Impact of Technology on Human Beings

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Abstract

New technological innovations are taking place globally day-by-day, making an individuals' survival and working efficiency to the maximumlimits. Technology is basically a medium through which humans are able to perform and make the things done in an efficient and faster manner.Technology more concentrates on shortening the work load and on increasing human working efficiency involving number of aspects.People today are eagerly using numbers of technological aspects, that effects the natural environment and sustainability in number of ways.Crises related to over utilization of technological aspects can contribute to degradation inphysiological, psychological factors in accordance to human brains. Significant and appropriate standards have already been implemented to curb out these negative impacts by several private and government Medical Organizations. In this paper, a survey has been conducted to discuss the challenges that can be faced while technology is projected to accomplish different tasks. A detailed survey will allow people, and researchers to opt appropriate techniques of using certain technology; and will help to lead lives towards sustainability.

Keywords*—Technology; Smart Gadgets; Assistance; Utilization; Disorders; Communication; Sustainable Living; Optimization;*

I. INTRODUCTION TO TECHNOLOGY AND TECHNOLOGICAL INNOVATIONS

Technology [1] is an integrated collection of both processes and techniques that can be implemented in either production of different services, or goods in the accomplishment of objectives to solve the real-world problems. Human life cannot be treated separately from technology and its usage.Society has an inter-dependenceon technology in a cyclical manner.

Technology on grounds, affects every aspect of human life in number of ways. People are forced by themselves to be hooked on it and majority started believing itasunimaginable to live without. Continuous advancementsand introduction of modern facilities in communication methodologies, people are more gratified.Though, technology has made negative impressionsthat can be clearly reflected within society.

Some form of dependency in the society has been created with its excess usage that its failure has made impressions on operations in almost all the fields. Numbers of issues as stress and hopeless situations are to be faced.Majority or major part of community is facing physiological issues in carrying out their routine activities with no or minimum technological assistance. This demands to analyze and make proper use of technology which is relevant for society to simplify the way we do things.

The technology definitely helps universe and its people in a great way, but excess use of it can lead to many problems. The paper would consider following headings, bifurcated as:

- Provides advantages to Technology [1] and its Usage, and ways how this can be accomplished (Section 2)
- Provides a comparative analysis consisting of current situation of human survival on the basis of usage of technology (Section 3)

- Provides the possible aspects of Technology, thatare ruiningeveryindividual's survival (Section 4)
- Includes the conclusion for overall survey, and future scope on efficient utilization of technology, steps to sustainable lifestyle [2], [3] (Section 5)

The further classification for the paper can be best described in the following manner: Section 2, discusses about what factors led to an increment on using aspects of Technology; Section 3, describes about the nature of human dependencytowards technology, and how lives of human beings are being ruined by its excessive usage; Section 4: describes the parameters [4] that are ruining everyone's survival on the planet, and moving slowly towards destruction (mentally and physically) at every while; Section 5: includes future aspects in order to encourage convenient usage of technology based on environmental elements, in a sustainable manner.

II. EASE OF USING TECHNOLOGY

Ease of using technology has affected almost all the fields of human life. It is almost impossible, to explore the percentage on how each new advanced technology is impacting upon human lives present and future. Technology is leavingimpressions on the environment, people and the society as a whole.Impressions of technology on particular society can be determined on its usage. It's impossible to explore all but some of them are discussed below:

A. Communication:

Communicationis the basic pillar to transfer information in both society and organizations. Technology has improved communication to a large extent. Social mediahave now provided a platform through which we exchange ideas as to develop our societies efficiently. From a normal man to politicians everybody is taking advantage of technology to communicate at distant places Alike to televisions, radios and Internet [5], [6] as communication technologies, a contribution can be adjoined to entertain, persuade and inform the society. Internet and mobile communication technology are being used by small business companies to grow and improve their customer service.

B. Education and Learning Process:

With the advancement in the technology to compete in the society, education is the need of the hour. Well and organized educational infrastructures are needed by peopleso that an apropriate method for learning can be implmented in schools. Schools are adapting smart technologies [7] to provide visual educationto the students for better understanding. With the ease of technology students are enjoying real life problem and becoming able to work on them.

C. Improved Transportation:

Alike to other technological aspects, transportation cann be viewed as an integrated system which provides mobility [8], [9] for people and goods. Society and business need latest and updated transportation methods. It customs to vehicles, people, information, finance, time, etc. which can work together to both relocate goodsandpeople.Technology brings advancing to named types of transportation especially space technology have opened many shut doors to a bright future.

D. Technology has Mechanized Agriculture:

The effluence to technology has altered the agricultural growth ofthe country. Farmers are,nowadays, opting artificial fertilizers [10]to add value to the soil and boost the growth of their crops. This method more enables them to produce high quality into thier yields. With the advancement in the technology,farmers in dry areas are now staying in position to grow healthy crops through advanced water pumps and sprinklers. With this technological innocation, farmers are able to derive water from rivers to the farms as to do with automation.Small and medium sized farmers have be able to acquire ploughing, watering, sowing and harvesting machines through government subsidies.Technology has intoduced numerouscrops that can be cultivated in a faster way, and can be well-preservedfrom pests and diseases.

III. RESEARCH METHODOLOGY

The biggest issue human species is facing is the dependency and footprints technology leaving on society. No one can deny the truth that technology is helping human to a great extent,but it also true that technology is affecting human mentally and physically. There are various factors which are badly affected by ease of technology.

The present area of study focuses on these specific objectives:

a) To analyze the factors which are affecting society and its people in consideration with technology.

b) To consider those factors for data analysis and find out the most impacting factors on society.

Above literature study and further data analysis founded a set of impacting factors, following factors are conceived:

1) *Trading & Marketing*
2) *Social Relationship*
3) *Gaming*
4) *Education*
5) *Smart Gadgets*
6) *Psychological* [11]
7) *Sleeping Discorders*
8) *Intellectual*
9) *Concentration*
10) *Visionary*
11) *Physiological*
12) *Inter-Personnel Relationship* [12]

E. Sample size and target

The sample research element is the respondent base in Meerut and NCR region. The sample size for the study was430out of which 398 respondents validated the study.In accordance to the subjectivityof this study, an analysis is done. The analysis decribes impact of technology on various factors which are affecting society which itself is much specific in nature.We have restricted our study to certain parameters and elements in due consideration of technological issues due to time and resource constraints.For the purpose of this project, convenience sampling was used and people were surveyed as per convenience.

The research evaluates the significance and impact of seven different types of factors that are affecting humans in terms of technology as per questionnaire factor analysis. A total of 12 factors were initially considered for the data analysis but Exploratory factor analysis reduced the number to 7 factors only.The data which is collected is primary in nature on the basis of which the report is formulated however the authors accept the limitation of certain parameters which restricts the study to being more descriptive rather than exploratory in nature.

1) Pilot Testing [5], [13]

In order to assess the clarity of the questions and also the reliability of measures of variables, pre testing was done. A total of 70 pre-test surveys were selected from a non- probability sample of the sample population under study, the results of which helped us to rectify questions that might be confusing or hard to understand and then design an improved questionnairefor survey.

a) Sampling Procedures

- The research has implied survey technique to collect information. On the basis of research criterion, the questionnaires were distributed to various respondents in Meerut and NCR region. The respondent/ subject cell were adult respondents who are 15-30 years of age and aged between 40-55. An appropriate sampling method was conducted for the study. 430 participants were given structured questionnaire thatcontained phsychological and physiological Development Related Questions.The questionnaire method was adapted and contained 60 items. The survey instrument divided respondents answerable to 12 different factor loads impacting human survival.
- But the drawback with this questionnaire is erroneous responses and incomplete return survey.

b) Response Rate

We distributed a total of 430 questionnaires and received a total of 398 utilizable responses thus achieving a good response rate of 92.55% while the rest mentioned several reasons such as busy schedules, lack of interest, or personal reasons. During the data analysis process, any erroneous responses were not taken into account. We assumed that we had received a considerably high response rate as we had number of follow-ups to the respondents so as to get the thorough surveys.

c) Instrument and Measures

In order to form the questionnaire various factors like social relationships, education, intellectual, concentration (total of 12 factor dimensions) were generated, on the basis of which technology is affecting society. The process resulted in generation of 60 items in questionnaire (5 items per dimension at least) including generalized as well as study related questions based on adaptation.

2) Data Analysis

To reduce the number of items in the questionnaire, Exploratory Factor Analysis (EFA) [14], [15] was performed. A two-step approach for analysis has been adopted. In the initial stage, separate measurement model has to be examined as to ensure reliability and validity of the concept. Duringsecond stage the factor analysis was elaborated. The respondents answered according to their rationalization and judgement.

F. Reliability and Validity Test

1) Reliability

A reliability testonto 60 items in the questionnaire, factor analysis was generated using IBM SPSS Statistics software (22.0) [16], [17]. Alpha coefficients observed regarding every factor involved in this study ca be better described in table I.

The measures considered in the study were adapted from previous studies. To refine the scales Cronbach's alpha coefficient [18], [19] and EFAwere employed. It was due to the multidimensionality of the factors, coefficient alpha (Cronbach, 1951) was computed separately for12 factors of concept.

Separate reliability test is conducted for analysis regarding impact of technology on society was done separately on 12 factors taken into account (as shown in table I). The results showed at least 5 items as necessary to include in the list of construct reliability for which alpha coefficients have been directly assigned in table of construct reliability.

We fixed cut-off level of 0.7 as recommended for theory testing research (Nunnally & Bernstein, 1994) [20],thereby eliminating those factors that did not satisfy the reliability test.Corrected item-to-total correlation [20] was the criterion used in deciding which item to be deleted.A process of recompiling the alpha values reduced sets of items and on examining new improved item-to-total correlations further deletedinappropriate items.This elimination practice improved corresponding alpha values.This sequence recurredquite a lot times and bring about as a set of 35 itemsacross the 7 constructs. (60 items across 12 constructs was initially selected).

TABLE I. *Reliability test for factors of deployment of green technologies and sustainable environment Questionnaire*

S. No.	Factors Considered	Cronbach' Alpha	
1	Trading & Marketing	.612	The alpha coefficients for factors- 2, 3, 5, 6, 7,11,12 showed satisfactory level of reliability being in the range of .715 and .867. However, factors 1, 4, 8, 9 and 10 showed low reliability with alpha coefficients of .612, .530 ,.634, .539 and .685respectively indicating unsatisfactory level of reliability regards affect of technology on society. For consistency, unsatisfactory factors were not taken into consideration and it was decided toload the factors with atleast .7 cronbach's alpha.
2	Social Relationship	.785	
3	Gaming	.776	
4	Education	.530	
5	Smart Gadgets	.715	
6	Psychological	.867	
7	Sleeping Discorders	.773	
8	Intellectual	.634	
9	Concentration	.539	
10	Visionary	.685	
11	Physiological	.747	
12	Inter-Personnel Relationship	.834	

[a.] Source: Open Source Factor Analysis

G. Exploratory Factor Analysis (EFA)

Unlikely to factor analysis, the dimensionality of 60 item scale was examined using apropriate methodology. To reduce the no. of items and to determine construct validity we used EFA.To examine whether the data was fit to use factor analysis and sampling adequacy [21]. The researcher's used Kaiser-Meyer-Olkin (KMO)and Bartlett's Test [22], [23].Table II shows KMO measure of sample adequacy as (.857) close to 1. Moreover, while using Bartlett's Test of Sphericity, significant value (p=.000) was found as less as 0.05 (p-value <0.5). Therefore, the sample and factors extracted here were considered as Optimised and adequate.

TABLE II. KMO AND BARTLETT'S TEST

Test		Adequacy
Kaiser-Meyer- Olkin Measure of Sampling Adequacy		0.857
Bartlett's Test of Sphericity	Chi- Square	10754.602
	Significant Value	.000

IV. SURVEY FINDINGS

On the basis of above survey so conducted, 7 factors out of 12 factors, are to be considered through the reliability test, shown in Table I, II. The factors that are most encountered in any issue related to technologyaffecting society are, Social Relationship, Gaming, Physiological, Inter-Personnel Relationship, Smart Gadgets, Psychological, Sleeping Disorders.

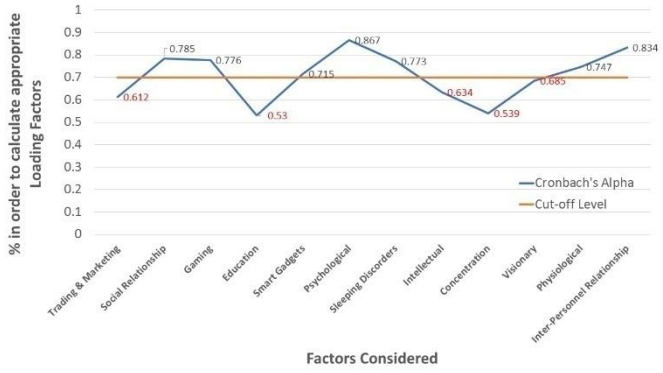

Fig. 1. Open Source Factor Analysis for suggested 12 factorsusing Cronbach' Alpha

The compiled analysis for finding the most relevant factors that are best fit for this survey are represented by fig. 1.It is found that factor named, Psychological has greatest Loading Factor. This means that technology is affecting the mind of human psychologically. Second most relevant factor is Inter-Personnel Relationships.This is one of the merging need to be ratified as soon as possible.Because it has been observed that people are getting separated because of excess usage of technology.

Third most relevant factor with highest loading factor is Social Relationship. The major cause behind an increment in Social Relationship is rapidly growing social networking sites and availability of internet to access them.This is not an issue, in fact people are enjoying to come into contact with relations they left behind years ago.

Factors with least loading factorcan be, such as Education, Concentration, Visionary, Intellectual and Trading & Marketing.We can't ignore these factors just because they have least value for Cronbach's Alpha analysis,these factors also affect human lives regards to technology.

V. CONCLUSION AND FUTURE SCOPE

Technology playsa vital part in human life to make him capable of doing things in an effective way. In the paper, numbers of factors are obtained in accordance to opt such techniques that contributed towards good for every living being. In this paper, Cronbach' Alpha factor is being found out to find the most relevant factors out of the list of factors set in primary questionnaire. It has been found that at majority of population gives priority to psychological issues faced in current scenario, concluding to its excess usage. If people would be well educated about howtechnology can be utilized in an effective and appropriatemanner. This would be a greater step towards a sustainable living (where everything follows sustainability [4], i.e., in relation to development, agriculture, design, etc.). The purpose behind such research is to better identify the factors that are making negative impacts on misusing smart technologies along with society. However, it also gives detailed analysis of the impact of smart technological techniques on individualsand society in both the ways (Automisation [24]& Sustainability).

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