

MULTIVARIATE STUDY OF THE FACTORS RELATED TO  
JOB PERFORMANCE OF SKILLED WORKERS IN SOME  
INDIAN INDUSTRIES

by

A N R A D H A S H A R M A

DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

Submitted

in fulfillment of the requirements of the degree of

D O C T O R O F P H I L O S O P H Y

to the

INDIAN INSTITUTE OF TECHNOLOGY : D E L H I

OCTOBER, 1977

## A C K N O W L E D G E M E N T S

Author is very much grateful to Dr. (Mrs.) Purnima Mathur for her valuable guidance. Author feels a profound sense of gratitude to Dr. B.N. Mukherjee, Associate Director, Council for Social Development, I C S S R, New Delhi., for his kind help and valuable suggestions which author received throughout this study and specially in Statistical analysis.

Author is also thankful to Mr. J. Kurien of computer Centre of Indian Institute of Technology and staff of Data Processing Centre of Council for Social Development, New Delhi for their kind cooperation and help during data processing.

Thanks are also due to Dr. Maneklal Chaturvedi, Prof. of Linguistics, National Council of Educational Research & Training, New Delhi, for his help in translation of questionnaires into Hindi.

Author wishes to sincerely thank the managements of Bharat Heavy Electricals Ltd., New Delhi; and its units at Hardwar and Bhopal; Escorts Ltd., Usha Telehoist Ltd., Autometers Ltd., Nu-Chem Plastics Ltd., Dabur Ltd., Curewell Ltd., Delhi-Faridabad Textiles Ltd., Cutler-Hammer Ltd, and other factories of Faridabad, who permitted to collect data from the workers in their factories. Thanks are also due to workers who participated in this study and to managers without whose cooperation this work could not have been fulfilled.

ABSTRACT

The investigation attempts to study some factors that are likely to be related to the level of job performance of the skilled workers in some Indian industrial organizations. Job performance has been referred to as effectiveness of the worker at the job in terms of his productivity, initiative, cooperativeness and behaviour towards supervisor in the present investigation.

Based upon the pioneering works of Lewin, Atkinson and Vroom, a cognitive approach to worker's motivation in industries has been emphasised in this study. The investigation proposes job performance as a system affected by internal factors in worker's personality, work itself and external factors in work situation, as highlighted by Maslow, Herzberg, Vroom, Mc Gregor, Argyris etc.

397 skilled workers with I.T.I. diploma from various industries were studied. Out of these, there were 139 workers from public sector industries and 258 from private industries. These constituted of 353 males and 44 female workers.

The investigation is based upon informations collected on 8 background, 9 personality and 10 attitudinal variables. Results have been analysed using correlation coefficients and various multivariate statistical techniques to test nine hypotheses.

Correlation coefficients have been computed to find out the relationships of all the variables with job performance. Analysis of background variables and job performance (Hypothesis I) reveals that in total sample as well as amongst Males income and SES are significantly related to job performance. Female workers show a negative relationship between job performance and age. In public sector industries income, and in private sector, SES show significant relationships with job performance. A discriminant analysis of two groups of extreme performers revealed that these groups discriminate maximum in their income and marital status.

Out of the personality variables studied (Hypothesis II), the level of occupational aspiration, theoretical value and internality in locus of control have been found to be positively related to performance in total sample, where as religious value shows negative trend. Males and females samples show similar trends except in internality in locus of control which is found to be significant in case of male sample only. Public and private sector samples also show relationships like total sample. Theoretical value discriminates maximum between two extreme job performer groups.

Amongst the attitudes (Hypothesis III) as inferred from Organizational climate questionnaire, it is observed that perception of self esteem-consideration and communication - interaction are positively related to job performance, whereas, self development opportunity is negatively

related in the main sample. Males also show similar trend. Public sector employees show a significant positive relationship with belongingness/<sup>interaction self esteem &</sup> job security, where as in case of private sector workers, there are positive relationships of job performance with job satisfaction and communication - interaction opportunities and negative relationship with self development opportunities.

For testing Hypothesis IV, which states that psychological variables included in the study will yield a general factor which will account for a common variance, these variables were factor analysed. The five factor varimax rotated solution does not suggest the confirmation of this hypothesis.

For finding out the predictive capacity of all the background, personality and attitudinal variables (Hypothesis V), a stepwise multiple regression analysis was performed. The analysis revealed that occupational aspiration, interaction - communication opportunities, theoretical value and affiliation to labour union are most significant predictors of job performance. SES, low aesthetic value and internality in locus of control can also predict job performance but with lesser significance.

Analysis of the relationship of job performance with intelligence (Hypothesis VI) did not show any significance.

Organizational climate as a whole (Hypothesis VII) did not show significant relationship with job performance. However, as revealed by the results for hypothesis III, some of the factors of this questionnaire are individually related to the level of job performance.

Results of explained variance decomposition analysis, in predicting personality variables as intervening variables between job situation perception and job performance (Hypothesis VIII), indicate that job situation variables and personality variables act as independent variables.

Relationship between job satisfaction and job performance indicate that it is negative in total and female samples as well as in case of private sector employees (Hypothesis IX). Variance decomposition analysis revealed that job performance is more influenced by personality factors, whereas job satisfaction is more influenced by job situation factors. Results are suggestive of a cognitive organization involving workers' way of viewing the world, aspiration and values, factors within the work itself and some external factors in work situation in predicting job performance of the industrial workers in the sample investigated.

It is concluded that motivation of the workers is a complex phenomenon, and the findings of this investigation, if established with support of larger and longitudinal studies, could be of considerable help to industrial organizations. Suggestions have been made for further research.

CONTENTS

Chapter		Page
I.	INTRODUCTION	1
	Job performance	3
	Historical perspective	6
	Motivation and job performance	9
II.	THEORETICAL ORIENTATIONS	16
	Human relations movement	16
	Theories of work motivation in industrial organizations.	19
	Relationship of motivation to personality	32
	Theories of organizational behaviour	33
	Lewin's field theory	39
	Theory underlying the present investigation	41
	Job performance: A proposed model	47
III.	FACTORS RELATED TO JOB PERFORMANCE AND DEVELOPMENT OF HYPOTHESES	53
	Ability and motivation as joint determinants of job performance	53
	Background variables	55
	Attitudes and organizational climate	59
	Some personality correlates of job performance	72
	Development of hypotheses	79
IV.	DATA COLLECTION AND ANALYSIS	82
	Tests and inventories used	82
	Background variables	82
	Personality variables	83
	Attitudinal variables	86

Chapter	Page
Job performance criteria	87
Sampling and population characteristics	87
Data analysis	90
Statistical analysis	92
V. CONCEPT OF ORGANIZATIONAL CLIMATE	95
Development of an organizational climate questionnaire for industrial workers	101
VI. MEASUREMENT OF JOB PERFORMANCE AND RELATED RESEARCHES	110
Development of job performance criteria	118
VII. DISCUSSION OF RESULTS	131
Multivariate analysis	133
Hypothesis I	134
Hypothesis II	140
Hypothesis III	148
Hypothesis IV	155
Hypothesis V	158
Hypothesis VI	160
Hypothesis VII	162
Hypothesis VIII	164
Hypothesis IX	165
Conclusion	175
VIII. SCOPE FOR FURTHER RESEARCH	177
REFERENCES	179
APPENDIX	