

The impact of Information Technology on Job Related Factors like Health and Safety, Job Satisfaction, Performance, Productivity and Work Life Balance

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Abstract

The impact of Information Technology on workplaces, individuals and society as a whole has increased dramatically during the last two decades of the 21st century. This period has seen maturation in the field of digital computing, combined with the use of telecommunications technology, in order to link many computers into what is 'virtually' a very large single network, the Internet. Data has become widely accessible, and readily inter-related. Implementation of new technology has led to many changes in the workplace. This paper aims to study the impact of technology on various Job related factors, 5 shortlisted for the study i.e. Health and Safety, Job Satisfaction, Performance, Productivity and Work Life Balance. Which Job factor is getting affected to maximum extent with the introduction of technology? The study was done with the help of questionnaire based on Likert scale. Data was collected from 100 employees of Barco and CMC Ltd. Convenience sampling method was used. Data was analyzed through SPSS Software and excel to find out that Performance is the most impacted factor by introduction of new technology, followed by Job Satisfaction, Health and Safety, Productivity and work life balance. The factor analysis converted them into three components in which component 1 contributed more towards the impact of technology.

Keywords: Information technology; Workplace; Digital computing; Internet; Health and safety; Job satisfaction; Performance; Productivity; Work life balance

Introduction

Introduction to information technology

IT, short for Information Technology, and pronounced as separate letters, Information Technology is the application of computers and various techniques, to handle masses of data. This broad subject is concerned with all aspects of managing and processing information, especially within a large organization or company. Computers and communications technologies form the backbone of Information Technology (IT). To a large extent it underlies the rise of modern business and economy.

Constantly, such a technology forces an industry to learn, to acquire, to adapt and to change its very mindset, let alone its technical knowledge. The impact of IT on workplaces, employment relations, individuals and society as a whole has increased dramatically during the last two decades of the 21st century. This period has witnessed maturation in the field of digital computing, with the combined usage of telecommunications technology, in order to link many computers, into what is 'virtually' a very large single network, the Internet. It is invading the very core of the way things are being done including industrial relations.

As stated by Peter Drucker, recognized management guru:

“Management has to recognize that there is no one technology that pertains to any industry, on the contrary, all technologies are capable to have an impact on any industry.”

Data has become widely accessible, and readily inter-related. This matrix of widely inter-connected computers is being slowly but steadily augmented by the incorporation of robotics and artificial intelligence. This phenomenon can best be described as “digital business” or “digital economy”, embracing e-commerce and the Internet, but extends much

further. This makes IT a sole object that has the most pervasive effect on the modern society today. Organisations at global level are changing the way they do business in adopting the information revolution. Its impact can be seen in terms of:

- Changing relationships between companies and their customers and suppliers.
- The way they organize themselves.
- The very core of the business itself – the labour force.
- Its internal processes as well.

Impact of technology on health and safety

Occupational health and safety is a discipline with a broad scope aiming at “Promotion and maintenance of the highest degree of physical, mental and social well-being of workers that is the “whole person” in all occupations; prevention among workers of adverse effects on health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of workers in an occupational environment adapted to physical and mental needs; the adaptation of work to humans.

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Successful occupational health and safety practice requires the collaboration and participation of both employers and workers in health and safety programmes, and involves the consideration of issues relating to occupational medicine, industrial hygiene, toxicology, education, engineering safety, ergonomics, psychology, etc. With the introduction of new technology human health and safety can be well protected against:

- Communicable Diseases - Vector borne diseases (e.g. malaria), sanitary hygiene diseases, risk associated with handling of infectious wastes;
- Injury - Risk of accidents from traffic, explosions, falls, heat stress, operation of machinery, handling of physically hazardous wastes and resources (e.g. sharps), minimize loss of hearing; and
- Exposure to hazardous chemicals - Inhalation (e.g. air pollution), avoid dermal contact, ingestion of contaminated food and water (e.g. pesticide residue) of hazardous chemicals and of radioactive material.

Impact of technology on job satisfaction

Job Satisfaction is the favourableness or un-favourableness with which the employee views his work. It expresses the amount of agreement between one's expectation of the job and the rewards that the job provides. The nature of one's job environment is an important part of life because ultimately Job Satisfaction influences one's general life satisfaction. Job Satisfaction, thus, is the result of various attitudes possessed by an employee. In a narrow sense, these attitudes are related to the job under condition with such specific factors such as Wages, Employment Supervision, Working conditions, Social/Human relation on the job, Prompt settlement of grievances and Fair treatment by employer. However, more comprehensive approach requires that Inter and Intra Personal factors to be included before a complete understanding of job satisfaction can be obtained. Such factors as employee's age, health temperature, desire and level of aspiration should be considered. Further his family relationship, social status, recreational outlets, activity in the organizations etc. contribute deeply to job satisfaction.

Information Technology (IT) has played an important role in business since the 1950s and the use of technology to reduce costs, improve operations, enhance customer service, and improve communications has progressed rapidly over the past four decades.

Job satisfaction is an important criterion for the success of an organization where it is closely associated with job turnover and life satisfaction. Using new technologies such as Computer-Aided Manufacturing (CAM), Virtual Reality (VR), Expert Systems (ES), and the Internet can give companies an edge. New technologies can result in employees "working smarter" as well as providing high-quality products and more efficient services to customers. Companies that have realized greatest gains from new technology have human resource management practices that support the use of technology to create what is known as high-performance work systems. Work, training, programs and reward systems often need to be reconfigured to support employees' use of new technology.

Impact of technology on performance

Performance is the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. Use of technology within the ethical limits definitely benefits

the organisation, along with improvisation in individual and group performance. On one hand, employee workload reduces through technological advancement; on the other number of employees to perform a task is also reduced, thus reducing job opportunities. Companies use advanced technologies to check and evaluate employee's performance via Human resource management department. To drive productivity and manage human capital, HR department leverages emerging technology to keep up with the market trend. Current technology trends impacting HR are Outsourcing and focus on value that HR brings to the organisation. The demand for better service performance has driven a technological trend towards more powerful, integrated and scalable system components.

Impact of technology on productivity growth

Productivity is one of the most closely watched indicators of long-term economic prospects. Rising productivity is the key to making possible permanent increases in the standard of living. Changes in technology are the only source of permanent increase in productivity, but a number of transient factors can affect both true and "measured" productivity. For example, workers may work harder during periods of high demand and firms may use their capital assets more intensively by running factories for extra shifts; both factors can lead measured productivity to be too high relative to actual technological progress. Similarly, during periods of high demand, productivity can rise because firms take advantage of increasing returns to scale; however some people argue that this effect is not permanent and should be discounted when measuring long-run technical change.

Impact of technology on work-life balance

Work- Life Balance is a comfortable state of equilibrium achieved between a person's primary priorities of their employment position and their personal lifestyle. To put it in simple words demands of a working individual's career should not overwhelm his ability to enjoy a satisfying personal life beyond the business environment. These days, we have so many potentially labour saving technological devices, which we have deeply inculcated in our daily practices but with a logical question: to what extent do such advances increase rather than decrease workload and stress? New technology can clearly enable us to work faster and more efficiently, and it facilitates flexible and remote working e.g. work from home, preparing quick presentations and reports with use of cell phones besides computers and laptop but it can also mean that we cannot ever really get away and switch off.

Literature Review

Derks et al. examined the impact of work related smartphone use on daily recovery from work-related efforts to which work-home interference (WHI) is an important inhibitor. Contrary, to their hypothesis it was found out that smartphone user did not experience more overall work-home interference (WHI) than non-users. For control group WHI was positively related to psychological detachment, relaxation, mastery and control activities, implying that being connected to work in evening hours through smartphone's had consequences only to the extent to which employees succeed in recovering [1].

Mazmanian et al. studied how wireless e-mail devices specifically the Blackberry were incorporated into daily lives of professionals and its consequent social impact. Findings suggested these Blackberry communication entailed 3 important dualities having conflicting consequences for work and lives of plymouth members: continuity and asynchronicity, engagement and withdrawal, autonomy and addiction,

making it difficult for members to dis-engage from work and blending among people [2].

Ali analysed employment relation systems of three Asian countries-China, India, and Korea. He made a case for diversion in employment relation systems that technological advances, improved communications, economic liberalization, and increased international competition has brought in an era of economic, institutional and cultural integration. Under globalization the workplace practices are under a constant state of movement. Academicians not only analysed the benefits and the deleterious effects of this phenomenon on the employment relations of developed and under-developed nations, but also stirring up the debate whether the industrial relations systems of countries are converging or diverging [3].

Bakker gives an overview of research on the impact of e-mail provided by personal computers and smart phone devices based on Job-demands resources (JD-R) model as a framework. The results of the studies were interpreted to show which aspects of e-mail communication can be considered as demands and resources, and hence complicate or facilitate our working life. Increasing pressure of excessive amounts of e-mail and prompt reply seems to be disproportionately loading the recipient, moreover a smart phone on one hand increases the flexibility of an employee on the other hand facilitates long working hours with a risk of disturbed work-home balance [4].

Bill identified contributing influences of an individual's attitude towards a technological innovation/ improvisation in the workplace. Multiple factors stemming from individuals knowledge, beliefs, values, cognitive/ mechanical ability, gender, organisational culture and social information processing tend to influence an individual's attitude. Now, since an organisation comprises of many individuals with various combination of above, careful consideration must be given before introducing any innovation. The study observes higher adoption rates where employees have control over the innovation and its implementation therefore the organisation must provide information sharing, risk-free environment and evolve a system of learning [5].

Morris and Dillon focussed on understanding the factors which influence user acceptance of information technology. They reviewed literature that demonstrates the nature of technological acceptance, which is mediated by distinct factor groups related to: the psychology of the users, the design process of information technology, and the quality of the technology in user terms. The research offered insights that could support the derivation of reliable predictions of user acceptance. However, potentially overlapping theories seem to exist, though independent of each other creating possibilities for unifying this framework to extend innovation diffusion concepts and systems design models (particularly user-centered design) into a formal theory of user acceptance of information technology [6].

Gudmundsdottir investigated that great changes have been discovered with the introduction of technology in the last decade, regarding the organization of work. The results show that when dividing fishing factories into three technological stages; low technology, middle technology and high technology, the job strain was highest and the decision authority by the employee was lowest in the high technological factories. This even had an impact on health and atmosphere at the workplace, where the employees in the high technological factories were more likely to complain about several health problems as well as about low degrees of cheerfulness at the workplace and tiresome jobs. However, initially these same people were most positive towards the

implementation of the high technology and the new way of organizing their job that the technology introduced. This effect has made the psychosocial and physical working environment tougher, especially for women [7].

Bresnahan investigated that information technology (IT) and associated changes in work organization were important causes of shift in labour demand in favour of high-wage, high-skill work, which contributed to a substantial rise in income inequality in the United States. Specifically, it was found out that IT use is correlated with a new workplace organization that includes broader job responsibilities for line workers, more decentralized decision-making and more self-managing teams. Therefore, both IT and new organization are correlated with worker skill, measured in a variety of ways. Significantly, firms which attempt to implement only one of the hypothesized complements without the others are less productive than firms which invest in all the complements. Taken together, the results highlight the importance of organizational changes stimulated by IT in the changing demand workers of different types [8].

Vintangcol stresses on the importance of Information Technology (IT) and that computers and communication technologies form the backbone of IT. To a large extent it underlies the rise of modern business and economy; however on a continuous basis such a technology forces an industry to learn, to acquire, to adapt, to change its very mindset, let alone its technical knowledge. IT has invaded the very core of the way things are done - including industrial relations, which is grooming the work place as well as the employment relations [9].

Materials and Methods

Objectives

a) To study the impact of technology on various job related factors 'Job Satisfaction', 'Productivity', 'Performance', 'Health and Safety' and 'Work Life Balance' respectively via correlation.

b) To study which factor is most affected by the implementation of new technology via Factor Analysis.

Rationale of the study

The significance of the study is to understand the impact of technology on various factors like job satisfaction, productivity etc. and which factor is the most affected by the implementation of new technology.

Questionnaire design

The questionnaire measures the impact of technology on various factors like Performance, Job Satisfaction, Productivity, Health and Safety, Work Life Balance. Questionnaire is based on Likert Scale and designed according to the objectives of the present study.

Research design

Descriptive Research: Through Survey Method

Statistical tools

Sample size: The overall sample size in this study is one hundred (100).

Sampling technique: The sampling technique used is convenience sampling.

Sample description: The employees working with IT sector.

Data collection techniques

Primary data: It was collected by personally interviewing the employees with the help of the questionnaire made for the purpose.

Secondary data: It was collected from newspapers, magazines journals, online resources etc.

Pilot test

A pilot study was done on 40 samples to analyze the process and the possible outcomes of the questions to be asked.

Reliability

The data collected by the employees working in IT sector was analyzed with the help of SPSS (Tables 1 and 2).

Results

Analysis part-1

The new technology implemented in the organisations was found with the help of personal interviews of HR Managers of various companies like CMC and Barco. The various new technologies implemented were:-

- New software like Taleo, SAP etc
- Introduction of HRIS

Analysis part-2

The questionnaire was broken into 5 major sections each having 25 questions. The first five questions determined the impact of technology on 'Job Satisfaction', then 'Productivity', 'Performance', 'Health and Safety' and 'Work Life Balance' respectively.

The answers to the questions of 100 employees were analysed based on Likert Scale, where answers were graded as per the following Table 3.

Thereafter, average of the sections was taken into consideration and a correlation between the sectional average and the overall average was calculated.

Here we are assuming that if the sectional average is higher, the impact of technology is going to be much higher. For e.g. if the sectional average of 'Job Satisfaction' is 4 and the overall average is 3.6, then we infer that Job Satisfaction is much higher than Productivity of the employee (Table 4).

Interpretation: it is observed that the correlation numbers for each of the sections were very much similar, showing strong correlation between 'Job Satisfaction', 'Productivity', 'Health and Safety' and 'Work Life Balance' as compared with the total sum of all the answers, except 'Performance' which is showing a stronger correlation against

		N	%
Cases	Valid	40	72.7
	Excluded ^a	15	27.3
	Total	55	100.0

^aListwise deletion based on all variables in the procedure.

Table 1: Case processing summary.

Cronbach's Alpha	N of Items
0.825	25

Table 2: Reliability statistics.

	Score
Strongly Disagree	1
Disagree	2
Neither Agree nor Disagree	3
Agree	4
Strongly Agree	5

Table 3: Likert scale.

Job Satisfaction	Productivity	Performance	Health and Safety	Work Life Balance	Average All
1.4	1.6	2.4	1	1.8	1.64
1.4	1.6	2	2	1.2	1.64
1.4	1.6	2.8	2	1.2	1.8
1	1	2.8	2	2.8	1.92
1	1	3.8	3	3.8	2.52
1.6	1.4	3	3	3	2.4
1.6	1.4	3.2	4	4	2.84
1.6	1.4	2.4	1	1	1.48
2.6	2.4	2.8	2	1.2	2.2
1.4	1.6	3.2	1	1.8	1.8
1.6	1.4	2.4	1	1.8	1.64
1.6	1.4	2	2	2	1.8
1.6	1.4	3	3	1.4	2.08
1.4	1.6	2.8	2	1.2	1.8
1.4	1.6	2	2	1.2	1.64
1.6	1.4	2	2	1.2	1.64
1	1	3	3	2.2	2.04
1	1	3	3	2.2	2.04
2.2	1.8	2.8	2	2	2.16
2.8	2.2	2	2	1.2	2.04
2.2	1.8	2.4	1	2.6	2
2.8	2.2	4	1	2.6	2.52
1	1	2.4	1	1	1.28
1	1	2.8	2	1.2	1.6
1.6	1.4	3.6	2	1.2	1.96
2.4	2.6	2.8	2	1.2	2.2
1.6	1.4	2.8	2	1.2	1.8
1	1	2.4	1	1	1.28
1.4	1.6	2.4	1	1	1.48
1.4	1.6	3.2	1	1	1.64
1.8	2.2	3.2	1	1	1.84
2.4	2.6	2.4	1	1.8	2.04
2.8	3.2	2.4	1	1.8	2.24
2.8	3.2	3.2	1	1.8	2.4
1.8	2.2	2.8	2	2	2.16
3	3	2.8	2	2	2.56
2.2	1.8	2	2	2	2
1	1	2.2	3	2.2	1.88
1.4	1.6	3.8	3	2.2	2.4
1.4	1.6	2.2	3	2.2	2.08
4	4	4	4	4	4
4	4	4	4	4	4
3	3	3	3	3	3
3	3	3	3	3	3
5	5	5	5	5	5
3	3	3	3	3	3
3	3	3	3	3	3

2	2	2	2	2	2
4	4	4	4	4	4
3	3	3	3	3	3
4	4	4	4	4	4
3	3	3	3	3	3
3	3	3	3	3	3
2	2	2	2	2	2
1	1	4	1	1	1.6
2	2	2	2	2	2
1	1	4	1	1	1.6
1	1	4	1	1	1.6
1	1	4	1	1	1.6
2	2	2	2	2	2
3	3	3	3	3	3
1	1	4	1	1	1.6
1	1	4	1	1	1.6
2	2	2	2	2	2
2	2	2	2	2	2
2	2	2	2	2	2
1	1	4	1	1	1.6
1	1	4	1	1	1.6
1	1	4	1	1	1.6
4	4	4	4	4	4
4	4	4	4	4	4
5	5	5	5	5	5
4	4	4	4	4	4
4	4	4	4	4	4
5	5	5	5	5	5
4	4	4	4	4	4
3	3	3	3	3	3
3	3	3	3	3	3
4	4	4	4	4	4
4	4	4	4	4	4
5	5	5	5	5	5
5	5	5	5	5	5
3	3	3	3	3	3
4	4	4	4	4	4
4	4	4	4	4	4
4	4	4	4	4	4
5	5	5	5	5	5
5	5	5	5	5	5
4	4	4	4	4	4
3	3	3	3	3	3
2	2	2	2	2	2
3	3	3	3	3	3
1	1	4	1	1	1.6
3	3	3	3	3	3
4	4	4	4	4	4
4	4	4	4	4	4
5	5	5	5	5	5
3	3	3	3	3	3
1281	1279	1636	1320	1296	5531
23.16%	23.12%	29.58%	23.87%	23.43%	1

Table 4: Correlation among various parameters as per feedback of 100 respondents.

total sum, concluding that ‘Technology’ has the highest impact on ‘Performance’ of the employees (Tables 5a and 5b).

Interpretation: The correlation was calculated in excel and the result is shown above. It is observed that after the implementation of new technology, performance was the most impacted (Table 6).

Interpretation: To cross check the above interpretation, we also checked total grading of the sections against the total sum of all the answers. It was observed that Performance impacted the answers the most with around 30% contributions (Tables 7 and 8) (Figure 1).

Interpretation: The above factor analysis shows that Performance is the most impacted by the introduction of new technology, followed by Job Satisfaction, Health and Safety, Productivity and work life balance.

Factor wise analysis

Job Satisfaction: Interpretation : As observed that 23% of the employees feel more committed, 20% believe that their work is appreciated, 20% believe that they can handle multiple responsibilities at a time, 19% believe there are greater opportunities at work and 18% think that they are provided with all resources to work after the implementation of new technology (Figure 2).

Productivity: Interpretation: After the implementation of new technology 25% employees believe their task accomplishments have become easy and efficient, 22% believe that level of flexibility and integration in the production has increased, 20% believe that now it takes less time to complete their work, 18% believe that productivity of their work has increased, 15% believe that now their commitments are met on time (Figure 3).

Performance: Interpretation: 25% employees believe that the scope of their job has increased, 20% believe that their performance has improved, 19% see an improvement in their competencies and skills, while 18% see their work has become more efficient, 18% believe that new technology has led to advanced and improved trainings (Figure 4).

Health and safety: Interpretation: With the introduction of technology 28% believe that injury and health problems have reduced, 20% believe that working conditions have become good and safe, 19% believe that safety and hazards which may cause injury are adequately assessed, 19% believe that medical facilities have improved in the organisation, 14% believe that the working environment has become more hygienic (Figure 5).

Work life balance: Interpretation: 25% believe that now they don't feel stressed while working. 22% believe that after work they can also focus on personal life, 20% believe that now they feel more happier, 17% believe that quality of work life has improved, 16% believe that working hours has been reduced after the technological changes (Figure 6).

Suggestions and Recommendations

Firms focus on using technology to achieve productive efficiencies through the reduction of processing time and costs, increased processing volumes, and substitution of labour by IT applications. According to Neuhana, the application of Information Technology has three distinctive levels of impact namely productive impact, coordinative impact and informative impact offering benefits

Correlation Factor Against	Job Satisfaction	Productivity	Performance	Health and Safety	Work Life Balance
Total Sum	0.92	0.90	0.93	0.91	0.89

Table 5a: Average overall correlation among various parameters.

	Job Satisfaction	Productivity	Performance	Health and Safety	Work Life Balance	Average All
Job Satisfaction	1					
Productivity	0.985121223	1				
Performance	0.805863384	0.788482095	1			
Health & Safety	0.734803452	0.70025149	0.881448331	1		
WorkLife Balance	0.744412714	0.71774545	0.77128782	0.870706485	1	
Average All	0.926722	0.908803	0.930373	0.919592	0.896507	1

Table 5b: Detailed workout of average correlation among various parameters.

	Job Satisfaction	Productivity	Performance	Health and Safety	Work Life Balance
Total %	23.16%	23.12%	29.58%	23.87%	23.43%

Table 6: Percentage contribution of various parameters [Impact of technology on various factors (correlation)].

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.552	86.210	96.210	21.552	86.210	86.210
2	1.351	5.405	97.615	1.351	5.405	91.615
3	1.043	4.170	95.785	1.043	4.170	95.785
4	.628	2.513	98.298			
5	.425	1.702	89.000			
6	1.421E-16	5.684E-16	80.000			
7	6.024E-17	2.410E-16	87.990			
8	3.327E-17	1.331E-16	88.780			
9	2.766E-18	1.107E-17	81.000			
10	1.099E-18	4.397E-18	60.900			
11	9.940E-19	3.976E-18	99.602			
12	7.248E-19	2.899E-18	98.000			
13	2.946E-33	1.178E-32	96.070			
14	1.617E-33	6.469E-33	98.900			
15	4.300E-35	1.720E-34	97.000			
16	-2.116E-35	-8.463E-35	90.000			
17	-4.847E-35	-1.939E-34	87.030			
18	-9.300E-35	-3.720E-34	91.000			
19	-4.250E-32	-1.700E-31	92.090			
20	-1.724E-19	-6.897E-19	88.000			
21	-7.401E-19	-2.960E-18	67.090			
22	-9.816E-19	-3.926E-18	75.400			
23	-1.226E-18	-4.903E-18	69.890			
24	-3.074E-17	-1.230E-16	77.090			
25	-1.326E-15	-5.305E-15	65.000			

Extraction method: principal component analysis.

Table 7: Total variance explained.

like reduction of processing time, substitution of human labour by automated applications, coordination either across time gaps, across geographically dispersed sites/agents, or the restructuring of relationships, the development of extensive databases and knowledge-bases, and supports decision-making processes through better use of information and the reduction of complexity in unstructured decision-making processes of the organization. The application of Information Technology typically has a productive impact in its early phases in an organization. Based on the study the recommendations are as follows:-

- New technology to be implemented after proper training and under proper guidance
- Proper awareness is necessary before the implementation of new technology
- Employees should be well informed in advance and Employer should be ready to justify the change
- Trained people should implement new technology

Limitations

A study like this can not be conducted smoothly through out. This study involves the responses from employees who had work allotted to them and therefore were not willing to waste their time on answering questions regarding their work. It was also not easy to make them understand the relevance of the study, there is always some scope for some misinterpretation of the questionnaires given to be filled from employees of various organizations. Though the questionnaires had been pretested and feedback of different people had been taken into consideration, there is always some scope that the statements in the questionnaire may not have been understood by some people in the sense in which it was intended.

Conclusion

Employees of both the organisations have clearly shown a strong impact of technology in all the job factors shortlisted for the study.

	Component		
	1	2	3
I feel very committed to my work after the technological changes.	0.819	0.184	-0.311
With new technology I can handle number of responsibilities at one time	0.703	0.348	0.216
My work is appreciated now.	0.919	0.184	-0.311
I am provided with all the resources to work.	0.603	0.348	0.216
The technological changes have led to greater opportunities of work.	0.719	0.184	-0.311
Level of flexibility and integration in the production has increased.	0.603	0.348	0.216
Now it takes less time to complete my work.	0.619	0.184	-0.311
Productivity of my work has increased after the implementation of new technology.	.703	0.348	0.216
With new technology my task accomplishment has become easy and efficient.	0.900	0.184	-0.311
Now my commitments are met just on time.	0.903	0.348	0.216
My competencies and skills have improved now.	0.915	-0.113	0.255
The scope of my job has increased.	0.895	-0.113	0.255
My performance has improved after the implementation of new technology	0.975	-0.113	0.255
New technology has led to advanced and improved trainings	0.815	-0.113	0.255
My work has become more effective and efficient.	0.751	-0.271	0.001
Technology has reduced injury and health problems.	0.851	-0.271	0.001
The working environment has become more hygienic.	0.651	-0.271	0.001
Working conditions have become good and safe.	0.851	-0.271	0.001
Safety and hazards which may cause injury are adequately assessed	0.651	-0.271	0.001
Due to technological advancement the medical facilities have improved in the organisation.	0.751	-0.271	0.001
Quality of work life has improved	0.601	-0.271	0.001
Working hours has been reduced after the technological changes.	0.645	-0.054	-0.129
I don't feel stressed while working.	0.655	-0.054	-0.129
Now I feel happier while working.	0.745	-0.054	-0.129
After work I can also focus on my personal life.	0.700	-0.054	-0.129

Extraction method: principal component analysis.
a)3 components extracted.

Table 8: Factor analysis component matrix^a.

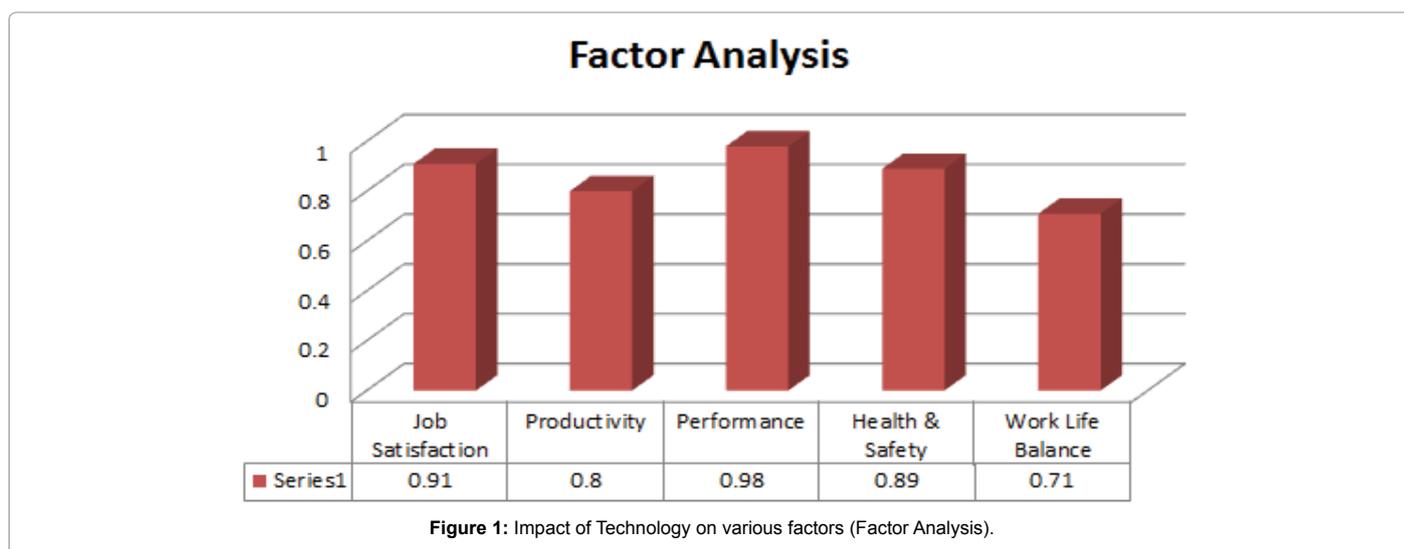
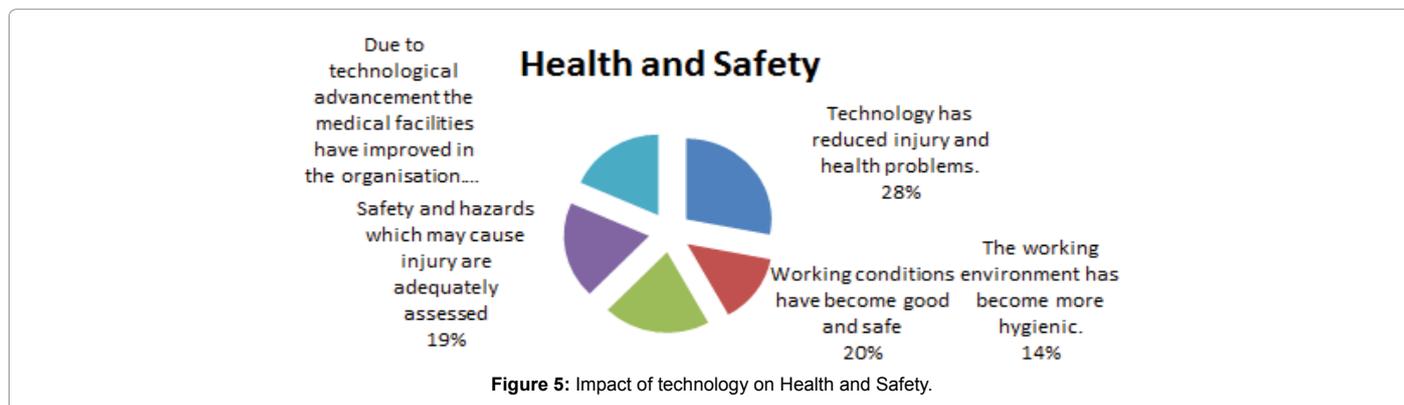
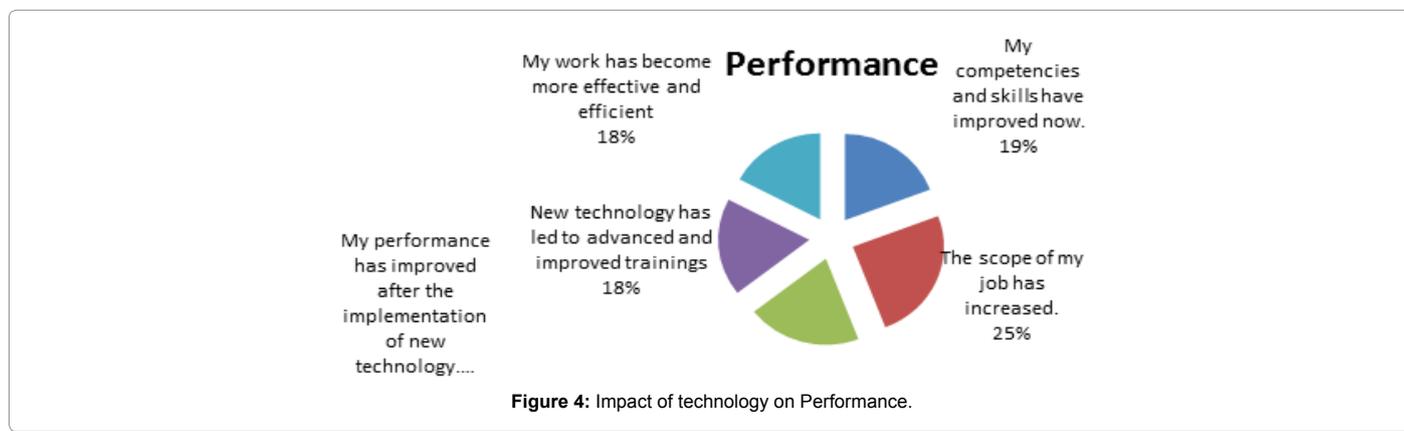
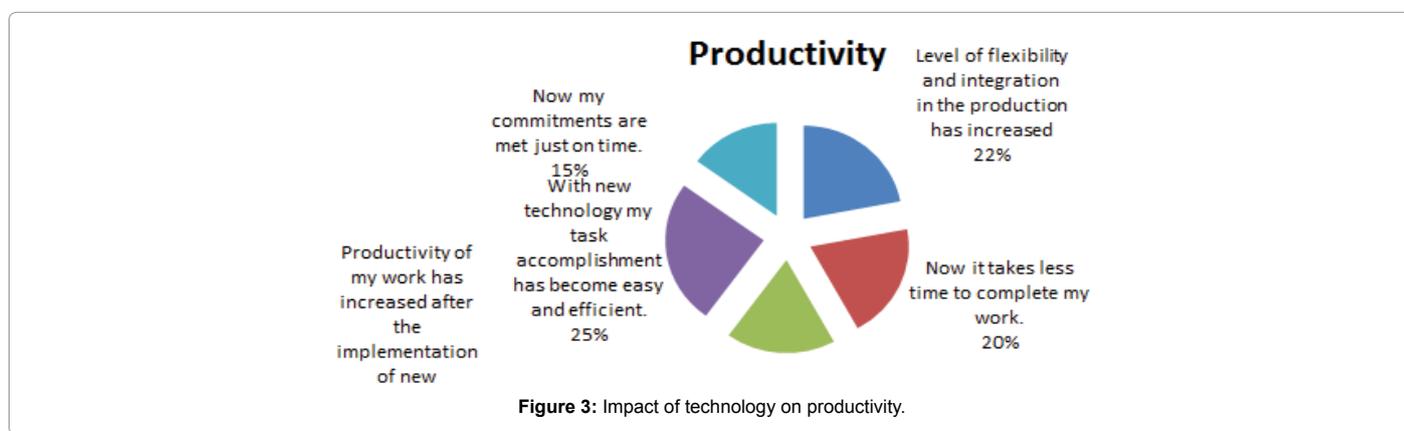
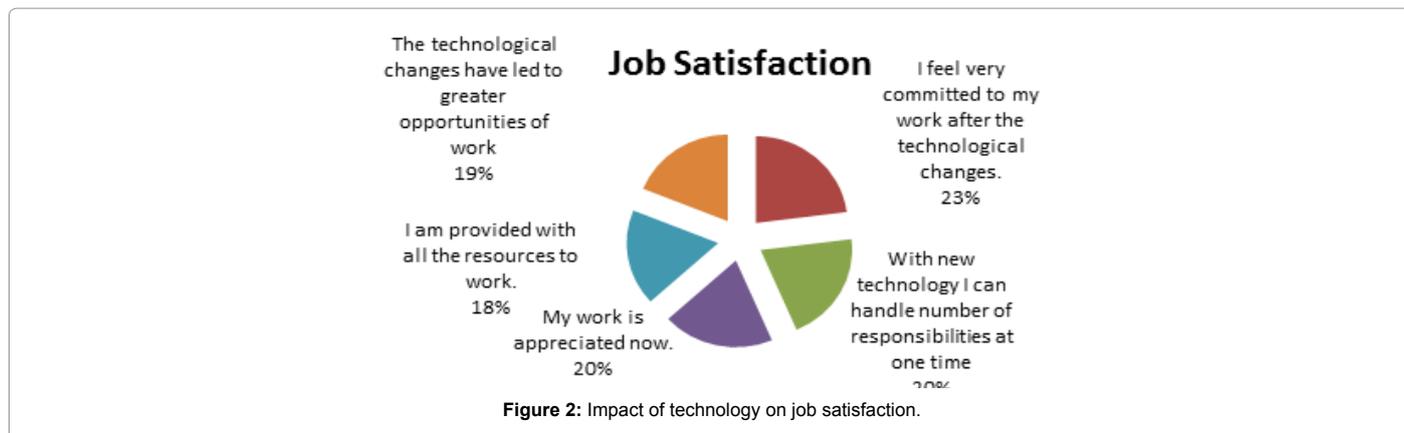
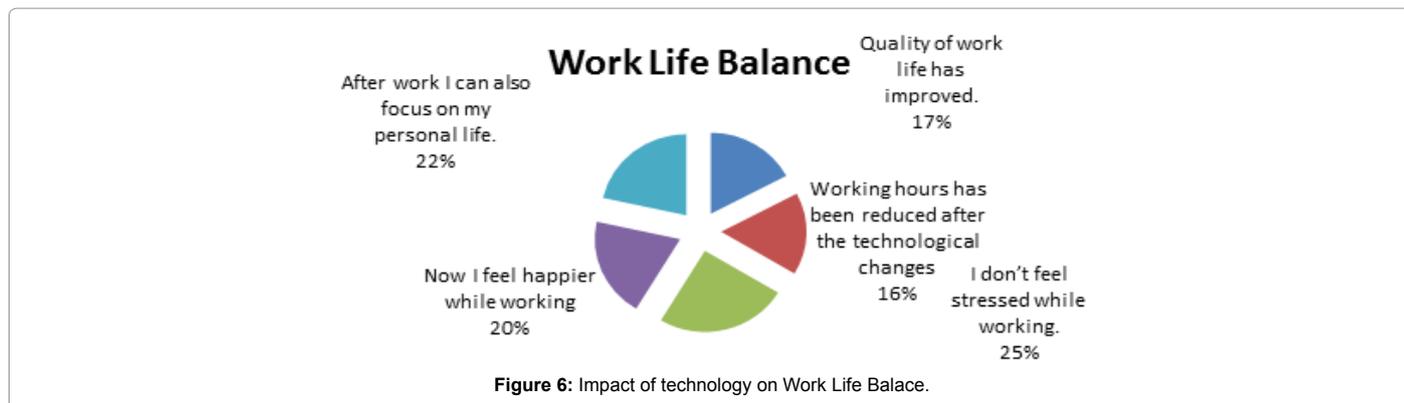


Figure 1: Impact of Technology on various factors (Factor Analysis).

However, results show the impact of technology, out of the 5 Job related factors selected i.e. Health and Safety, Job Satisfaction, Performance, Productivity and Work Life Balance, Performance of the employees is getting affected to maximum extent e.g. use of email system, availability of softwares to store tonnes of data, analysing work reports in a matter of time, presenting reports/data via presentations, graphs etc. There is

less dependency on recalling things, rather information is in front and is easily exhibited. Performance was followed by job satisfaction, health and safety, productivity and last but not the least work life balance. Due to continuous upgradation and investment in technology there is a rise in level of expectation of the organisations as well. Currently, technology is in its early phase, in the coming time, employees will need





to bear with these expectations which might effect their performance as well.

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