

Effects of Job Nature on Organisational Ergonomics at Garment Industries

K. Gomathi¹ and Dr. Rajini.G²

¹(Ph.D Research Scholar, School of Management Studies, Vels Institute of Science and Technology & Advanced Studies, Pallavaram, Chennai, India)

²(Professor & Head- MBA (Integrated) School of Management Studies, Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai, India)

Abstract

Ergonomics characterized as human components, is concern and finds data about human conduct, limitation, capacities, and different attributes to the structure of machines ,tools, frameworks, occupations, tasks, conditions, and working environment for safe ,productive, relaxed, and effective human use. **Background:** The garment industry has incredible significance especially in developing countries, for it assumes an imperative job in both business and progress to the industrialization procedure. Now, ergonomic arrangements to be made, for the piece of clothing industry depends on a labour-intensive structure. **Objective:** To study the relationship between job nature and organisational ergonomics. **Methods/Statistical analysis:** Questionnaire was used to collect data from 182 employees working in various garment industry at Thiruppur. Tamilnadu, India ANOVA was applied to measure the significant relationship between job nature and organisational ergonomics using SPSS 21.0. **Findings:** Significant relationship was found between job nature and receipt of beneficial feedback from supervisor or manager on job performance.

Keywords: Ergonomics, Organizational Ergonomics, Job nature, Garment Industry.

Introduction

Ergonomics can be characterized essentially as the investigation of work all the more explicitly, ergonomics is the art of structuring the activity to fit the labourer, as opposed to physically driving the specialist's body to fit the activity. Adapting tasks, work stations, devices, and equipment to fit the labourer can help decrease physical weight on a worker's body and eliminate many hypothetically serious work related musculoskeletal disorders(MSDs). Ergonomics draws on number of logical controls, including physiology, biomechanics, brain science, anthropometry, modern cleanliness and Kinesiology.

A clean fit environment is important for individuals' physical and emotional well-being. At a basic dimension, factors, for example, clean air. Over-burden pressure can result in poor impacts and ready to influence a employee's psychological or physical wellbeing and even influence their work execution. In long run, it specifically influences organization's performance (Boswell, 2006).

Human factors and ergonomics (HF&E) “organisational ergonomics is concerned with the optimization of socio- technical systems, including their organisational arrangements, policies and processes”

Advantages of Ergonomics in Workplace

Here are five of the proven benefits of a strong workplace ergonomics process

- (i) Ergonomics lessen costs.
- (ii) Ergonomics enhances profitability.
- (iii) Ergonomics enhances item quality.
- (iv) Ergonomics enhance representative commitment.
- (v) Ergonomics makes a superior security culture.

Disadvantages of Ergonomics

- Decline of labourer’s self-governance
- Singular weight/surveillance Job expansion
- Multi-abilities necessities worker’s self-rule increase
- Stress increase
- Rigid work design
- Work pace increment
- Work escalation

Review of Literature

During the last few years, ergonomic working environment configuration has turned into a basic issue in numerous organizations. The actualizing of ergonomic practices can be viewed to be a way of keeping up or improve an organization's workforce and manage the intensity condition (Karwowski et al, 1994; Duffy and Salvendy, 1999).

Sen (1984) expressed all assembling enterprises ought to apply ergonomics at the earlier arrange before thinking about different arrangements. Numerous investigations have been demonstrate that, the beneficial outcomes of applying ergonomic exercises and standards in work environment configuration .Studies appeared by applying suitable ergonomic standards amid working environment configuration can lessen numerous undesirable expenses and work environment dangerous (Das and Shikdar, 1999 & Riley and Dhuyvetter, 2000).

The fundamental goal of the examination of the workplace regarding ergonomic viewpoints isn't just to guarantee wellbeing and security of the representatives yet in addition make a work space for them where they can actuate adequately their physical attributes and physiological and mental abilities. In this manner, it is conceivable to expand the effectiveness of the representatives and the nature of the work. In this way, it will be conceivable to expand the adequacy of the representatives and the nature of the work done as is determined in the investigations of Hassal et al., (2015).

As demonstrated in the examination completed by Colovic and Hoffmeister et al., (2014). the creator said wounds coming about because of poor ergonomic conditions can be forestalled with the structure of physical workplace around the somatic needs of individual representatives. Subsequently, it is important to think about physical, psycho-sociological situations and anthropometric ergonomic conditions.

Roth Cynthia (2011) focused that after execution of ergonomics in the organisation performer job easier and keeps your workforce well.

Shruti sehgal (2012) found that the after effects of these review established that the vast popular of trusted that a workspace quality effects of employees and expands their efficiency. Employees in various links have distinctive office plans; each office has one of a kind furnishings and arrangements, lighting and warming arrangements and diverse dimensions of noise. The motivation behind this examination is to find the effect of the workplace configuration factors on employee's profitability. The study uncovers that great office configuration positively affects employee's profitability.

Research Methodology

The plan for the study is to carry out a data collection from garment industry employees, Tiruppur through structured questionnaire. The Sample size is 183 respondents. The questionnaire contained closed end questions consisting of 106 items with five point Likert like scale with intensities varying through Strongly Agree, Agree, Partially Agree, Disagree, Strongly Agree, and To a great extent, To some extent, To little extent, To very Little extent, Not at all and Always, Very Often, Sometimes, Rarely and Never.

Hypothesis 1: There is no significant difference in the mean values of the opinion on, "staff's meeting are regularly scheduled in division" based on job nature.

Hypothesis 2: There is no significant difference in the mean values of the opinion on "I receive recognition for work" based on job nature.

Hypothesis 3: There is no significant difference in the mean values of the opinion on "I am given opportunity to provide input into decisions that affected work" based on job nature.

Hypothesis 4: There is no significant difference in the mean values of the opinion on "I receive beneficial feedback from my supervisor or manager on job performance" based on job nature.

Hypothesis 5: There is no significant difference in the mean values of the opinion on "I feel satisfied with the working hours fixed by the organisation" based on job nature.

Hypothesis 6: There is no significant difference in the mean values of the opinion on “I am given sufficient rest periods within my working day” based on job nature.

Hypothesis 7: There is no significant difference in the mean values of the opinion on “The fixed working hour does not affect my personal life” based on job nature.

Hypothesis 8: There is no significant difference in the mean values of the opinion on “There is suitable space for routine activities” based on job nature.

Hypothesis 9: There is no significant difference in the mean values of the opinion on “I feel motivated even when I am tired” based on job nature.

Hypothesis 10: There is no significant difference in the mean values of the opinion on “My fatigue doesn’t stop me from performing up to the standards of the company” based on job nature.

Hypothesis 11: There is no significant difference in the mean values of the opinion on “Work fatigue doesn’t interfere with my family and social life” based on job nature.

Table-1

ANOVA

Job nature Vs Individual items

Hypothesis No.		Sum of squares	df	Mean square	F	Sig.	Results
Staff’s meeting are regularly schedule in my division							
H ₁	Between Groups	5.414	5	1.083	.706	.620	Accept
	Within Groups	271.602	177	1.534			
	Total	277.016	182				
I receive recognition for work							
H ₂	Between Groups	7.079	5	1.416	1.703	.136	Accept
	Within Groups	147.184	177	.832			
	Total	154.262	182				
I am given opportunity to provide input into decisions that affect my work							
H ₃	Between Groups	8.582	5	1.716	2.435	.037	Accept
	Within Groups	124.774	177	.705			
	Total	133.355	182				
I receive beneficial feedback from my supervisor or manager on job performance							
H ₄	Between Groups	21.825	5	4.365			

	Within Groups	165.596	177	.936	4.666	.001	Reject
	Total	187.421	182				
I feel satisfied with the working hours fixed by the organisation							
H ₅	Between Groups	.637	5	.127	.336	.890	Accept
	Within Groups	67.046	177	.379			
	Total	67.683	182				
I am given sufficient rest periods within my working day							
H ₆	Between Groups	2.826	5	.565	.922	.468	Accept
	Within Groups	108.529	177	.613			
	Total	111.355	182				
The fixed working hour does not affect my personal life							
H ₇	Between Groups	1.748	5	.350	.499	.777	Accept
	Within Groups	124.001	177	.701			
	Total	125.749	182				
There is suitable space for routine activities							
H ₈	Between Groups	2.978	5	.596	2.031	.077	Accept
	Within Groups	51.918	177	.293			
	Total	54.896	182				
I feel motivated even when I am tired							
H ₉	Between Groups	15.237	5	3.047	1.990	.082	Accept
	Within Groups	271.101	177	1.532			
	Total	286.339	182				
My fatigue doesn't stop me from performing up to the standards of the company							
H ₁₀	Between Groups	7.247	5	1.449	1.188	.317	Accept
	Within Groups	216.009	177	1.220			
	Total	223.257	182				
Work fatigue doesn't interfere with my family and social life							
H ₁₁	Between Groups	8.676	5	1.735	1.821	.111	Accept
	Within Groups	168.679	177	.953			
	Total	177.355	182				

H₁₂₄ = There is a significant relationship in the mean values of the opinion on “receipt of beneficial feedback from supervisor or manager on job performance.” based on job nature. P value is 0.001 which is < 0.01. The null hypothesis is rejected and post hoc test is performed.

Table-2

Descriptives

	N	Mean	Std.Deviation	Std.error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Pattern Making	4	2.50	1.915	.957	-.55	5.55	1	5
Cutting	20	3.65	1.309	.293	3.04	4.26	1	5
Stitching	97	4.33	.943	.096	4.14	4.52	2	5
Checking	42	4.40	.767	.118	4.17	4.64	3	5
Ironing	13	4.31	.855	.237	3.79	4.82	3	5
Packing	7	4.57	.787	.297	3.84	5.30	3	5
Total	183	4.24	1.015	0.75	4.09	4.39	1	5

Table-3

Multiple Comparisons

Dependent Variable: receipt of beneficial feedback

Tukey HSD

(I) Job nature	(J) Job nature	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Pattern making	Cutting	-1.150	.530	.257	-2.68	.38
	Stitching	-1.830*	.493	.004	-3.25	-.41
	Checking	-1.905*	.506	.003	-3.36	-.45
	Ironing	-1.808*	.553	.016	-3.40	-.21
	Packing	-2.071*	.606	.010	-3.82	-.32
Cutting	Pattern making	1.150	.530	.257	-.38	2.68
	Stitching	-.680	.238	.053	-1.36	.00
	Checking	-.755	.263	.051	-1.51	.00
	Ironing	-.658	.345	.400	-1.65	.34
	Packing	-.921	.425	.257	-2.15	.30
Stitching	Pattern making	1.830*	.493	.004	.41	3.25
	Cutting	.680	.238	.053	.00	1.36
	Checking	-.075	.179	.998	-.59	.44
	Ironing	.022	.286	1.000	-.80	.85
	Packing	-.242	.379	.988	-1.33	.85
Checking	Pattern making	1.905*	.506	.003	.45	3.36

	Cutting	.755	.263	.051	.00	1.51
	Stitching	.075	.179	.998	-.44	.59
	Ironing	.097	.307	1.000	-.79	.98
	Packing	-.167	.395	.998	-1.30	.97
	Pattern making	1.808*	.553	.016	.21	3.40
Ironing	Cutting	.658	.345	.400	-.34	1.65
	Stitching	-.022	.286	1.000	-.85	.80
	Checking	-.097	.307	1.000	-.98	.79
	Packing	-.264	.453	.992	-1.57	1.04
	Pattern making	2.071*	.606	.010	.32	3.82
Packing	Cutting	.921	.425	.257	-.30	2.15
	Stitching	.242	.379	.988	-.85	1.33
	Checking	.167	.395	.998	-.97	1.30
	Ironing	.264	.453	.992	-1.04	1.57

*. The mean difference is significant at the 0.05 level.

The receipt of beneficial feedback from supervisor or manager on job performance based on job nature differs statistically significant was determined by one-way ANOVA($F(5,177)=4.666, p=.001$).

A Tukey post hoc test revealed that the job nature was statistically significant after taking the stitching ($4.33+-0.943, p=0.004$), checking ($4.40+-0.767, p=0.003$), ironing ($4.31+-0.855, p=0.016$) and packing ($4.57+-0.787, p=0.010$) compared to the pattern making ($2.50+-1.915$). There was no significant difference between the pattern making and cutting ($p=.257$).

Conclusion

An ergonomics program needs to take proactive activities to end up practical, when just the expectation of unfortunate occasions can advance anticipation. Organizations have looked to execute such projects, since it is conceivable to advance the personal satisfaction at work, and in the meantime decrease the expense of medicines, departures, procedural cases, production fail and absenteeism related to workers' illnesses. Since the issue of ergonomics depends on learning of requirements and desires for human, so by planning work frameworks as per ergonomics principals, we can get an attractive quality for employees.

At the point when the assembling tasks are checked, it has been seen that the employees work constantly either sitting or standing amid the ordinary working time frame. This circumstance causes health issues. It is gone for making these essential conditions both at the workstations observed and in all moving forward plans. From the study found there is a significant relationship in the mean values of the opinion on "receipt of beneficial feedback from or supervisor or manager on job performance." based on job nature. The future studies can focus on the job nature and work life balance (Rajini.G ,2018)

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