic reports on the financial status of the Federation to the Board of Directors and a full report to the membership at the Annual Federation Meeting. A detailed position description, approved by the Board, shall be maintained on the Federation's website.

ARTICLE VI. BOARD OF DIRECTORS

- Section 1. The Board of Directors shall be the principal governing body of the Federation. The Board of Directors shall consist of eleven (11) Directors plus four (4) Officers plus the Immediate Past-President,

if the Immediate Past-President is not an elected Director. When the Immediate Past-President is not an elected Director, the Immediate Past-President would be an ex-officio member of the Board of Directors and the Executive Committee until a new Immediate past President assumes the office. In that capacity, the Immediate Past-President has a vote only to prevent a tie (so when an even number of Directors and/or Officers is present).

- Section 2. Directors shall be elected for a three (3) year term. The terms shall be staggered and at least three (3) seats will be elected annually. Directors may not be elected to serve consecutive terms but may be reelected after an absence of one year. The election procedure for Directors is described in Article VII.
- Section 3. The Board shall meet quarterly, or more often if the need arises, at the call of the President or at least three members of the Board. Board meetings may be held in person, by teleconference, or other electronic means. A proposed agenda and supporting materials shall be made available to Board members prior to a Board meeting.
- Section 4. A quorum shall consist of one more than half the current number of Board members and must include at least two members of the Executive Committee.
- Section 5. In the event a vacancy occurs on the Board in a Director position, the President shall, with the approval of the Board, appoint a member to fill the vacancy. These appointed members shall serve out the term of the individuals they replace on the Board. The new Director shall complete the term of the former Director and shall be eligible for reelection if the remaining term is less than two years. Individuals joining the Board of Directors by appointment as a Director shall not serve more than three consecutive years in that office as a Director in addition to the partial term they served as replacement. In the event a vacancy occurs in an Officer position, the Board will immediately elect a new officer to that position in accordance with Article VII. The elected member takes office immediately, shall serve out the term of the individual she or he replaces as an Officer and will still be eligible for one complete term (of two years) in that same Officer position in addition to the partial term she or he served as a replacement.
- Section 6. With the approval of the Executive Committee, the President may recommend that any Board member be removed from office by the following procedure: 1) reasons for the proposed action must be provided in writing to the member, 2) the member shall have 60 days in which to represent themselves at a meeting of the Board, 3) a two-thirds vote of the current number of Board members shall then decide.

ARTICLE VII. NOMINATIONS AND ELECTIONS

- Section 1. Nominations. The Nominating Committee shall on or before January 25th submit to the Federation Manager a list of candidates for each position subject to election in that year. The names of these individuals, and other such supportive materials as deemed appropriate by the Nominating Committee, shall be posted to the Federation's website on or before February 1. The Federation's administrative office shall mail or fax a copy of these materials to those BFI members who have previously indicated they do not have Internet access. Between February 1 and February 15, members may petition for additional candidates to be added to the ballot. Such nomination petitions may consist of either a single document or separate letters. To be nominated by petition, each candidate must have the support of at least 15 BFI members in good standing. All petitions and letters must be addressed to and received by the Federation Manager on or before midnight (IST) of February 15.
- Section 2. Elections. On March 1, a secured, electronic ballot shall be activated on the Federation's website, along with instructions for electronic voting. All ballots must be electronically submitted to the website on or before midnight (IST) March 15 to be counted. Results shall be posted to the Federation's website by April 1. A plurality of the votes cast is needed for election. In the event of a tie, the election shall be decided prior to April 1 by a majority vote of the current number of Board members.
- Section 3. Newly elected Directors will assume their office at the conclusion of the Federation's annual meeting.
- Section 4. The Officers (of the Federation President, President-Elect, Secretary and Treasurer) shall be elected by a majority vote of the Board of Directors by electronic vote before December 15th, and assume their duties on January 1st. If the elected Officer is a current Director, the newly elected Officer must resign as a Director before assuming the role as an Officer. Officers serve a two-year term of office, and may not serve consecutive terms. However, they may be reelected to the same office after an absence of one year. An Officer may be elected to a different position on the Executive Committee immediately following his/her current term. There is no limit on the number of times an individual may serve as an Officer. The President-Elect, Treasure, and Secretary shall be elected by the Board of Directors as described in Section 5 below. Officers may be removed by a two-thirds vote of the entire membership of the Board of Directors.
- Section 5. Nominations for Officers. In the year the Officers are to be elected, a special Officer Nominating Committee will be formed, composed of the Immediate Past-President, President-Elect, two members from the BFI Nominating Committee (elected by the Nomination Committee) and one current Director

(elected by the Board of Directors). No committee member can be a concurrent candidate for an Officer position. The special Officer Nominating Committee shall on or before November 1st submit to the Federation Manager a list of candidates for each Officer position. Candidates must be BFI members in good standing. The names of these individuals, and other such supportive materials as deemed appropriate by the Nominating Committee, shall be posted to the password protected Board website on or before November 7th.

- Section 6. If a conflict arises concerning elections of Directors or Officers, the current Chair of the BFI Nominating Committee and 2 recent Past Presidents will be appointed to resolve any conflicts.

ARTICLE VIII. STANDING COMMITTEES

- Section 1. Membership and Term of Service. Standing Committees are defined in these Bylaws of BFI and can only be removed or redefined by majority vote of the membership. Other committees may be created by the Board to serve specific duties important to the organization
  - Chairs of Standing Committees, except the Executive Committee, are nominated by the President and approved by the Board. They serve three-year terms until the close of the next Annual Business Meeting and may be reappointed.
  - Members of Standing Committees, except the Executive Committee, the Professional Development Committee and the Nominating Committee, are appointed by the committee Chair, who will notify the Board of all committee membership changes. All appointed members shall serve one-year terms until the close of the next Annual Business Meeting and may be reappointed.
- Section 2. Executive Committee. The Executive Committee, which consists of the Officers, shall make decisions and take actions on behalf of the Board in between Board meetings. The President shall call meetings of the Executive Committee.
- Section 3. Nominating Committee. The Nominating Committee shall be responsible for determining a suitable group of candidates for election to the Board of Directors. It shall consist of five members who are neither current members of the Board nor current Committee Chairs. They may not be current candidates for the BFI Board. The President shall appoint a Chair plus two members with the approval of the Board of Directors. Two members shall be nominated and elected by the membership at the Annual General Meeting.
- Section 4. Professional Development Committee. The Professional Development Committee shall be responsible for recommending the overall scientific and educational programs of the Federation to the Board. Membership will include the current BFI President, President-Elect and Chairs of the Publications Committee and of other Committees with missions relevant to professional development activities, as determined by the Board.
- Section 5. Publications Committee. The Publications Committee shall be responsible for oversight and management of all publications of the Federation. They will work in concert with the Editorial Board of the Federation's journal.
- Section 6. Membership Committee. The Membership Committee shall be responsible for evaluating the needs of the membership and recommending appropriate ways to meet those needs. The committee will develop methods and programs for active membership recruitment and retention.
- Section 7. Finance and Organizational Development Committee. The Finance and Organizational Development Committee shall assist the Treasurer, who shall serve as Committee Chair, in maintaining the financial health of the Federation, including preparation of the annual budget. It will also be responsible for pursuing appropriate federal, foundation, corporate, and private funding to support the work of the Federation. The Committee shall be chaired by the Treasurer.

ARTICLE IX. MEMBERSHIP MEETINGS

- Section 1. Annual General Meeting Time, Place, and Purpose. The Annual General Meeting of the Federation shall be held at such time and place as may be selected by the Board of Directors and stated in the Notice of Meeting. The Annual General Meeting shall include the transaction of such other business as may properly be brought before the membership.
- Section 2. Notice of Meetings. The Federation Manager shall give notice of all Federation meetings stating the place, day, and hour of the meeting and, in case of a Special Meeting, the purpose for which the meeting is called. Such notice of special meetings shall be not less than ten or more than fifty days before the date of the meeting. Notice of the Annual General Meeting is to be given no later than the prior Annual General Meeting.
- Section 3. Quorum. A quorum for transaction of business shall be not less than 10% of the total membership in good standing.
- Section 4. Voting and Representation. Each member who is present shall be entitled to one vote at all BFI meetings. A membership roll showing the list of members as of the record date, certified by BFI's Secretary, shall be produced at any meeting of the members upon request. All persons appearing on such membership roll shall be entitled to vote.

ARTICLE X. AMENDMENTS

- Section 1. Amendments of the bylaws may be proposed by a majority of the Board of Directors or by a petition, sent to the Secretary, bearing the signatures of at least 15 members in good standing.
- Section 2. Notice of proposed amendments, shall be posted to the Federation's website on or before March 1. The Federation's administrative office shall mail or fax a copy of these materials and the slate of nominees, described in Article VII, Section 1, to those BFI members who have previously indicated they do not have Internet access. On April 1, a secured, electronic ballot shall be activated on the Federation's website, along with instructions for electronic voting. The Federation's administrative office will mail or fax a ballot containing the proposed changes and the slate of candidates, described in Article VII, Section 2, to those BFI members who have previously indicated they do not have Internet access. All ballots must be electronically submitted to the website or received in the post by the Secretary on or before midnight (IST) of April 30 to be counted. The Secretary shall tally the votes and send the results to the Federation Manager for posting on the Federation's website by May 15.
- Section 3. In the event of an urgent requirement for an amendment, the Board of Directors, by a two-thirds vote, may authorize posting a proposed amendment to the members at any time. Notice of proposed amendments shall be posted on the Federation website for a 30-day period prior to balloting. At the end of the posting period, a secured electronic ballot shall be activated on the Federation's website, along with instructions for electronic voting. The Federation's administrative office shall mail or fax appropriate information and a ballot to those BFI members who have previously indicated they do not have Internet access. All ballots must be electronically submitted to the website or received in the post by the Secretary within 30 days of the opening of balloting. The Secretary shall tally the votes and send the results to the Federation Manager for posting on the Federation's website.
- Section 4. All amendments of the bylaws require an affirmative vote of two-thirds of the members in good standing who submit valid ballots.

ARTICLE XI. INDEMNIFICATION

The Federation shall defend and indemnify any qualified person against any threatened, pending, or completed legal action resulting from actions taken in good faith on behalf of the Federation. Qualified persons shall be present and former officers, employees, and officially elected or appointed members of boards, councils, committees, and other components of the Federation.

Indemnification will not be provided to any person who shall be adjudged in a legal action to be liable for negligence or willful misconduct in the performance of duty, or when such person did not reasonably believe that the action was within the law and in the best interests of the Federation.

Indemnification shall cover cost of defense and any judgments, fines, and amounts paid in settlement actually and reasonably incurred by a qualified person, up to a limit of one-million dollars in any single case except in circumstances expressly prohibiting such limitation under the law. Such indemnification shall be in accordance with the established policy of the Federation.

ARTICLE XII. OTHER PROVISIONS

- Section 1. The fiscal year of the Federation shall be on a calendar year basis (1st April to 31st March).
- Section 2. The Federation shall be governed Income tax rules of Order, as currently revised. In case of a conflict between Rules of Order and these bylaws, the bylaws shall take precedence.

ARTICLE XIII. DISSOLUTION OF THE FEDERATION

In the event of the dissolution of the Federation, the Board shall give all its assets to one or more nonprofit, tax-exempt organizations. If the Board cannot decide, the decision shall be made by the applicable Court in the Union territory of Delhi, India

ARTICLE XIII: MODE OF OPERATION & SIGNING AUTHORITY

Founder President and Secretary will be the whole time signing authority and operates banking transaction physically & virtually jointly

Col. Inderjit Singh Barara
President

Dr. Subodh Kesharwani
Secretary

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WE JUST WANT TO SAY... THANK YOU!

10 Incredible Years of GJEIS 2009-2019

To,

Prospective Contributors & Researchers
Global Journal of Enterprise Information System
Peer Reviewed/Refereed/ Quarterly

Dear Mam/Sir,

2019 is really a benchmark for the GJEIS Journal as it had completed the ten year service of serving the researcher and facilitates learning by and large in totality. GJEIS published four times annually (January, April, July, and October). Accordingly, 40 issues have been published in the first 10 years. GJEIS is a methodological journal that focuses on articles about mixed methods research across the Enterprise, Information & System. GJEIS is also an international and multidisciplinary journal that publishes manuscripts in two various categories: methodological/ theoretical papers and original empirical studies. Although there are other methodological journals that publish mixed methods studies, GJEIS focuses exclusively on mixed methods research and solicitants different types of article in GJEIS Journal which mainly focuses on research issues in the EIS and IT related areas.

1.	Empirical Research Papers (ERP) report on completed EIS research that complies with rigorous scientific standards. ERP present original results of completed research studies with the aim of obtaining feedback from fellow researchers. [Limit 16 Pages]
2.	Theme Based Papers (TBP) are short papers that present the design and preliminary results of ongoing EIS research studies with an endeavor of obtaining early feedback and further guidance from experts and peers. TBP will be evaluated using the same academic standards as regular research papers (except for completeness requirements). [Limit 12 Pages]
3.	Case Study Based Papers (CSBP) describes real-life experiences with EIS that authors wish to share with fellow practitioners and EIS researchers. They focus on problems and solutions in specific contexts. Their aim may be to help other practitioners facing similar problems or to solicit help and possible solutions from other practitioners (or EIS researchers). [Limit 10 Pages]
4.	Review of Literature (RoL) aim is to review of the suitable "literature" (books, journals, magazines, URLs, Videos) discussing the topic one want to investigate. It discusses modus operandi and mechanism that are apposite for investigating the subject matter just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis with intent to explore gap. Objective behind creating this type of phenomenon in GJEIS is to give grassroots researcher a roof to synthesize and weigh up the guiding notion of research questions. [Limit 8 Pages]
5.	View Point (VP) is a situation for which something is pragmatic or considered as a point of view. The purpose of VP is to share different views about the IT related products and what individual think about that. [Limit 6 Pages]
6.	Research Thought (RT) can refer to the opinion or arrangement of research ideas that effect from thinking, the act of producing thoughts on diverse interdisciplinary collaborative research areas or tools with which researcher can formulate it's research paper, choose a method for undertaking a study, write up for findings and discuss the outcomes in a discussion section. In this head author can throw a light on various research tools which can be helpful in formulating a research paper. [Limit 5 Pages]

7. Student Research Initiatives (SRI) is a research initiative by a grass-root researcher and technocrats. This head facilitate students/learners to pursue independent academic and imaginative effort and engage in research under the supervision of a faculty mentor with an intention to heighten student research as a means of collaborative learning, critical thinking and the establishment of knowledge. [Limit 12 Pages]

8. Dissertation Snapshot (DS) is an excerpt from a researcher's own thesis or dissertation which had been previously published or submitted in the form of research project or its own doctoral work. The rationale is to raise the curtain on an application and thought used by researcher in a brief manner with an intention to promote the future researchers to sequel their thoughts. [Limit 10 Pages]

9. Questionnaire Format (QF) A new philosophy called "Questionnaire Format" had been introduced, in which we are going to publish distinguish questionnaires that navigates the usefulness of it in building research and how to communicate with the respondents. The rationale behind introducing this QF is to give a glimpse about the structure and the pedagogy. QF on the other hand provides a niche to grass-root researcher about their various thoughts related to preliminary research and facilitates them in linking with a respective research papers which the researcher had visualize or going to plan in a coming future. This is a new inventiveness under the GJEIS Academic Social Responsibility (GASR) and would be complimentary/charitable in nature. [Limit 5 Pages]

10. Book Review (BR) is a literary criticism in which a book is analyzed based on content, style, and merit. BR can be a primary source opinion piece, summary review or scholarly review. Books can be reviewed for printed periodicals, magazines and newspapers, as school work, or for book websites on the internet. A book review's length may vary from a single paragraph to a substantial essay. Such a BR may evaluate the book on the basis of personal taste. Reviewers may use the occasion of a book review for a display of learning or to promulgate their own ideas on the topic of a fiction or non-fiction work. [Limit 3 Pages]

11. Biographical Note of the Luminary in an Area of IS We as per our culture acknowledge in every issue a great leader, Entrepreneur, Technocrats, Academician etc., who contribute a lot to a society in an area of IS. [Limit 2 Pages]

12. Great Enterprise Contribution to Society in Information System Perspectives deals with those enterprises contributing a lot to the society, and considering themselves a wizard in the field of Information System, we publish their profile, with the intention that their creation/contribution would be viewed and duly appreciated by the corporate and academics, all-around the globe. The purpose behind this is to broadcast the most visually powerful, immersive and engaging rich media applications on the Web. [Limit 2 Pages]

13. Award is something given to a person or a group of people to identify their fineness in a definite field especially in an area of EIS, it is rather a certificate of excellence for their contribution in academia or in a corporate world. This start throws a light on an entity or a gamut of researcher who had been honored for their extra ordinary input. [Limit 2 Pages]

14. Homage means great respect and tribute, or something done to honor a person. We in GJEIS pay homage to our ancestor's and say prayers in admiration to their memory which includes academicians, technocrats and great thinkers. The special respect would be shown publicly by sharing their achievements and contributions in writing which includes images, excerpts, testimonials, write-up, etc. [Limit 2 Pages]

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About New Submission Policy (NSP) 2019

The NSP-2019 consists of following features:

1. Paper will be strictly submitted online at : **www. gjeis.com**
2. Priority would be given to pure empirical article which revolves around first hand information and backed merely by primary data collection will be accepted promptly as these article uses data based on actual observation or experimentation during formulation.
3. It is mandatory for Indian authors to submit research article along with a foreign co-author as a first author or corresponding authors due to journal global in nature characteristics and its wide international presence and listing in various directories across the globe. The submission by the foreign authors will fulfill the global mandate of journal and facilitate in listing and enhanced impact factor in future course of action. Though the journal have been listed in various directories and had a good impact factor but we expect in 2019 to be listed in few leading indexing.
4. There will be a waiting time of minimum **12 months** from the date of submission i.e. April 2019, as paper require rigorous review by **3 internal reviews** from India and **3 blind reviews from outside India** based on the subject expertise and themes.
5. From April 2019 we are putting a Reviewer comment in a Paper under Category Called: Anonymous Reviewer-1, Anonymous Reviewer-2, and Anonymous Reviewer-3. Though tracking record from Submission to online first would depict with various dates in a paper. Visit sample article and reference style. Journal also publishes a similarity index detail of ithenticate plagiarism report at the end of an article.

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6. Corporate/Institution who take the GJEIS annual subscription will get a 4 complimentary publication in a year of their employees and faculty
7. Certificates for Article Publication and Reviewers effort would be endorsed and acknowledged with a separate certificate and exclusively send by the Research & Academic Management Society and Scholastic Seed Inc.
8. Form will be submitted with a new link using Google form link available on a GJEIS portal.
9. One indicator of GJEIS's kudos is the impact factor of 2.219 which is coming up gradually due to peer review procedure followed by journal. GJEIS an inaugural impact factor of 2.219. Regarding the topics examined in these editorials, the reflections are about diverse issues: research questions, perspectives, training, data analysis, paradigms, integration, and challenges for mixed methods research, among others. Moreover, some editorials examine the same topic. Thank you for the ten noteworthy years of tenderness, acquaintance, and hold up. We enormously couldn't have made it without you, nor can we catch the next steps without your backing. I hope you'll keep holding us to high standards, and telling us when we've congregates your expectations and when we've let you alongside.
10. Fast Track Publication (FTP) will be enabled for Indian Author with a complimentary subscription of one year either by the Research Institute. Reviewers and other compliance will be managed by the editorial office on a priority basis and paper published in a same quarter if fulfill the eligibility and able to adapt suggestion by a blind reviewers.
11. FTP consist of a features like "Online First" in which article published in a fast track basis and uploaded online without the Volume and Issue date and automatically transfer to the routine forthcoming issue. www. gjeis.com

Subodh K. Kesharwani

Editor-In-Chief
Notified Tenure 2018-2020

Fast track journals are crucial for research articles that are amazingly noteworthy and necessitate essential propagation, or where there is a funding policy raison d'être for urgent publication. Fast-track peer review prioritizes a manuscript and decreases its publication time. GJEIS offers this opportunity by fast tracking as just speedy review and quick publishing. When a paper is marked for fast track during submission line www.gjeis.com it is recurrently reviewed and a publication decision is made swiftly. Fast tracking might also shrink the amount of time allocated for peer review and editing as it will parallel send to blind and peer reviewer and constantly dedicated publishing team would be allocated simultaneously. It typically cuts the overall publication time by at least one-third.

GJEIS have developed fast-track peer review options to restrain some of the needless instance that lapses between a manuscript being submitted and its periodical. GJEIS Fast Track Publication service which better known as FTBS is an **"optional service"** which provides author a platform to publish their papers in **just 9 weeks**, usually a journey time from submission to publication takes 12 Months. The purpose of creating **FTPS** is to facilitate the author in publication of their paper in a prescribe time frame and do all the process in a fast track mode without compromising with quality. There are certain prerequisites which are mandatory to include under FTPS:

- ✓ Article should be Plagiarism Free and pass the Originality Test by http://www.ithenticate.com (Prevention Plagiarism tool) with similarity test index below (10%)
- ✓ Expedited review will be offered, on request, for submitted research articles after the editorial board consist of 5 members approved.

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Note

This facility is an optional service, hence the price quote would be based on article-to-article and would be intimated by the editorial office depend on the submission and subject to aforementioned points under waiver list

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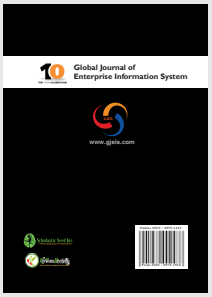

Scholastic Seed Inc. is in the e-publishing business from last one decade. The first creation the group had originated was the Peer Review Research Journal founded in the year 2009 known as Global Journal of Enterprise Information system (GJEIS). At the later stage group has come up with a sequel in the form of a medical journal in collaboration with it academic and research consortium NGO, KARAM Society & MEDANTA Hospital doctors in a name of AGEMS (Annals of Geriatric Education and Medical Sciences). The consortium currently having contemporary out-of-box approach and are now well acknowledge as an e-publishing aggregator and periodical mentor. The company till date had published few journals and facilitates/consulted lots of Brick-&-Mortar periodcials into a digital dynamic format. Till date we had consulted 20 periodical and entered into a book publishing business.

Journal Initiated under Scholastic Seed Ambit

GJEIS-2009
KARAM Society & Informatics Publishing Ltd.

AGEMS-2014
KARAM Society & Innovative Publications

SIRIFORT-2018
Sirifort Institute of Management Studies & KARAM Society

CYBERNOMICS-2018
Scholastic Seed Inc. & KARAM Society

E-GOVERNANCE-2018
Scholastic Seed Inc. & KARAM Society

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- Content Accuracy & Enhancement, Logical Flow
- Specialized Subject-area Matching
- Formatting and Artwork Editing
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How the Credit ability of an institute deteriorated without periodicals

- As we know that Institution creditability would be judged on the basis of the periodicals they published as these periodicals such as newsletters, journals, magazines, annual reports, etc are their front face and if these front face are digitally equipped it would be definitely a win-win stage for the students and the institutions and further by adding a feather in a cap.

Why there is a need of Online Periodicals

- Free access • Self-archiving • Repository • Author foot fall • Pre or post publication irrational fear Eradication

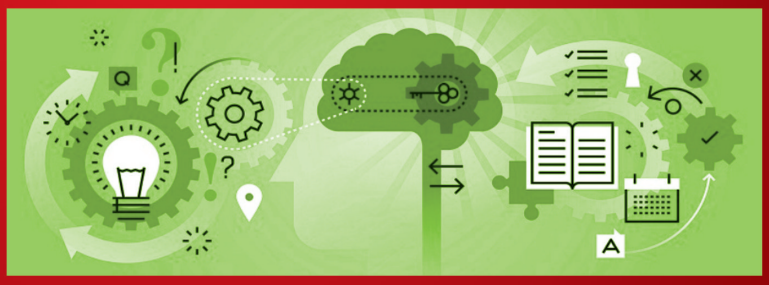
DO's AND DON'T

- Digital Publication is as good as print publication
- Always Prefer Open Source Journal and Digital Format as it circulate fast and perpetual in nature.
- Have a Digital Object Identifier (DOI)
- Have a good team of editorials and reviewers
- Google Scholar and Citation is an important ingredients for choosing a journal
- Scopus, ICI, WoS and UGC Listing is a parameter to select journal
- Always check the H-index of an author
- Know the Impact factor of journal before Publishing an article
- Check the Ethical issue and Privacy Policy of the journal
- Frequency and consistency would be an important ingredient to judge the creditability

- It is suggested to an editor not to publish anything without Originality check
- Don't Prefer Pay and Print Model

Services

How Scholastic Seed Involved with institution in E-publishing and Journal making



- Website Creation includes coding in PHP and SQL Database Ready-to-Run Software with a Source code right transfer model.
- Sub-domain and hosting on a pro-rata basis (domain and hosting will be given to the respective institute with an ownership transfer)
- Digitalizing the Content Electronically and Uploading on Web (Frequency: Monthly, Quarterly, Bi-annually & Annually)
- Online tracking of articles submitted.
- Online manuscript submission.
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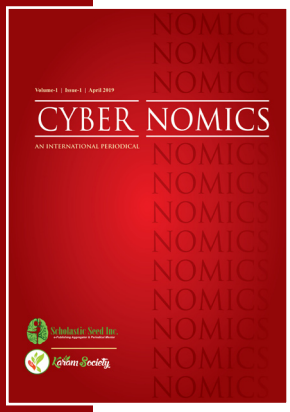
- Other Indexing would be done by the society/ Scholastic Seed Inc. time-to-time, but other expenditure incurred would intimate and levied accordingly if charge by the agency on time-to-time basis.
- Process for Both eISSN and ISSN and Documentation
- Facilitate in Getting RNI No. From Registrar Of Newspapers For India

CYBER NOMICS

CYBERNOMICS is being published as a co-published peer-reviewed magazine by KARAM Society and Scholastic Seed Inc. The subjects covered by the magazine are IT linkages in business and management and others field related to cyber and its economics fields. It also covers many aspects in Information System and related areas which are burgeoning. The Magazine provides an international forum for the exchange of ideas, principles and processes concerning the application of diverse topics of Cyber to organizations, institutions and the world at large. CYBERNOMICS considers research submissions in several categories but revolves around Cyber threats, Security remedies, etc.



CYBERNOMICS magazine aims at achieving the growing demands for understanding and addressing issue pertaining to real-worlds Cyber-Attacks, Cyber Threats, Cyber threat Intelligence, Cyber Warfare, Cyber Terrorism, Darknet and Crypto Currencies and threats to information infrastructures critical to the national security of country.

The magazine publishes articles and reviews in the areas including, but not limited to:

- Cyber Threats
- Cyber Warfare
- Darknet and Darkweb
- Cryptography and its applications
- Network and critical infrastructure security
- Hardware security
- Software and System security
- Cybersecurity data analytics
- Data-driven security
- Adversarial Reasoning
- Malware Analysis
- Privacy-enhancing technologies and anonymity
- IoT Security
- Blockchain Security
- Cryptocurrencies
- Machine Learning
- Big Data Analytics
- Artificial Intelligence

Global Journal of Enterprise Information System

GJEIS Indexing till 2019

GJEIS in collaboration with Scholastic Seed Inc. and KARAM Society, publishes a new peer-reviewed open access e-journal in Enterprise Information System (EIS) areas of business which covers IT linkages in business, finance, marketing, management, organizational behaviour, buyer behaviour and other relevant fields. It also covers many aspects in Information System and related areas. The journal provides an international forum for the exchange of ideas,principles and processes concerning the application of diverse topics of EIS to organizations, institutions and the world at large. GJEIS considers research submissions in several categories but revolves around three buzzwords Enterprise Information and System Journal takes into consideration professional plagiarism detection and prevention technology for it's scholarly publication and research article in order to ensure the originality of written text before publication. The GJEIS receives submissions only through it's journal website www.gjeis.com. The journal has a very good impact factor and is listed and indexed in almost fifty directories and libraries all around the globe. GJEIS is also a scholarly publisher that uses services of Crosscheck offered by CrossRef, USA and facilitated by iThenticate software. The journal had implemented a Search Engine Optimization (SEO) and web analytics dedicatedly for it's online portal to provide glimpse about the articles having highest citation. GJEIS is also associated with International DOI Foundation (IDF) USA. GJEIS is also concomitant of Publsher International Linking Association, Inc (PILA) a not-for-profit membership organization. USA.

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