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DOES ERGONOMICS AUGMENT EMPLOYEE INVOLVEMENT AMONG THE EMPLOYEES OF IT SECTOR: AN EMPERICAL STUDY

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***ABSTRACT**--In the present period, the idea of ergonomics has become the need of every work place. Ergonomics plays important role in the organization. Ergonomics is offering an environment that facilitates best to the employee's performance in overall productivity of the organization. Employees are the one of the most important asset for any organization. Ergonomics helps to solve the problems related to organizational work stress in the job environment, occupational health and safety problems, and low efficiency level and job issues. Ergonomic is the technology used to align activities and the environment with the employee's skill and need to improve performance and improve health and safety. The continuous work in the organization cannot be monitored by employees and their ability of muscle may be limit to sustain contraction and physical fatigue. Ergonomists and other researchers had studied the effects of several work factors on performance including the rate of work and amount of duration of work and the effects of design proper pattern of ergonomic. The main objective of the study was to find out the level of ergonomic activity based on employee performance and the involvement of employees in the IT sectors. Two standardizedquestionnaire were used to gather data from 100 IT employees. The statistical method used in the research included descriptive statistics, t-testing, and correlation. The study found positive association to occur.*

***Keywords**--Ergonomics, occupation health, performance, job environment.*

I. INTRODUCTION

Ergonomics is the science of balancing working conditions and job demands on the working population's capacities. Ergonomics offers guiding principles for healthy use of devices, equipment, job process and workplaces. A machine's efficiency depends on the worker's ability to effectively and accurately control it. The fact that workers can work in poorly designed workplaces does not mean that this is the most efficient manufacturing method; workers should be able to operate machines in the least successful manner.

Workplace defects may not result in immediate body pain, but over time the failure of the body to adapt results in muscle disorders. So ergonomics plays an important role. Ergonomics should not be perceived as problem-finding, but rather as solving problems and can be applied to any industry. The aim of ergonomics is to maximize

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the relationship between the individuals, the job and the environment by adjusting the work of the people to be within their capacities in a cost effective manner. This will result in low risk of injury and disease, improved job performance and work quality, in addition to improving the organizations well being due to lower operating costs, stable workforce and improved morale. The communication between the worker and the computer in a specific workplace, which is located in a particular environment, accomplishes a task. In terms of its size a equipment or machinery layout, the workplace is described. These two factors will affect the workers posture and distances of reach, and will have an impact on comfort and efficiency as a result. The atmosphere of the company will be defined by the office temperature, lighting noise and vibration etc. So there arises the necessity of a fully fledged ergonomics in every organization.

Ergonomics refer solving the complex relationship between workers and their work place..Ergonomic intervention have the potential to improve operational performance and employees well being. The good ergonomic climate helps the employee to perform their work effectively and also helps the employee to deliver their assigned task. The main problem of any company is non flexibility in the workplace; it affects the employee in the negative manner like stress, high pressure, inadequate work place design etc. Ergonomics helps the employees to achievetheir target within the specified time limit and to attain the organizational goal at a faster pace. Ergonomic helps to evaluate the employee involvement in day to day activities of the company. Hence ergonomic helps to increase the job satisfaction and to decrease the stress level and also helps to increases the efficiency of the employee in the organization. The satisfied job environment will definitely improve the productivity of the organization.

II. LITERATURE REVIEW

1. Rethy (2018) made a survey on “a comparative study on PQM practices of private and government schools in Mysuru city”. The study’s goal was to compare both private and government schools overall quality management. The research sample is made up of 100 Mysuru government and private school teachers. TQM scale was used to collect data. For the analysis of the data, statistical techniques such as mean, standard deviation, t-test wore used.

2. Ashraf (2017) conducted a study on “office ergonomics; deficiency in computer work station design”. The main aim of this study was to study and identify ergonomics deficiencies in computer work station design in typical offices. A sample size of 40 has been collected. A well structured questionnaire was used to collect the data from the employees. From this study it was found that there was serious ergonomics efficiency in office computer work station design, layout and design.

3. Naveed (2014) did a study on “impact of training and development on employee performance: a case study from a different bank sector of north Punjab “. The main objective of the study was to find out the impact of employee training and development on employee performance. The data was collected through structured questioner .The sample size of the study was 100 employees of 11 banks. The statistical tool used was regression analysis. From this study it was found that the study shows the positive relationship between on job training and employees performance and also there was positive relationship between delivery style and employee performance

4. Kingsley (2012) report onthe "impact of office Ergonomics on employee performance: A case study of the Ghana national petroleum corporation". The main objective of the study was to analyze the office design, finishers and furnishing of the head office building of Ghana national petroleum corporation (GNPC) and identify ergonomics features in the design finishers and furnishing in terms of their suitability and comfort of the employees and assess the impact of office ergonomic on the performance of GNPC employee. The study was based on sample size of 88 GNPC staff randomly drawn from various department and units at petroleum house and 10 senior managers. A structured question was designed to collect primary data. It was found that the considerable office ergonomic deficiency which included uninspiring and old fashion office design and decor use a wooden parturition and continues use of un-ergonomics furniture at the petroleum house and it was also found that the ergonomic deficiencies have had varying adverse effect on the performance of GNPC employees.

5. Russell Mathew (2011) conducted the study on "participatory ergonomics: development of an employee assessment questionnaire". The study mainly focused on the need through the development of the employee perceptions of participatory ergonomics questionnaire. A structured questionnaire was designed to access five key components based on review of literature. The study was concluded that the employee perception of participator ergonomics questionnaire was designed to access employee perspective of participant ergonomic program effectiveness and conceptual five factors of the work empirically supported.

6. Jorn (2010) organized the study on "feel free, feel comfortable; an empirical analysis of ergonomics in germen automatic industry". The objective of the study was to examine ways to improve ergonomics on the manufacturing shop floor. It was an empirical study , a sample size of 55 was collected. From the study it was found that plans with the higher implementation degree of ergonomic practices show a better performance in terms of economic and social objective.

7. Emin(2007) manage the study on "the effects of job characteristics and working condition of job performance" the main purpose of the study was to examine the impact on task performance and contextual performance of job characteristics and working conditions in addition to experience and level of education.The study was an experimental study. A sample size of 154 as been collected. From this study it was found that they are substantial relationship between employee performance both job grade and environmental condition.

8. John (2005) coordinate a study on " measurement of management efforts with respective to integration of quality, safety and ergonomic issues in manufacturing industry" the main objective of the study was to identify critical factors that measures management efforts with regards to quality safety and ergonomics issues for the simultaneous improvement . A structured questioner was use for collecting primary data. It was found that some scales or management activities areas were more reliable in measuring potential for improvement in terms of quality. Ergonomics safety and efficiency and simultaneous improvement in the areas of quality ergonomics and safety were found to be reliable.

9. Pascale carayon (2000) handle the study on "work organization and ergonomics". The study mainly focused on the impact of socio-technical and business trends on work organization and ergonomics. The analysis of these study was performed with the use of balance theory, from this study it was found that the issue of changes was examined several element and method wore discussed for the design of change process.

10. Alan (1999) governs a study on "effects of ergonomics management software on employee performance". The main aim of the study was to analyze the effects of using ergonomics work pacing software on typing and

mouse work. The study was experimental study. the sample size of 10 has been collected. The study found that altering users to take more break period and rest time did not impair their overall key stroke and mouse use, but improved their working accuracy.

11. Paul Adler (1997) conducted the study on "ergonomics employee involvement and Toyota production system: a case study of NUMMI's 1993 model introduction". The study analyzes the roots of ergonomics NUMMIS and the response of the company union and regulators with the goal of deepening lean production and ergonomic. The case study was conducted. The primary source of collecting data was direct interview method, which was collected from 60 informers at NUMMI. The study concluded that NUMMIS management did not always provide its workers with a safe workplace of their own accord and Toyota production systems should rely on employee engagement and motivation to produce superior productivity and quality.

OBJECTIVES

- To know the level of ergonomic activity based on employee performance among employees of IT sector with special reference to Mysuru city.
- To evaluate how much employees involve in their day to day works in IT sector with special reference to Mysuru city
- To decide the relationship between ergonomic and employee performance among IT sector employees with particular reference to Mysuru city.
- To analyze weather their exists significant difference in ergonomics activity and employee performance based on gender and locality with special reference to Mysuru city

HYPOTHESIS

- There exists a high level of ergonomics activity and employee performance in ITsector with special reference to Mysuru city
- There is high correlation between ergonomics and employee performance
- There exists a significant difference on ergonomics and employee performance based on gender and locality

III. RESEARCH METHODOLOGY

A survey study has been conducted in order to find out the ergonomic and employee performance in the IT based companies in Mysuru city. Primary data has been used for data collection. The research sample size was 100 workersconsisting of two factors based on thecompany's ergonomics efficiency and employee results. As a sampling method,simple random sampling technique was used.

Tools Used

- Scale on Ergonomic–a formal liker style questionnaire with 5 points of strongly agree, agree, undecided, disagree and strongly disagree. 30 Questions with factors consisting of work place design, furniture, communications, comfortableness, and desktop placements were included.

- Employee Performance – this is also a structured scale with 5 points. 15 Questions with factors consisting of accuracy, paymentsand changes in working culture, stress, relationship were included in the scale.

STASTICAL TECHNIQUES USED

- Statistical overview
- T-test, correlation
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IV. ANALYSIS AND DATA INTERPRETATION

1. To find out the level of ergonomic in IT sector:

A table has been made to assess the level of ergonomic. If the mean score isbetween (1-51) classified as low, (52-101) classified as moderate and (102-150) classified as high .

Table 1: Ergonomic – Statistical overview

Descriptive statistics	**Ergonomic**
Mean	120.43
Standard deviation	10.490

The table's mean value shows 120.43 with 10.490standard deviation. There is a high level of ergonomics behavior among employees in IT firms with special reference to Mysuru city based on the map.

2. To find out the level of Performance of workers in the IT sector:

A table has been made to assess the level of employee performance. If the mean score is between (1-25) classified as low,(25-50) classified as moderate and (51-75) classified as high.

Table2: to find out the level of employee performance

Employee Performance - descriptive statistics

Descriptive statistics	**Employee Performance**
Mean	60.81
Standard deviation	4.688

Table two reveals that with a standard deviation of 4.688, the mean value is 60.81. In the IT companies with special reference to Mysuru region there is a high level of employee performance against ergonomics activity based on the table.

3. To find out the correlation between Ergonomics and Employee Performance

Table 3: Correlation in Ergonomics and Employee Performance

Correlations

	Employee Performance	**Ergonomic**

Employee Performance	Pearson correlation	1	.554**
	Sig-(2-tailed)		0.000
	N	100	100
Ergonomic	Pearson correlation	.554**	1
	Sig (2-tailed)	.000	
	N	100	100

Table three reveals that correlation of ergonomic and employee performance p value reveals that 0.000 hence the results show that there exists a high correlation.

4. Testing the significant difference between gender and location based ergonomics and employee performance.

Table 4: Comparison of Ergonomics based on genders

Gender	**Number**	**Mean**	**Standard Deviation**	**T**	**Sig-value (2-tailed)**
Male	50	120.44	10.176	.009	.992
Female	50	120.42	10.899		

Table four reveals that the data relating to gender wise analysis on ergonomics. The p value shows .992 then there is no significant difference exists in the ergonomic among Male and Female employees in IT companies with special reference to Mysuru city.

Table 5: Comparison of Employee Performance based on genders

Gender	**Number**	**Mean**	**Standard Deviation**	**T**	**Sig-value (2-tailed)**
Male	50	60.46	4.799	-.745	.458
Female	50	61.16	4.595		

Table three reveals that the data relating to gender wise analysis on employee performance. The p value shows .458 then there is no significant difference exists in the employee performance among Male and Female employees in IT companies with special reference to Mysuru city.

Table 6: Comparisonof Ergonomics based on Locality.

Location	**Number**	**Mean**	**Standard Deviation**	**T**	**Sig-value (2-tailed)**
Rural	50	116.98	11.463	-3.467	.001

Urban	50	123.88	8.163		

According to Locality wise analysis on ergonomic, the Table five shows that p value is .001, which indicates that there exists a significant difference in the ergonomics between workers in Rural and Urban IT companies with special regard to the city of Mysuru.

Table 7: Comparison of Employee performance based on Locality

Location	**Number**	**Mean**	**Standard Deviation**	**T**	**Sig-value (2-tailed)**
Rural	50	59.14	4.468	-3.796	.000
Urban	50	62.48	4.329		

According to Locality wise analysis on ergonomic, the Table five reveals that p value is .000 which indicates that there is a significant difference in the ergonomics between workers in Rural and Urban sector of IT companies with special regard to Mysuru city.

V. FINDINGS

1. The level of ergonomic and employee performance exists high level among employees of IT companies in Mysuru city
2. Ergonomic and employee performance have high positive correlation.
3. The analysis of data relating gender wise the ergonomic and employee performance exists no significant difference among employee of IT companies in Mysore city
4. The analysis of data relating to locality wise the ergonomic and employee performance exists the significant difference in the rural and urban sector of IT companies in Mysore city

TENABILITY OF HYPOTHESIS

1. The first theory is fully accepted as there is a high level of ergonomics and efficiency of the employee.
2. The second hypothesis is fully accepted as there is a high positive association between ergonomics and efficiency of the employee.
3. The third hypothesis is agreed in part because there is a major local variation only for employees understanding of ergonomics and employee performance.

VI. SUGGESTION

1. Ergonomic will often improve productivity by designing a job to allow for good posture, less exertion, reaches the workstation becomes more efficient.

2. Ergonomics improves employee engagement. Employee notice when the company is putting forth their best efforts to ensure their health and safety, it increases employee involvement.

3. Ergonomics creates a better safety culture; ergonomics shows the company commitment to safety and health as a core value.

4. Ergonomics should build and encourage the company's safety and health culture, leading to better human performance for your organization.

5. Ergonomics is important because your musculoskeletal system is performed when you do a job and your body is strained by a uncomfortable pose of extreme temperatures or repetitive movement.

6. Systematically reducing ergonomic risk factor results in creating opportunity for significant cost saving.

7. The right ergonomic approach can help the company boost its efficiency by designing a job that allows for good posture, less excretion, less activity and better hikes.

8. By implementing ergonomic it results in effective and successful "fits" assure high productivity avoidance of illness and injury risks and increase satisfaction among the work force.

VII. CONCLUSION

If an employee is not comfortable and feels fatigue during the work hours, it may affect the company turnover and may not be able to attend the office regularly; in order to overcome this, there must be proper office ergonomics to improve the employees performance in the company. The employee must feel comfortable in their work station to do their work properly without any problems. The proper arrangement of employees works station design and proper safety culture helps to increase employee's productivity, increases the enthusiasm of employee. Ergonomic avoids the physical factor that affects employees in the work organization which helps to reduce the burden of employee and employee's health, implementing proper ergonomics in the work organization helps the employees to perform their assigned task successfully, hence there must proper ergonomics in work station so that the employee performance will increase atomically.

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