

Reengineering of Information and Communication Technology Services (A need of Society)

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Abstract

This paper examines the issues and problems arising from the telecommunication and media industry services. It is crystal clear that technology and its output must be for the welfare and benefit of peoples, yet there are some social and ethical issues, generated by the irresponsible and dishonest role of Telecommunication and Media services provider, and by the consumer misuse. The research focuses various variables regarding the issues of these services. The research was carried out through questionnaire survey technique and the data was analyzed through SPSS software. This study suggests that rigid and implementable regulation is needed for the proper and beneficial re-engineering of these services.

Key Words: Re-Engineering (RE), Ethical Issues (EI), Social Issues (SI) and Regulations (R)

1. Introduction:

Almost all of the organizations, consisting corporations, service providing companies etc needs to reengineer their operations and services to obtain their strategic goals, make remarkable profit and get better position in the market place. For this purpose, usually many organizations operate themselves and provide their services and goods in such a way to get these objectives. But it is also of great importance that while obtaining these objectives, whether these organizations maintains their being in the boundary of Ethics and obey their role of social responsibility or not.

There is a lot of evidence from the NEWS and society since 2005 that the crime ratio is increased dramatically. These crimes include bomb attacks and other type of terrorism. The society of Pakistan is observing a high divorce ratio since the development of telecommunication and media industry. Almost every day, we read and listen about death accidents which are occurring due to the misuse of telecom service. It does not stop here but continue to kidnapping of children. Many of the girls and boys first made a friendly relation through phone and then decide to run away from their homes when the situation is not in their favor, which leads to enmity of tribes sometime or to the death of the couple for sure.

The issues and problems of telecommunication services don't stop here but also affect the behavior and attitudes of the individuals to a great extent. People got modernized from the use of these services. Now they think about their sister, brothers, mother, father and other relatives from other angles since the reaching of these services to their homes. Their thoughts about their religion also diverted from fundamental way to man made in dealings, dress fashion, life style etc.

Telecom services also reached to the youngsters of the Pakistan society which are almost 60 to 70 percent of the total population. They are generating a huge amount of revenue for the industry. In response to this the telecom industry has introduced dozen of service packages which have no doubt a lot of advantages but having the great disadvantage of wasting of time. Mostly these disadvantages are due to the improper use by the consumers.

Obtaining strategic goals, making profit and getting better position is not all about organizations. This research tries to find out the importance of BPR of telecom sector in such a way that their operations and services are acceptable to the people of Pakistan, suits with the being of Islamic Republic of Pakistan, does not violate the social and cultural norms, help to bring peace among the people and society of Pakistan in obtaining their strategic goals.

2. Literature Review:

2.2 Ethical Issues

In this research paper we are looking deeply, the impact of current Information and telecommunication technology services over the ethical practices and values of consumers. Ethics became an important and necessary topic in the field of modern research due to many business organizations scandals. This has maximized understanding that dishonest behavior harms the being of these organizations. Organizational Ethics are that positive expectations regarding values and norms which are expected from an organization (Schwepker, 2001).

According to the attitudinal theory, the evaluation of something by peoples leads them to some specific attitude which in turn gives explanation to a behavioral intention (Ajzen, 2001). This clarifies that positive evaluation will lead to a positive and constructive behavior and negative evaluations will find a way to angry and negative behavior.

Consumers and other stake holders will withdraw themselves from the services and other goods offered by such organizations which have a label of Unethical or negative reputation (Gilbert, 2003; Babin et al., 2004; Roman and Ruiz, 2005). Also, these unethical behaviors may put the firm's existence on stake and increase its financial risk (Chan, 2002; Neese et al., 2005).

Ethics shapes the relationships of organizations with the rest of environment. In other words it is the basis for developing attitudes according the organizations in the minds of people, inside and outside the organization. This may have such strong impact over the organization to lose its strategic goals and profits.

As Ethical climate is a subset of the whole climate of the firms it is also defined as those perceptions which is suited ethically with the norms and values of society and handling of ethical issues ethically (Victor and Cullen, 1988).

One of the three important components of ethical climate, are the perceptions of individual personal morality, organizational policy and professional/laws codes. Personal morality describes the relationship between individual and principal. Organizational policy gives us a little broad concept and concerns with what is between principle and local people or society. Lastly, the professional codes define the boundary between principles and multi-nations (Victor and Cullen, 1988).

Now the question is whether the concept of ethical topologies regarding to ICT production, developed in the western contexts suits our cultural values and norms or not. Let's come to the climate of Pakistan. There are four main cultures which have their distinct values and norms. But all these sub cultures directly or indirectly obey the lessons of Islamic Ideology directly or indirectly. Each of these cultures has a well defined boundary of freedom and restrictions which are acceptable to the people of each cultural group. In addition to this, the ICT providers in Pakistan, particularly the cellular wireless have their own way of advertising, have classified the society into sub groups targeted for their offerings and have different policies for making profits.

This research is going to find out the influence of ICT industry services over the society of Pakistan. It will be observed that whether ethical norms of the society are influenced by modern ICT technology usage or not. If the answer is yes then, the nature of influence will be found out. The authors assumed the hypothesis.

Hypothesis 1: ICT has positive impact over the ethical norms and values of a society.

Hypothesis 1o: ICT has no positive impact over the ethical norms and values of a society.

2.3 Social Issues:

The aim of this research is to redesign the services of telecom industry in Pakistan for the betterment of not only the people but of the society also. It will be fruitful to first answer the question like: What is society and what are its main elements?

The area of study in which we study Society is known as sociology. Its main area of study are religion, Law, Social Class, Culture, Panel Institution, norms, values etc. it covers all the spheres of what human does in a society and so his/her interplay with the society (Ashley and Orenstein 2005). Further more it tries to promote knowledge and human and his/her social activity whether comes from investigation or critical analysis (Ashley and Orenstein, 2005).

One of the main theories about humans and their interaction with the society and within the society are proposed in a well known theory, known as "The Structure Theory". The Structurelists believe that the hidden real thing is structure which every system has, and the structural laws are more important than changes in the system (Assiter, 1984). The study has two main determinants. First one is Structure, which defines a way of life for an individual to live in a society. The second one is Agency, which refers to an individual capacity to act free from the influence of structures. Some major structures are ethnicity, religion, gender etc (Giddens, 1996).

Now let us examine the services of telecom industry providing in Pakistan these days, whether they are harmful to our well defined structure or not? Are they are providing in the circle of Religion? How they effect our attitudes and behavior? What type of influence they have over our life as a whole? And there are man more

such questions.

In Pakistan, the telecommunication industries are providing a bunch of services to the people of Pakistan. This industry is not only expanding its services from “type to types” for the betterment of the people but also for making huge amount of profit. For example, almost all of the mobile communication or wireless service providers which provide their services to separate part of the society separately e.g. Targeted service providing... which includes a lot of packages including text messages and calling minutes.

For making lakes of customers, telecom services providers are still offering subscriptions at very minimum restrictions upon their customers. This is the reason that most of the telecom service customers have more than three different subscriptions out of six.

In addition, television services, which come beside other telecom services in Pakistan are providing to customers either through cables or by direct satellite. There are a lot of programs for children, women and comedy beside news and talk shows. The bombardment of new ideas like Indian culture dramas, fashion and attitudes making forces are reaching our home each second.

This research aims to find out the influence of TV and telecom services over the culture of Islamic Republic of Pakistan and its people. Questions like: Is these services are negative change agent in the Pakistani society or positive? What is the link between telecom services and terrorism in Pakistan? Are these services are using for positive purposes or not and many more. We assume the following hypothesis.

Hypothesis 2: ICT services have negative impact over the social life.

Hypothesis 2o: ICT services have no negative impact over the social life.

2.4 Business Process Reengineering:

It is a fact, universally acknowledged that every business organization is in want of more productivity and profit. For this purpose it is of immense importance for them to maintain their position and survival in the market place. As the market is not static but is in continuous transition, it is the need of business organizations to keep their position dynamic and updated from every thick and thin of the operating market.

Business process reengineering is the redesigning of business in order to get improvements (Hammer and Champy, 1993). They consider the reengineering process to answer the question “Why we change things instead of how we get things better”. Obviously, it is crystal clear that business is for profit, and getting profit is impossible without organizational improvements.

In order to achieve better performance, usually organizations re-engineer themselves; the process is called Business Process Re-engineering. Usually one-off activity, as it is hard to re-engineer the business every year. There is a strong necessitate to improve further the process of re-engineering (Wysocki and DeMitcheill, 1997).

There are a lot of researches which highlight that the fundamental nature of Business Process Re-engineering is to make the workers role fit for the use of modern information technology (Andrews and Stalick, 1994). The main outcome of these studies is , BPR is done to make the organization’s employees fit with the use of modern technology and maximize the productivity and profits.

It is a high risk activity and the chances of failure are higher that that of success. According to a research the probability of failure is seventy percent (Wysocki and DeMitcheill, 1997). There are some researches that have identified plenty of causes of failure of re-engineering business. Among these studies, one study identified that one reason of risk is resources shortage and support of top level management (Moad, 1993). One another, proposed that the main problem is the resistance which opposes changes in the business (Avison and Fitzgerald, 1995).

BPR does not address this important aspect, but researches highly recommend that developing solutions for present need is equally important to future need (Clemons, 1991; Clemons, Thatcher, and Row, 1995).

Although it is true that BPR is a high risky process and there is a chances of failure also, there are evidence from researches that BPR is done to save an organization from sinking and failing. It means that the organization re-engineers themselves to save and make their place in the market place and achieve better performance (Irani, Sharp, and Race, 1997).

As the environment is changing with each second and every coming day brings changes in technology, labor laws, new wants and demands, new problems and solutions. Business managers continuously are analyzing their organizations and businesses to face the competitive environment and make their survival and profitable productivity easy in the market place (Sharp, Irani, and Desai, 1999).

As much as BPR is the need of modern market, so much are the problems with the activity. The main problems are; Is BPR solves or creates ethical issues arising in the modern business due to the use of technology? BPR is done for better performance and productivity; Does it create social problems in the society or solve them? Does BPR is done for the present time or it is for achieving the strategic goals of organization? This research

study is trying to find out answers to above questions. The following hypotheses are assumed to be true.

Hypothesis 3: BPR is the necessary for positive ICT services, which will minimize the unethical influence over the society.

Hypothesis 3o: BPR is not necessary for positive ICT services, which will not minimize the unethical influence over the society.

Hypothesis 4: BPR is necessary for positive ICT services, which will minimize its social issues.

Hypothesis 4o: BPR is the not necessary for positive ICT services, which will not minimize its social issues.

Theoretical Model:

3. Research Methodology:

Literature survey was conducted for knowing the various variables in deep. As the research is new and there were no sufficient data for making a strong base for the research. So mainly the introduction part is observation based. Except the introduction, a strong effort was made to relate different variable with the concern issue. In order to find a valuable result, we choose Hypothesis Testing Techniques for our research based on survey. This gave us primary data about the area of interest. As the issue is new in the society of Pakistan, we need to collect the primary data for exploring the research. For this, we choose the questionnaire survey method. Questionnaire were developed regarding the various relationship among variables of our concern and distributed among the selected sample. Islamabad, which is the capital of Pakistan, was selected for the survey as it has habitant of all races and nationals of Pakistan. The respondents were made sure for their information to be kept secret at any cost.

4. Results and Analysis:

Before the final questionnaire survey, a primary survey was conducted in order to check the reliability of the data. When it was found that the data is good for the study, the final survey was conducted. Reliability statistics shows that the Cronbatch's Alpha for the final survey is 0.82, which is an acceptable value.

4.1 Correlation Analysis:

After the reliability test correlation analysis was carried out for testing the assumed hypothesis. Details of each hypothesis are explained and are given in next page. The following table shows the mathematical details of the correlation analysis.

Hypothesis 1: ICTS has positive impact over the ethical norms and values of a society.

Hypothesis 1o: ICTS has no positive impact over the ethical norms and values of a society.

The above correlation matrix shows that there is negative and significant correlation between ICTS and ethical issues. The value for this relationship is ($r = -0.413$ at the significance level 0.000). Hence the null hypothesis "ICTS has no positive impact over the ethical norms and values of a society" is accepted and our assumption "ICTS has positive impact over the ethical norms and values of a society" is rejected and is considered wrong.

Table 1 Correlation Analysis

		ICTS	EI	SI	BPE	R	Alpa
ICTS	Pearson Correlation	1	.789				
	Sig. (2-tailed)						
EI	Pearson Correlation	-.413(**)	1				.771
	Sig. (2-tailed)	.000					
SI	Pearson Correlation	-.502(**)	.440(**)	1			.763
	Sig. (2-tailed)	.000	.000				
BPR	Pearson Correlation	.543(**)	-.369(**)	-.376(**)	1		.904
	Sig. (2-tailed)	.000	.000	.000			
R	Pearson Correlation	.570(**)	.500(**)	.643(**)	.633	1	.861
	Sig. (2-tailed)	.001	.001	.000	.002		

**Correlation significant at 0.01 levels

*Correlation significant at 0.05 levels

Hypothesis 2: ICT services have negative impact over the social life.

Hypothesis 2o: ICT services have no negative impact over the social life.

The above correlation matrix shows that there is negative and significant correlation between ICTS and social issues. The value for this relationship is ($r = -0.502$ at the significance level 0.000). Hence the null hypothesis “ICTS services have no negative impact over the social life.” is rejected and our assumption “ICTS services have negative impact over the social life.” is accepted and proved true.

Hypothesis 3: BPR is the necessary for positive ICT services, which will minimize the unethical influence over the society.

Hypothesis 3o: BPR is not necessary for positive ICT services, which will not minimize the unethical influence over the society.

The above correlation matrix shows that there is negative and significant correlation between BPR and ethical issues. The value for this relationship is ($r = -0.369$ at the significance level 0.000). This shows that with re-engineering of the present services the ethical issues could be minimized up to 37 percent. Hence the null hypothesis “BPR is not necessary for positive ICT services, which will not minimize the unethical influence over the society” is rejected and our assumption “BPR is the necessary for positive ICT services, which will minimize the unethical influence over the society” is true.

Hypothesis 4: BPR is necessary for positive ICT services, which will minimize their social issues.

Hypothesis 4o: BPR is the not necessary for positive ICT services, which will not minimize its social issues.

The above correlation matrix shows that there is negative and significant correlation between BPR and social issues. The value for this relationship is ($r = -0.376$ at the significance level 0.000). This shows that with re-engineering of the present services the social issues could be minimized up to 37 percent. Hence the null hypothesis “BPR is not necessary for positive ICT services, which will not minimize the social issues” is rejected and our assumption “BPR is necessary for positive ICT services, which will minimize their social” is true.

Hypothesis 5: Regulation has positive correlation with Business Process Re-engineering of ICT industry services.

Hypothesis 5o: Regulation has no positive correlation with Business Process Re-engineering of ICT industry services.

The correlation value for the relationship between regulation and BPR is (0.623 at the significance level 0.002). It proves our assumption that “Regulation has positive correlation with Business Process Re-engineering of ICT industry services”. And rejects the null hypothesis “Regulation has no positive correlation with Business Process Re-engineering of ICT industry services”

5. Conclusion:

The results and analysis of the data show that advancement in information and telecommunication technology and its services have negative impact over the society of Pakistan. ICT industry services influenced the ethical norms and values negatively as reported in the results. Also a negative relationship was found between modern services of ICT industry and social issues. There is a need of re-engineering the ICT industry services in a manner such that the negativity of the services get reduced and overcome. The paper also conclude that the current and coming services of ICT industry can be re-engineered under the guidance of regulations prescribed by the ICT regulatory authorities and the constitution of Pakistan.

5.1 Recommendations:

The following recommendations are made by the authors after analysis of the responses.

1. ICT industry services have great influence over the human behavior and society. Therefore these services should be managed in such a way that their influence is positive over human behavior and society.
2. There is a need of re-engineering of ICT industry services. They should be re-designed and re-engineered in a positive and beneficial shape. Re-designing and re-engineering of these services may affect the public and society positively if they were made according to the need.
3. As the sector is enjoying a dramatic growth in technology, there should be strong and implementable regulation for its services and for the use of these services.
4. The first and final solution of the problems arising from current ICT industry services is the “Re-engineering of its services and establishing strong regulation for them”.

References:

- Ajzen, I.: 2001, Nature and Operation of Attitudes, *Annual Review of Psychology* 52(1), 27–58.
- Andrews, D. C. and Stalick, S. K., *Business Process Reengineering: The Survival Guide*, Yourdon Press, Englewood Cliffs, NJ (1994).
- Ashley D, Orenstein DM (2005). *Sociological theory: Classical statements* (6th ed.). Boston, Massachusetts, USA: Pearson Education. pp. 3–5, 32–36.
- Assiter, A (1984), 'Althusser and structuralism', *The British journal of sociology*, vol. 35, no. 2, Blackwell Publishing, pp.272–296.
- Avison, D. E. and Fitzgerald, G., *Information Systems Development: Methodologies, Techniques and Tools*, 2nded., McGraw-Hill, Maidenhead (1995).
- Babin, B. J., M. Griffin and J. S. Boles: 2004, 'Buyer Reactions to Ethical Beliefs in the Retail Environment', *Journal of Business Research* 57(10), 1155–1163.
- Chan, M.: 2002, Violations of Service Fairness and Legal Ramifications: The Case of the Managed Care Industry, *Journal of Business Ethics* 36(4), 315–336.
- Clemons, E. K., "Evaluation of Strategic Investments in Information Technology," *Communications of the ACM*, Vol. 34, No. 1, pp. 22–36 (1991).
- Clemons, E. K., Thatcher, M. E., and Row, M. C., "Identifying Sources of Reengineering Failures: A Study of the Behavioral Factors Contributing to Reengineering Risks," *Journal of Management Information Systems*, Vol. 12, No. 2, pp. 9–36 (1995).
- Giddens, A (1996). *The Constitution of Society*. California: University of California Press. pp. 14–19. [ISBN 0-520-05728-7](#).
- Gilbert, J.: 2003, A Matter of Trust, *Sales and Marketing Management* 155(3), 30–35.
- Hammer, M. and Champy, J., *Reengineering the Corporation: A Manifesto for Business Revolution*, Harper Collins, New York (1993).
- Irani, Z., Sharp, J. M., and Race, P., "A Case Experience of New Product Introduction With in a Once Traditional Subcontract Manufacturing Environment," *Production and Inventory Management Journal*, Vol. 38, No. 2, pp. 47–52 (1997).
- Moad, J., "Does Reengineering Really Work?" *Datamation*, Vol. 44, No. 1 (1993).
- Neese, W. T., L. Ferrell and O. C. Ferrell: 2005, An Analysis of Federal Mail and Wire Fraud Cases Related to Marketing, *Journal of Business Research* 58(6), 910–918.
- Roman, S. and S. Ruiz: 2005, Relationship Outcomes of Perceived Ethical Sales Behavior: The Customers Perspective, *Journal of Business Research* 58(4), 439–445.
- Sharp, J. M., Irani, Z., and Desai, S., "Working Towards Agile Manufacturing in the U.K. Industry," *International Journal of Production Economics*, Vol. 62, No. 5, pp. 155–169 (1999).
- Schwepker Jr., C. H.: 2001, 'Ethical Climate's Relationship to Job Satisfaction, Organizational Commitment and Turnover in the Sales Force', *Journal of Business Research* 54(1), 39–52.
- Victor, B. and J. B. Cullen: 1987, 'A Theory and Measure of Ethical Climate in Organizations', in W. C. Frederick (ed.), *Research in Corporate Social Performance and Policy* (JAI Press, Greenwich CT), pp. 51–71.
- Victor, B. and J. B. Cullen: 1988, The Organizational Bases of Ethical Work Climates, *Administrative Science Quarterly* 33(1), 101–125.
- Wysocki, R. K. and DeMichiell, R. L., *Managing Information Across the Enterprise*, JohnWiley, New York, NY, pp. 147–178 (1997).

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