

A STUDY ABOUT THE STRESS OF INFORMATION TECHNOLOGY PROFESSIONALS

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INTRODUCTION

This is the Era of Information Technology. Nothing can Survive or Exist without the aid of Information Technology Sector. Now-a-days Information Technology plays as the back-bone of development. According to the Survey of Manpower Incorporated Company, "India shows Highest Growth Rate in Labor Development, India shows 44 % growth in IT service Industry today".

Information Technology (IT), as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware."

A few of the duties that IT professionals perform include

- Data Management
- Computer Networking
- Database Systems Design
- Software Design
- Out Sourcing.

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IT/BPO sector: India's Growth Engine:

The Indian IT sector, which is doing exceedingly well going by the July-Sept quarter results, can sustain the momentum in the coming quarters as Indian IT firms enter new markets and gain business. The current "boom" cannot be compared to the dotcom period of the late 90s as the bulk of the work off-shored to India is normal business, making it more sustainable.

Outsourcing and India

The Big Three -- TCS, Infosys and Wipro led the way for Indian IT sector during the last quarter by posting net profits growth of over 50 per cent and hiring more than 14,000 people, giving indications that the software sector is going through one of its most successful phases in recent times. Sensing the trend, Nasscom, India's premier trade association of software firms, said the software export target of 30-32 per cent growth for this fiscal will be achievable. "India is gaining share from other parts of the world. Clearly, the pie is not expanding at the rate at which the Indian IT services industry is growing, but we are gaining market share," explained R Chandrasekharan, Managing Director of Cognizant Technology Solutions. Buoyed by the trend, Cognizant, a fast growing IT firm, announced earlier last week that it was expanding Indian operations by investing an additional \$34 million, taking the total investment for India to \$76 million. National Association of Software and Service Companies president Kiran Karnik said the association was confident that the target of \$12.5 billion software exports for this fiscal will be achieved. "Half-year results have been extremely good," he said.

Similar to the software sector, BPO along with software sector is expected to be the biggest employment creators in the coming quarters. "The BPO segment will continue to experience healthy growth and consequently the employment opportunities are bound to see significant rise," said Venkat Tadanki, Co-Founder and Chief Executive Officer Secova e-Services, a BPO firm. The growth, coupled with the churn in the market, will result in a buoyant employment market for the next few years," he said.

STRESS

Everyone experience stress but only a few people understand it. The term 'stress' was derived from a nineteenth century concept (in physics), 'An outside force, pressure or strong effect'.

Itans Selye defined stress as "the non-specific response of the body to any demand". Selye defined two types of stresses, eustress and distress. The first is healing or pleasant, the

second produces diseases or is un pleasant. To explain the body's reaction to stress Selye Formulated the General Adaptation Syndrome (GAS) The body goes through 3 states in a damaging situation. The first is the alarm reaction exposure to a stimulus to which the body has not yet adapted. The next stage is the resistance the body adapts, and the third stage is exhaustion because the body has a finite ability to adapt, it becomes exhausted and so death will follow if the stress continues.

The health & Safety Executive (HSE) defines stress as "the adverse reaction people have to excessive pressures or other types of demands placed on them".

STRESS AND INFORMATION TECHNOLOGY SECTOR

The term *Information Technology* came around the 1970s. Its basic concept, however, can be traced back even further. Throughout the 20th century, an alliance between the military and various industries has existed in the development of electronics, computers and information theory. The military has historically driven such research by providing motivation and funding for innovation in the field of mechanization and computing.

The first commercial computer was the UNIVAC I. It was designed by J. Presper Eckert and John Mauchly for the U.S. Census Bureau. Since then, four generations of computers have evolved. Each generation represented a step that was characterized by hardware of decreased and increased capabilities. The first generation used vacuum tubes, the second used transistors, the third integrated circuits, and the fourth used integrated circuits on a single chip. The late 70s saw the rise of microcomputers, followed closely by IBM's personal computer in 1981.

According to the article 'Doctors blame Stress for Infertility' written by Aranab Ganguly and Prithvijit Mitra, (29, May 2007, 02. 24 hrs IST TNN) 'If you have been trying to fit in 'making a baby' into your 24x7 schedule, and failing repeatedly, then take heart. You may not be infertile. You just need to snuggle under the covers more often. More and more working women in Kolkata are turning up at infertility clinics due to stress induced problems. But at least one in every five can be cured with simple measures like a healthier lifestyle and close companionship, say fertility experts. Kavita Rajvanshi is a case in point. Already in her mid-30s and married for 15 years, she has found it impossible to conceive. Convinced that something was wrong with her, she visited an infertility clinic two months ago and was quite taken aback by the medical advice: she was all right and needed to spend more time with her husband. The doctors

had found that her husband, a jet- setting software professional, stays abroad for most part of the year. Work-related stress, long working hours and erratic schedule are taking a toll on couples in Kolkata. Women, in particular, lose interest in leading a normal conjugal life, doctors say. And it is women in the IT sector who fare the worst, with long working hours that leaves hardly any time for personal life. Women from the IT sector are followed by those working in BPOs, multinational banks and investment companies. So do women husbands are in the marketing sector and often go on long tours. In the IT sector, software professionals who frequently have to travel abroad are the most stressed out. And young women in BPOs, who have to work night shifts, are so stressed out that they do not have a routine, conjugal life.

“There are many women who believe that they are infertile. Even if we show them the test results they refuse to believe that there is nothing wrong with them. They just need a normal sex life. There are many who have lost interest in sex because of stress., “said Rohit Gutgutia(Sexologist).

According to Arnab Deb, Infertility Expert. “Some Women in the IT Sector are usually put off marriage due to pursue in their careers. By the time they decide to have a child, they are too stressed out. Before going for any tests we try to find out the couple’s background to ascertain whether any external causes are present”

Naveen Jaiwal, Chief Technical Officer, Vehere Interactive Pvt.Ltd, an outsourcing firm, recalled his experience with the BPO that the company once-ran. “There were many couples working in the BPO. Schedules became a problems because we couldn’t accommodate all the couples in the same shift. This is how life is in the 21st century and there can’t be any prescribed solution, “

According to CR Chandrashekar, head of the Department of Psychiatry or NIMHANS (National institute of Mental Health and Neuro Surgeons) Bangalore;

“A lot more software engineers are working in with stress related problems now than an year ago. These ways complain of lack of appetite, body pains, anxiety, restlessness and poor concentration which are clear symptoms of stress. Some are burned and other suffer from depression and anxiety. It is her workload and competition. Another factor is the fear that their job will not there is the next day”.

According to R.Srinivas, who has worked at Bangalore’s St.John’s Hospital’s Psychiatry Department to the past 18 years, “Most of the burning software professional are between 24-30

years of age. They work for very long hours alone in a cubicle. The suffering is more when deposit all this there is a fear of being pink-slipped. Most of the cases among to hospitals are burn-cut cases. But the number of stress related cases are also rising steadily.

According to Ali Khwaja, Director of Helping Hand, a voluntary counseling group, “Roughly three software engineers are being counseled every day here. A year ago we would have one every three of four days. There are a lot of family members especially spouses, girlfriends and fathers coming in for counseling also. Software professionals are earning too much too early. Being in a group which is comprising of young people without proper responsibility or projecting they have no responsibility is a disadvantages. Costly cars, latest mobile phones, brand new apartments and a fat bank balance are taken as symbol of prosperity. When one adds a fragile ego to that list, we can clearly see they are caught up in a strange environment”.

The Department of psychology of the University of Aarhus is working on a range of studies into the psychology of work related stress. Areas covered include:

- Psychosocial work environment.
- The importance and meaning of work, what elements of work are most important from a psychosocial perspective.
- Burnout .
- Bullying.
- Violence.
- Working time, psychosocial work environment, health, and prevention. Participate., regulation and prevention in the psychosocial work environment.

A study by Switzerland State Secretariat for Economic Affairs has found that stress related problems cost the country an estimated 1.4% of its annual gross national product. Roughly half of these costs are due to lost production and the other half due to health and social security costs. Most of the stress related disorders are not covered by employee insurance schemes. To help reduce these costs, the Swiss National Accident Insurance Fund has launched a stress prevention including a video/DVD, booklets and a promotional monster called ‘Stressy.’ The materials are available in German, French and Italian.

Inspectors in Sweden have been mediating between workers and employers in a new stress reduction programme. Funded by the Council for Work Research and carried out by the Orebro Work Environment Inspectorate, trained labour inspectors ask employees to complete a questionnaire and invite a small group of them to discuss the survey's findings, with two inspectors acting as objective moderators in the debate. The inspectors then present the result of these discussions and their recommendations to the employee's management team. Recommendations typically cover issues such OSH training for management and their staff, clearer lines of responsibility and the need for social support and feedback mechanisms at work. According to the Study Conducted by **Eugene Kaluzniacky**, University of Winnipeg&Manitoba, Canada

(Study topic -*Work stress Among Information Systems Professionals in Manitoba*)

Main Reasons for increasing the stress day by day for by Information System PROFESSIONALS are

- Rapid Changes
- Need to perform more with less.
- Increase in computer use.
- Unrealistic expectations of users.

Other *Findings of the Study*

- 39% Information System Managers are not aware enough of stress.
- 54% of absenteeism due to stress.
- 45% professional believes that deal lines of their job are not reasonable.
- 53% feels that their job is much stress full.

The purpose of his research is to assess the degree of reported job stress among International system professionals in Winnipeg, Manitoba, Canada and other Manitoba centers, and to determine which hypothesized factors are reported by a majority of employee as being major contributors to their stress. Analysis are currently being carried out to investigate a significant relationship between reported degrees of experienced stress, perceived stress factors, and personal characteristics of the employee, the computing environment (technical and managerial) and the employing organization. Preliminary results were reported in 1999. Insights

from this exploratory research should be of significant value to information System managers as well as Human Resource staff. In today's competitive environment, organization should indeed be interested in maintaining a work atmosphere conducive to creative effort. Some have taken rather 'radical' approaches, such as nap or meditation rooms, to help the employees remain contented and productive.

Psychologist May Riley Published a stress-related study applied to individuals working in computer-related fields. In it, they remark: "Information processing professionals see change in technology as a pre-requisite for their existence, yet the speed of this change can have profound psychological and physiological effects". In their survey with 231 responses, "a large majority agreed with the statements that change in computer technology creates pressure". The authors conclude that "the men and women who plan, design, and monitor these systems have experienced greater techno stress in their jobs and environments". Such techno stress is not at all likely to disappear in the foreseeable future.

According to Skill Soft MD, Kevin Young: "Our research was sparked by a recent Garner report which claims that the untrained or under-trained desktop user will cost an organization five times more to support than a well-trained worker. This led us to thinking about how much pressure this must also put on the IT professionals who have to provide such support. By commissioning this study, our aim was to establish to what level workload affects the stress levels of people working in IT and across a variety of other job disciplines; and to learn more about the sort of other factors that impact on stress in the workplace. 97 per cent of people working in IT claim too find their taken time off suffering with stress . IT is the leading among Top Stress full jobs.

According to the study by Mitian Faindation, a Bangalore based voluntary association of practioney doctors,

Six software professionals under the age of 33 have died and two top executives from renowned software companies have become paralyzed because of stress-related heart ailments in the last six months in Chennai.

According to Dr.Dwarakanath,, Director of Mitran Foundation, who has studied stress components in 40 software companies in Chennai , "All the six who died, and the two who become invalid, had no family history of heart attacks or any pre-history of heart ailments or paralysis. They were all in their prime, between 27 and 33 years, and handled challenging project

at work in their respective companies. They worked long and continuous hours. The end struck them very suddenly, and it looked as if their hearts refused to take any more stress.” This study was a follow-up of Mitran Foundation’s four-year detailed national study stress-related ailments for working professional. It concludes that software professional have pushed doctors to second position in being prone to stress-related information technology sector in and around Chennai. With the expansions and this year. The Tamil Nadu government has given clearance for 40 more IT parks in and around Chennai. This means jobs for another 75,000 professionals. IT investment in the state has risen from Rs.1,100 crores in 2001 to Rs.6,500 crores today. But the question of whether there has been a simultaneous improvement in the quality of life of software professionals remains unanswered. The study, conducted at a cost of Rs.45 lakhs, covered more than 4,000 software professionals from 80 companies who were in service for a minimum of three years. The email responses were scientifically tabulated and the findings were ready in 2002. Dr. Dwarakanath, who was the late Dhirubhai Ambani’s personal stress management consultant, said questionnaires extracting every minute detail were sent to the respondents. The personal background, family history and personal characteristics of these individuals were assessed and it was found that the stress in these professionals was only due to work pressure. All other factors were eliminated.

“Dr.Dwarakanath adds, “Our study confirmed that the number of suicides, divorces, heart ailments, BP and diabetes patients and mental depression are the highest in the software industry. The fancy salaries of software professionals are no longer something to rejoice about. We found that the software industry has simply no routine. Deadlines hang before them and very day they chase new problems. During weekends more than 60 per cent of the vehicles are found parked in the office complexes. There is no physical exercise and new food habits favoured by pizza culture fuel the problem. Cervical spondilitis and wrist problems due to uncomfortable handling of the computer mouse, eye problems and discomfort in bowel movements are common. The stress for couples where both are employed in the IT industry is the worst. The simple step of taking time off from work for three months allowed an IT couple wanting a child for years to conceive one”.

According to Sri. M.T.R.Venukopalan, Senior Training Coordinator, Covansys India, “IT professionals were the most stressed individuals. Even if the company sponsors a movie or self-care lecture, not many attend them”

According to the survey developed by RHI Consulting, a leading specialized consulting organisation that provides information technology professionals on a project and full-time basis, “More than half (55 percent) of chief information officers (CIOs) polled cited rising workloads as the number one source of stress in the workplace. Office politics ranked second with 24 percent of the response”.

Study includes responses from 1,400 CIOs from a stratified random sample of U.S. companies with more than 100 employees. CIOs were asked, “ Which of the following do you think is the greatest source of workplace stress for IT professional ?”

Their responses:

- Rising workloads-55%
- Office politics-24%
- Work/life balance issues-12%
- Commuting-4%
- Pace of new technology-1%
- Other-%
- Don't know/no answer-3%

Many aspects of Jobs in Information Technology Sector which are currently practiced, require sophisticated skills. Given the current state of Information Technology., craft skills are necessary for the successful practice of software and hardware engineering but they are not sufficient to satisfy the ever-increasing demands for high quality software and hardware , developed in a timely and economical manner. Factors that dictate the need for professional engineering skills include the size and complexity of modern software-intensive systems, the variety of skills required to build and maintain these systems, the rate of technological innovation, and the ever expanding realms of applicability of software with attendant requirements for trustworthiness (safety, security, reliability, and availability) Satisfaction of these needs requires the skills of professional practitioners. Today the Information Technology sector is treated as a place where dreams are awaiting. Right brains are paid best in the Industry. Now-a-days Technology is updating day by day. The expansion of technology has resulted in heightened expectations for productivity, speed and efficiency, increasing pressure on the individual worker to constantly operate at peak performance levels. Professionals in the Information Technology Sector are working with their brains under constant stress to remain

alert for hours . In this case both the worker and their family members live under constant mental stress. There is also the constant pressure to keep up with technological breakthroughs and improvisations, forcing employees to learn new software all the times.

Jobs in IT industry undoubtedly involve high levels of stress in the form of tight target deadlines, monotonous nature of job and night shifts. When a call centre employee died at his office collapsing on the floor at Thiruvanniyur, it evoked a deep sense of fear and anguish among other employees leaving them wonder whether stress could actually cause death. Dr Sunil Shankar, behavioural psychiatrist commenting on the matter says that chances of death due to continuous high stress levels could not be completely ruled out. 'Stress by itself is not dangerous. When it goes unattended and unmanaged it could well result in death'. He adds 'stress is a killer, it sometimes has no warning signs outwardly but remains within a person inducing suicidal implications in him and shortens his life span'. The primary source of stress has got to do a lot with one's profession and work atmosphere. Especially in places like call centres where youth spend most of their time on the phone and in front of computers having to convince people in far away lands, it would be pretty tough, Dr Sunil says. On a solution, the behavioural psychiatrist said, there was no effective mechanism to 'completely curb stress.' An individual needs to understand that certain work place pressures like targets are a daily thing and having to work at unearthly hours are an occupational hazard and should learn to live with it. When it becomes unmanageable medical help could be sought and it is absolutely possible to put things straight, he says. The heads of BPOs should do more to help their employees fight and manage stress. HR Professionals with knowledge and training in human psychology could be an asset in these new work places of the globalised world', the psychiatrist said.

The problem of stress has become a major issue in our time, yet our life conditions are less stressful than those of our ancestors. How often do we have to flee from a wild animal, or face constant physical threats from the environment as did early man in whom the stress response first emerged? The answer is never, or at worst most infrequently. Conditions in contemporary society are less stressful than those of previous generations. Our society does, however, face problems of stress, many of which are created by changes in technologically advanced societies. The demands that trigger the same 'fight or flight' mechanisms that enabled our ancestors to survive may no longer be appropriate to the modern age, yet nevertheless still exist.

Davis and Blomstrom (1975) have observed an analogous situation to that described by Lewis Carroll (1865) in Alice's Adventures in Wonderland : "You have to run as fast as you can to stay where you are." Both these views would appear to support the contention that technological change per.se. does not necessarily cause stress, but that it is the rate of technological change which leads to stress.

Technological change where job security is threatened , coupled with feelings of not being able to adapt to a new situation are causes of stress amongst the workforce. In the early 1980's, technological change must have caused stress to the workforce of National Cash Register (NCR), where the invention of a tiny silicone chip that replaced most of the mechanical parts used in making cash registers led to a drastic downsizing of the workforce; at Dayton, Ohio, the workforce was reduced from 20000 to 5000, and world-wide from 103000 to 65000 employees. Not only was the workforce diminished, but the nature of the jobs was also dramatically altered. Thus job insecurity, job loss and job changes would be contributory factors in increasing workplace stress in employees.

Maharishi Mahesh Yoga has defined stress as 'that which blocks the full expression of creative intelligence'. Hence he discusses the relationship between stress and creative intelligence. In certain respects there appears to be confusion here in that it has been established that creativity and intelligence are different and separable (Wallace and Kogan, 1965), where individuals may be divided into four distinct groups : creative and intelligent; creative but not intelligent; not creative but intelligent; and not creative and not intelligent. However, the basic thrust of his argument is taken to mean that stress causes people to under-perform, and that technology could remove the more mundane aspects of life and allow the individual to concentrate on higher level things. Yes, it must be true to say that people should be free to express their creative intelligence and that computer technology allows us to do this, but only up to a point. An individual using a computer program may feel that they are being creative, but they can only be as free to be creative within that program as the person who wrote the program has allowed. No program yet produced can possibly take into account all nuances of individual thought and channels every individual would like to follow and so in this respect the incentive to develop creative intelligence further has been removed. It could be argued that the truly creative person is the developer of the program, but again this is constrained by the type of computer package under consideration. An interesting avenue to explore along this particular path is that of

artificial intelligence, where problem solving, itself a core value of creativity, is effected by computer. Many psychologists hold the view that humans and computers are similar in that they are both information-processing systems and as such exhibit similarity between the sequence of inferred events in human memory and the actual steps of a computer program that handles the storage and retrieval of various materials. Newell and Simon (1972) were able to produce reasonably good simulations of human performance on a variety of problems with their General Problem Solver, but the pre-requisite for this was that in the computer simulation, precise states had to be defined for the activity to take place. In human activity states for problem solving are not always so carefully set out, and this is where the application of creative intelligence comes into play. To reinforce the assertion made earlier, the creativity of the computer user is only as good as the routes defined within the computer program and therefore creative intelligence may not be expressed to the full, it may become frustrated and lead to the individual experiencing stress. If this is the way forward through the use of the modern technology as in the definition, then the individual has been robbed of the incentive to develop creative intelligence.

The view is advanced here that it is not possible to render society stress-free, unless that society is sublimated into an unthinking, unaware state that exists in a rigid environment that has no vitality. To make society stress-free is to ask its members always to move away from a potentially stressful situation, and clearly this is not always possible or even desirable. It is well recognised that where an individual is placed under no or too little pressure that stress will occur through boredom and performance will be low. Clearly, at the other extreme, too much pressure also leads to stress and again performance tails off. An intermediate, or optimum state is required and this is where the importance of being able to manage stress is required. The contention here is that all individuals react differently to real or imagined threats, individual coping methods will be necessary. In summary, to make society as stress proof as possible it is suggested that individuals cope with stress by learning to avoid situations they know will cause them stress; they cope with stress by learning to change their perceptions of situations and the labels they attach to them; and they cope with stress by controlling the stress response by doing such things as taking exercise to become fitter, learn how to switch off and learn appropriate techniques of relaxation.

CONCLUSION

As a conclusion the researcher is able to say that the research topic- To study the stress of IT Professionals is an unlimited area of study. Stress can be generate from any corner. It can be related to job or family environment.

Today, the term Information technology has ballooned to encompass many aspects of computing and technology and the term is more recognizable than ever before. The information Technology umbrella can be quite large, from installing applications to designing complex computer networks and information databases.

IT industry is a highly paying sector. So youth are attracting towards the profession without thinking much. Doubtlessly we can say that Information Technology is a sector where each development is eagerly analyzing from all part of the world. So who can think fast and perform can only Survive. Competition is also so severe in this field. These factors add the load over the professionals.

IT is a sector with stress. Many ignore he stress factors just for money. But it will cause dangerous after effects. So awareness should be given to Professionals. They should seek for solutions in order to overcome Stress.