

The Management of Human Resources and Technological Change



HRM

KEYWORDS : Human Resource Management, Technology and Innovations, T-test, Simple Percentage Analysis, Thanjavur-Tamil Nadu

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ABSTRACT

The impact of technology innovations in a knowledge-based workplace has shaped human resource (HR) management in Public and Private Sectors to face the changes of working environment. Rapid change in technology has demanded more from the human resources These rapid changes have make it difficult for HR staff to keep up with the current skills. An attempt was made to understand and study the management of human resource and the technology change. The sample was taken from the Air Force Station in Thanjavur-Tamil Nadu, which has upgraded their operations to cater for highly sophisticated fighter aircraft that is runway operations, savage equipment, fire services and the foreign object free area. Sample of 50 air force personnel that consist of engineering officers, technician, fire service man, medical service men and runway maintenance specialist T-Test and Simple Percentage Analysis was used for evaluating the data. The result shows that many of the HR leaders have difficulties in coping with the technology changes. However, with the continuous training and awareness programs has made the people working in that area has greatly improved in knowing the usage of new technology.

INTRODUCTION

Since the end of the eighteenth century, the process of industrialization has been bound up with technological change. However, since the 1970s journalistic, government and academic commentators have viewed developments in computing and information technologies. Technology revolution which is confined to the world of science and technology but is also bring dramatic changes in the way we live and work. Project planning and training is to provide quality facilities needed to perform the Air Force missions. Effective planning establishes facility and infrastructure requirements critical for mission accomplishment and proposes the most effective and economical means of satisfying those requirements is essential for any Air Base. This includes well-trained workforce and latest equipment to support the missions.

Gill (1985) and Coombs (1985) identified the industrial revolution in three broad phases.

Primary mechanization, the use of machinery driven by water or steam power to replace human physical and manual labour in the transformation of raw materials into products;

Secondary mechanization, the use of machines powered by electricity to accomplish the transfer of materials between machines and to run continuous flow assembly lines and processes

Tertiary mechanization, the use of electronics-based computing and information technologies to coordinate and control transformation and transfer tasks

The self-contained unit structure represents a fundamentally different way of organizing. In this case the Air Force Station at Thanjavur was indeed an unique organisation that is self-sustainable. Cummings and Worley (2001) mentioned that current practice in organisation development is strongly influenced by training, research, feedback and participate management. Organisations have become increasingly dependent on skilled technical and professional employees (Desimone and Harris, 1998)

LITERATURE REVIEW

Much of the disagreement that has risen about the actual influence of technology derives from the wide variety of definitions that have been employed by the researchers [see Winner 1977; 1985; Huczynski and Buchanan 1991]. Some writers have adopted a highly restrictive notion based on the idea of technology as equipment or apparatus[see Rice, 1988;Pugh and Hickson 1796 ;Child 1984; Batstone et al, 1987]. Freeman and

Perez (1998) mentioned that technology involve organizational and managerial innovations which influence the operation. The logistics industry is evolving rapidly and it is the interplay of infrastructure, technology and new types of service providers that will define whether the industry is able to help its customers reduce their logistics costs and provide effective service (Pankaj and Nimit, 2007). Technology describes the way an organisation transfer inputs into outputs (Robbin, Judge and Vohra, 2012). Jyoyhi and Venkatesh, (2006), mentioned on the importance of knowledge on new technology that helps the organisation to be productive. Walch, (1992) explained that in-house training helps the airforce personnel to enrich their skill and knowledge. Rosner and West, (2009) indicated that design of airforce base has to be delivery based engineering which includes modern technology. Dean and Allen, (1985) mentioned that training is a paramount in ensuring the technology changes that take place in any organisation. The researchers specified that Air Force Bases should equip with modern technology as the present aircrafts were designed with high technology which needs a lot of ground support. Armstrong,(2009) mentioned that human resource management is defined as a strategic and coherent approach to management of an organisation which regarded as valued assets. Boxall et al.,(2007) describe Human Resource management as the management of work and people towards desired ends. Chirtensen (2003 cited Dipak, 2011) explained that technology management is the field of study that imparts skills and knowledge designed to improve the entire process of technological change. Dipak, (2011) written on technology transfer is a process by which basic technologies are developed into practical and commercially relevant applications and product. Khanna, (2008) state that success of an organisation depends on the success of its operation and delivery mode. Ivancevich, (2008) cited in his book that human resource management is the effective management of people at work that is productive and satisfied. Scarborough et al (1999) suggest that technology is view as a means of communication and less as a means of storing knowledge. Bontis et al (1999) pointed out that human capital represents the human factor in the organisation; combined intelligence, skills and expertise that gives the organisation its distinctive character. Human Resource Management (HRM) has changed dramatically in last two decades, with Personnel Economics now a major field in labor economics (Bloom and Reener, 2010).

RESEARCH DESIGN

Research Questions was designed to gather the information from the respondent. The questions were based on the experiences that they have acquired before the changes in technology and the experiences after change in the technology.

- RQ1- The work needs a lot of labor intensive
- RQ2- Operation takes time with equipment
- RQ3- Extensive Procedures thus time taken to digest
- RQ4- Takes taken to complete the job.
- RQ5- Broad Work Practices

Questionnaire method was used in this research. A group of five 2nd year MBA student was used for collecting the data from the various personnel working in that station. The sample size is distributed as follows:

Table 1: Distribution of Sample Size

Type of Person	No. of Response
Senior Engineering Officer	1
Junior Engineering Officer	2
Technician	20
Maintenance Specialist	25
Total	48

The sample size obtained from different level of work is to understand their perception of technology changes and its improvement. The questionnaire was design in such that the respondent has filled their experiences and the current experiences.

DATA ANALYSIS

Table 2: Relationship of Management of Human Resource and Technology Changes

Gender Group	Category of Respondents		Total	χ ² value
	Benefited	Not Benefited		
Male	6	7	13(48)	4.727
Female	12	2	14(52)	
Total	18	9	27	

Figures in the brackets are the percentage

Table 2, revealed that the relationship between Management of Human Resource and Technology Changes were high. This implied that there is a significant relationship between Man-

agement of Human Resource and Technology Changes. The calculated value of χ^2 (4.727) is more than the table value of χ^2 (3.841) at $P \leq 0.05$ level, $df = 1$. The null hypothesis (H_0) showed there is significant difference Management of Human Resource and Technology Changes, thus, rejected while the alternative hypothesis (H_1) was accepted. Since, the Chi-test revealed the significant; further investigation carried out to determine management of human resource and technological changes

The questionnaires were given to 48 Air Force Personnel but only 27 respondents to our survey.

Table 3: The differences in Air Force Personnel Performance					
n=27					
	Before Training			After Training	
	\bar{x}	σ	\bar{x}	σ	t-value
The work needs a lot of labor intensive	1.42	0.5	2.43	0.507	-6.934
Operation takes time with equipment	1.65	0.49	3.61	0.58	-10.028
Extensive Procedures thus time taken to digest	1.42	0.5	3.35	0.487	-11.144
Takes time completed the job	1.58	0.5	3.48	0.67	-9.432
Broad Work Practices	1.50	0.51	3.39	0.72	-11.124

Our obtained, or calculated *t* value is -6.934 (RQ1), -10.028 (RQ2), -11.144 (RQ3), -9432 (RQ4) and -11.124 (RQ5). Our degree of freedom equals the total group size (27) minus 2, or 25. Entering a *t* table with 25 degrees of freedom, we see that for alpha = .05 the tabled value is 2.060. Our calculated value is larger than the tabled value at alpha = .05, so we reject the null hypothesis and accept the alternative hypothesis. This deduces that there is strong relationship between the management of human resource and technology changes.

CONCLUSION

There has been clear evidence that the management of human resource and technology changes have had a significant impact on Air Force Station in Thanjavur. Our research study has revealed that the management of human resource and technology changes benefits to the Air Force Personnel. Though the research on management of human resource and technology changes was in need for personnel working in that Air Force Station.

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