

Measuring Occupational Health and Wellness among the Employees Working in it Industry

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Abstract

Today, due to technological developments, the usage of computers in the industrial sectors is unavoidable. Continuous use of computers is leading to Ocular, musculoskeletal, postural and even neurological problems among IT Professionals. Present attempted few important facets of work environment and other related factors to cause for the issues faced by the professional working in information technology industry.

This study is the nature of descriptive research design. Both primary and secondary data used to measure relevance of this study. Sample size for this study has finalised as 300 and the researcher has adopted stratified random sampling for the collection of responses. Major findings of this study are: Most of the 270 professionals who have surveyed out of 300 consisting 90 per cent are in the age group between twenty one to thirty years. The highest average score of 4.47 has observed with the company organizes health and safety training programs. It implies that 89.4 percent of the professionals who have surveyed that describes strongly agreed the company organizes health and safety training programs according to employees ' needs.

Major suggestions of this study are: If the employees are concentrating to spent more on over time, it will cause for ill health and wellness also affected. Hence, the organisations must fix the optimum time to the employees to work as well as limit the over time. Most of the them are not at all taking break properly during the work. It may leads to heal related problems. Organisations must try to provide compulsory break time during the work as a welfare measure to reduce health related problems. Organisations must ensure to offer proper work environment to increase the efficiency as well as effectiveness of employees to perform their work.

Keywords: Physical Work Environment, Health Care Initiatives, Health Related Outcome

1. INTRODUCTION

The Information Technology (IT) industry has become one of the most robust industries in the world. This industry, more than any other industry or economic facet, has an increased productivity, particularly in the developed world, and therefore is a key driver of global economic growth. The World Health Organization (WHO, 2018) had estimated that in the year 2020, over 60% of the North American workforce used computers. According to the Bureau of Labor Statistics (BLS), 77 million Americans are using computer at work which represents over half of the total employed American public. In addition, with continual technological advancement, future work trends indicate that this type of work is expected to

represent an even greater percentage of jobs in future (NRC, 2020). In Australia, 66% of adults are using computers at home and/or at work (Australian Bureau of Statistics, 2011).

Today, due to technological developments, the usage of computers in the industrial sectors is unavoidable. Continuous use of computers is leading to Ocular, musculoskeletal, postural and even neurological problems among IT Professionals. Additionally, the mental stress created by project deadlines and imbalance between their professional and personal life add fuel to this problem. The professionals working in the Information technology industries have acquired the technical skills to operate the computers but do not possess the health related knowledge which is quite essential to protect themselves from the ill effects of computers, since the employees are not exposed to such knowledge at their educational level as well as at the company level at the time of recruitment. Though not yet a priority factor like recruitment, retention or remuneration, industrial experts believe that it might become a major concern in near future. Most of the corporate industries realize the gravity of this problem, but very few have taken concrete measures to address these issues. Thus, the Human Resource Managers today have a new concern on their agenda tackling health issues of Information Technology Professionals so as to optimize the productivity of these employees.

2. STATEMENT OF THE PROBLEM

Stagnant postures adopted during the computer work for an extended period are also visually demanding in information technology industry and the computer-based workplaces are substantial demands than traditional office work. All these physical factors may lead to the repetitive strain injuries. Dry, irritated eyes and blurred vision are common complaints among the Professional Computer users. Hence, the present study is made an attempt to evaluate the initiative towards health and welfare measures of information technology industry on the perception of employees.

3. OBJECTIVES OF THE STUDY

The following are the primary objectives of this study

1. To scrutinise the profile of the employees in Information Technology
2. To measure the impact of work environment and health related outcome.
3. To understand the impact of factors to determine the occupational health and wellness among the IT professionals
4. To offer valuable suggestions for managerial implications

4. NEED FOR THE STUDY

Even though Information Technology professionals are aware of these health problems, they focus only on the immediate ones. This means that they are not looking at problems which can arise five to ten years down the line. Most Indian Information Technology companies do not pay attention to ergonomics while choosing chairs, seating and lighting arrangements, with many companies are not even following the Industry Standards of designing workstations which require a minimum of 50-60 square feet per individual. Also, the Information Technology industries are not aware of the prevalence of occupational health hazards in the Informational Technology professionals due to the limited availability

of such health data in India. The data so available on health dimensions of workers were taken from foreign population. Through that data, it will be very difficult for the Indian manufacturers to design computer peripherals and furniture for Indian workforce.

5. RESEARCH DESIGN

Descriptive research design is more concerned towards describing the characteristics of a particular individual or the group. So, as to make the specific predictions, with narration of the facts about that group is being studied. Since the research problem is well defined and an attempt is made to describe the existing phenomena relating to various security aspects of occupational Health and Wellness (HW) of Information Technology (IT) employees, this study is fitted into the descriptive in nature. This study is based on the evidence gathered from both primary and secondary sources. The main source of information is gathered from primary data collected through the viewpoint of the professionals who have surveyed. The Stratified random sampling technique was adopted where the whole Information Technology employees working in Chennai district was divided into three strata such as Information Technology (IT) employees, Information Technology Enabled Services (ITES) voice based sector employees and Information Technology Enabled Services (ITES) non voice based sector employees.

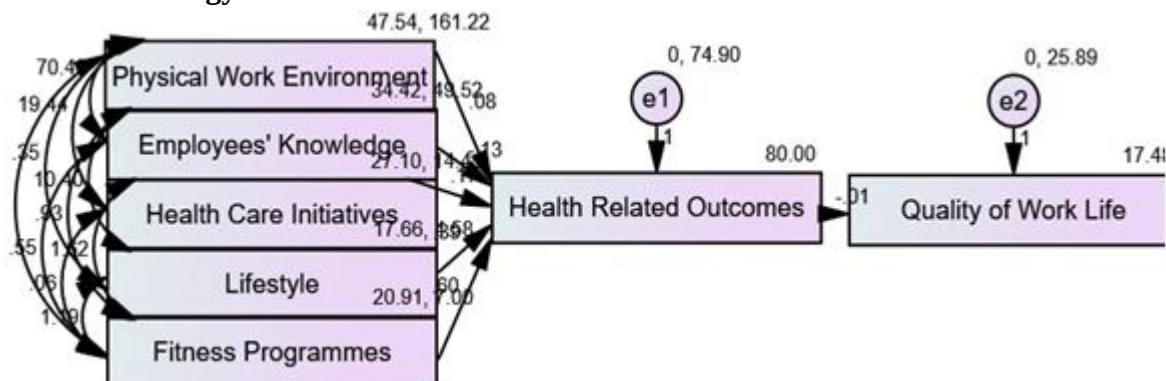
6. DATA ANALYSIS AND DISCUSSIONS

6.1 Assessment of normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
LS	11.000	20.000	-.669	-1.260	-.452	-1.112
HCI	16.000	37.000	.075	.700	-.251	-1.173
EK	15.000	49.000	-.002	-.023	-.971	-1.542
FP	13.000	25.000	-.666	-1.229	.025	.117
PSE	14.000	70.000	-.299	-1.795	-.814	-0.807
HO	72.000	124.000	-.367	-1.436	.407	0.903
PWQ	6.000	30.000	.286	1.672	-.757	-1.540
Multivariate					2.390	1.439

Univariate normality for each variable has tested by the researcher in order to test the distribution of data with the class intervals. Skewness and Kurtosis used to measure the univariate normality. The researcher assumes that the confidence level of ninety five percentage and the allowable portion of error is five percentage. In this confidence level, critical ratio of Skewness and Kurtosis must be in between ± 1.96 . It is inferred from the above table; all the variables have attained the normality.

6.2 AMOS graphically explains the Occupational Health and Wellness Measures for Information Technology Professionals



Understanding the way statistical significance is reported requires understanding the terminology of the model itself. Within the graphical display of the model there are boxes and arrows. Boxes represent observed data and the arrows represent assumed causation. Within the model a variable that receives a one-way directional influence from some other variable in the system is termed "endogenous", or is dependent. A variable that does not receive a directional influence from any other variable in the system is termed as "exogenous" or is independent.

Occupational health and wellness measures for informational technology professionals are explained by five major constructs namely Physical Work Environment (Computer workstation arrangements)(PWE), Employees' Knowledge on the Ideal Computer Station Set up and the Optimal Working Posture (EK), Psychosocial Factors and Work-related Quality of Life(PF), Health Care Initiatives taken by the Top Management(HC), Life Style Determinants of the Employees on Health and Wellness (LS) and Fitness Programmes [FP].Based on the standardized regression estimates reveals the following observations. Fitness programmes (FP) has significant and positive influence to determine health related outcome (HO) by 0.177. Lifestyle (LS) has significant and positive influence to determine health related outcome (HO) by 0.094. Health care initiatives (HCI) has significant and positive influence to determine health related outcome (HO) by 0.072. Physical work environment (PSE) has significant and positive influence to determine health related outcome (HO) by 0.118. Employees' knowledge (EK) has significant and negative influence to determine health related outcome (HO) by -0.104. Health related outcome (HO) has significant and negative influence to determine quality of work life (PWQ) by -.011.

6.3 Regression Weights for expectations of Occupational Health and Wellness measures for Information Technology Professionals

	Estimate	S.E.	C.R.	P
HO <--- FP	.596	.147	4.063	***
HO <--- LS	.391	.185	2.112	.035
HO <--- HCI	.170	.112	1.515	.130
HO <--- EK	-.132	.088	-1.495	.135
HO <--- PSE	.083	.049	1.683	.092

	Estimate	S.E.	C.R.	P
PWQ <--- HO	-.006	.025	-.250	.803

Based on the unstandardized regression estimates reveals the following observations. Fitness programmes (FP) has significant and positive influence to determine health related outcome (HO) by 0.596. Lifestyle (LS) has significant and positive influence to determine health related outcome (HO) by 0.391. Health care initiatives (HCI) has significant and positive influence to determine health related outcome (HO) by 0.170. Physical work environment (PSE) has significant and positive influence to determine health related outcome (HO) by 0.083. Employees' knowledge (EK) has significant and negative influence to determine health related outcome (HO) by -0.132. Health related outcome (HO) has significant and negative influence to determine quality of work life (PWQ) by -.006.

6.4 Standardized Regression Weights

	Estimate
HO <--- FP	.177
HO <--- LS	.094
HO <--- HCI	.072
HO <--- EK	-.104
HO <--- PSE	.118
PWQ <--- HO	-.011

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6.5 Model Fit Summary

6.5.1 CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	30	214.033	5	.000	42.807
Saturated model	35	.000	0		
Independence model	14	908.427	21	.000	43.258

NPAR is the number of distinct parameters (q) being estimated. Two parameters (two regression weights, say) that are required to be equal to each other count as a single parameter, not two. **CMIN** is the minimum value, $\hat{C}$, of the discrepancy, C . **P** is a "p value"

for testing the hypothesis that the model fits perfectly in the population. P value which exhibits the value is less than 0.05. Hence, the model fits perfectly in the population.

6.5.2 Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.764	.610	.769	.611	.764
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

NFI, Models with overall fit indices of less than 0.9 can usually be improved substantially. These indices, and the general hierarchical comparisons described previously, are best understood. (Bentler&Bonett, 1980, p. 600, referring to both the **NFI** and the **TLI**).

The **RFI** is obtained from the **NFI** by substituting F/d for F . **RFI** values above 0.5 indicates a better model fit. **IFI** values above 0.5 indicate a better model fit. The typical range for **TLI** lies between zero and one, but it is not limited to that range. **TLI** values above 0.5 indicate a better model fit. The **CFI** is identical to the McDonald and Marsh (1990) relative non centrality index (**RNI**), except that the **CFI** is truncated to fall in the range from 0 to 1. **CFI** values above 0.5 indicate a better model fit. NFI value is less than 0.88, which implies that this model improved substantially good model. RFI the rho1 value is 0.63. Hence it is inferred that it is good fit. IFI the value of delta2 is 0.70. Hence it is inferred that it is very good fit. TLI the rho2 value us 0.66 is close the high range. This infers that it is very good fit. CFI also close the above 0.5. This indicates the better fit for the model.

6.5.3 RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.002	.001	.005	.000
Independence model	.004	.001	.005	.000

The columns labelled **LO 90** and **HI 90** contain the lower limit and upper limit of a 90% confidence interval for the population value of **RMSEA**. Value of the RMSEA of about 0.05 or less would indicate a close fit of the model in relation to the degrees of freedom. It cannot be regarded as infallible or correct, but it is more reasonable than the requirement of exact fit with the RMSEA = 0.0. Value of about 0.08 or less for the RMSEA would indicate a reasonable error of approximation and would not want to employ a model with a RMSEA greater than 0.1." (Browne and Cudeck, 1993).

From the above table, it is inferred that the RMSEA value of less than 0.05 which indicates the low level approximation of error in this model and it is close fit the model in relation to the degree of freedom. P close value used to test the hypothesis with the model and degree of freedom. Hence it if inferred that this model significantly fit for measuring Occupational Health and Wellness of Informational Technology Professionals.

7. FINDINGS OF THE STUDY

Findings of this study were organised in order to attain the research objectives of this study.

The following are the major findings of this study.

- Most of the 166 professionals who have surveyed out of 300 consisting 55.33 per cent are female. They are working in Information Technology Enables Services.
- Most of the 270 professionals who have surveyed out of 300 consisting 90 per cent are in the age group between twenty one to thirty years.
- Most of the 172 professionals who have surveyed out of 300 consisting 57.33 per cent is Single.
- Most of the 212 professionals who have surveyed out of 300 consisting 70.67 per cent have completed Under-graduation.
- Most of the 177 professionals who have surveyed out of 300 consisting 59 per cent are working between twenty one to forty hours per week.
- Most of the 160 professionals who have surveyed out of 300 consisting 53.33 per cent are not having any shift systems in their organisations.
- The highest average score of 4.44 has observed with management has offered excellent fitness services for all campus employees (e.g. Gym & fitness centres). It implies that 88.8 per cent of the professionals who have describes strongly agreed that management has developed excellent fitness services for all employees.
- The highest average score of 4.47 has observed with the company organizes health and safety training programs. It implies that 89.4 percent of the professionals who have surveyed that describes strongly agreed the company organizes health and safety training programs according to employees ' needs.
- Fishers test reveals that the configuration of workstation is adequate to allow for a variety of comfortable sitting positions which does vary with health related outcome of the professionals working in IT services.
- Fishers test reveals that the indoor environmental parameters like efficient management of temperature ,illumination arrangements and reducing noisy environment in the work area are to the employees to work comfortably which does vary with health related outcome of the professionals working in IT services.
- Fishers test reveals that the back rest in the chairs given to the employees to work more efficient to moved up and down to the requires when operating which does vary with health related outcome of the professionals working in IT services.
- Fishers test reveals that the job stress management practices which does vary with health related outcome of the professionals working in IT services.
- Fishers test reveals that the Organisation has introduced various wellness programs to the workers and occasional conducting a kind of safety test which does vary with work related quality life of the professionals working in IT services.
- Feel so depressed with the allotment of work has the highest degree of relationship of 88.6 per cent with the deadlines were given by the organisation that are too difficult to meet out. Feel depressed has significant as well as positive correlation with the too many deadlines in work that are difficulty to meet.
- Deadlines in work that are difficulty to meet has highest degree of relationship of 82.4 per cent with the feel depressed. Too many deadlines in work that are difficulty to meet has

significant as well as positive correlation with the feel depressed.

8. SUGGESTIONS OF THE STUDY

The following are the major suggestions of this study.

- If the employees are concentrating to spent more on over time, it will cause for ill health and wellness also affected. Hence, the organisations must fix the optimum time to the employees to work as well as limit the over time.
- Most of the them are not at all taking break properly during the work. It may leads to heal related problems. Organisations must try to provide compulsory break time during the work as a welfare measure to reduce health related problems.
- Organisations must ensure to offer proper work environment to increase the efficiency as well as effectiveness of employees to perform their work.

9. CONCLUSION

Today, due to technological developments, the usage of computers in the industrial sectors is unavoidable. Continuous use of computers is leading to Ocular, musculoskeletal, postural and even neurological problems among IT Professionals. Present attempted few important facets of work environment and other related factors to cause for the issues faced by the professional working in information technology industry.

Major findings of this study are: Most of the 270 professionals who have surveyed out of 300 consisting 90 per cent are in the age group between twenty one to thirty years. Most of the 212 professionals who have surveyed out of 300 consisting 70.67 per cent have completed Under-graduation. The highest average score of 4.47 has observed with the company organizes health and safety training programs. It implies that 89.4 percent of the professionals who have surveyed that describes strongly agreed the company organizes health and safety training programs according to employees ' needs. Fishers test reveals that the indoor environmental parameters like efficient management of temperature , illumination arrangements and reducing noisy environment in the work area are to the employees to work comfortably which does vary with health related outcome of the professionals working in IT services. Feel so depressed with the allotment of work has the highest degree of relationship of 88.6 per cent with the deadlines were given by the organisation that are too difficult to meet out. Feel depressed has significant as well as positive correlation with the too many deadlines in work that are difficulty to meet. Major suggestions of this study are: If the employees are concentrating to spent more on over time, it will cause for ill health and wellness also affected. Hence, the organisations must fix the optimum time to the employees to work as well as limit the over time. Most of the them are not at all taking break properly during the work. It may leads to heal related problems. Organisations must try to provide compulsory break time during the work as a welfare measure to reduce health related problems. Organisations must ensure to offer proper work environment to increase the efficiency as well as effectiveness of employees to perform their work.

Hence, it is infers that Most of the them are not taking break proper during the work. It may leas to heal related issues. Organisations must try to provide compulsory break during the work to reduce health related issues.

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