International Journal of Interdisciplinary Innovative Research & Development (IJIIRD)
ISSN: 2456-236X
Vol. 01 Special Issue | 2016

Psychological Correlates of White Collar Productivity

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ABSTRACT

This empirical study was conducted in a large scale manufacturing industry to determine the correlates of white collar productivity. In this study, relationships between white collar productivity and its various psychological correlates i.e. freedom to work, competitive environment, recognition, supportive work culture and welfare were hypothesized and investigated. The population consisted of 130 white collar employees working at various levels of organizational hierarchy. The entire population was divided into 3 strata designated as: - group-I consisting of departmental heads and senior managers, group-II consisting of managers, and group III consisting of officers. A sample of size 30% equivalent to 39 white collar employees was drawn from the population using stratified random sampling technique. The cell frequency in each stratum was kept uniform to 13 Ss. A 43 item standardized scale was administered upon the selected sample to obtain the response the score of which on each item varied from -2 to +2. The data collected were statistically treated using mean, standard deviation, and Karl Pearson's correlation coefficient. The hypotheses constructed were tested at 5% level of significance using Chi-Square (χ^2) test. The results showed that freedom to work independently and white collar productivity, are independent of each other. However, the rest of four correlates and the white collar productivity were found interrelated.

Keywords: ***Competitive environment, employees' welfare, productivity, psychological correlates, white collar.***

1. INTRODUCTION

The word productivity has become such a buzz word today that it is almost rare not to find it mentioned in some context or the other, trade magazines, news papers, management briefs, share holders reports, political speeches, T.V. news, consultants' advertisements, conference proceedings – just to name a few. In fact, the term "productivity" often appears to be used to promote a product or service.

1.1 Introduction to Productivity

Productivity is the quality or state of being productive. It is a concept that guides the management of an organization system, and measures its success. It is the quality that indicates how well HR, capital, materials, and energy are utilized. Productivity improvement is sought everywhere because it supports a higher standard of living, helps to control inflation, and contributes to a stronger national economy.

The Government, the business, the organized labor, the white collar personnel, all advocate higher productivity but 'more is being said than done'. Because the word productivity is branded about so frequently, it assumes the proportions of a 'many splendor cure all'. But the productivity can be brought back into its true perspective by considering, 'what it is not'.

1.2 Productivity - What it is not?

- **It is not a measure of profitability: -** It indicates the efficiency of operations and thereby suggests their profitability, but inefficient operations can occasionally be profitable if the product enjoys a favored market status.
- **It is not a measure of production quantity:** - It is the relationship of output to input; increasing production may or may not increase productivity. It depends upon the inputs used to achieve the productivity.
- **It is not a guaranteed way to reduce inflation:** - It may be a moderating factor but it is only one among many economic factors that determine the general trend.

- **It is not a technique to make the workers work harder:** - It is the approach that encourages worker/officers to work smarter. A decrease in "direct man-hours" is also often interpreted as an increase in productivity. This is another example of the confusion in interpreting the term productivity.

1.3 Productivity Dilemma and Partial Productivity

Productivity is an essential part of our urge for self improvement and the achievement of excellence which must be the part of any dynamic society. We must get more out of every acre under the plough. Out of every spindle and machine, out of every technologist, blue collar & white collar personnel, out of every rupee spent. Decision making must be expedited, and there should be greater delegation of financial and administrative powers, simplifications of procedures and improvement in work environment. Better maintenance of plant and equipment for increased capacity utilization. Partial productivity is the ratio of output to one Group of input. In the envisaged project only partial productivity would be measured i.e. the productivity of white collar personnel in different departments of industrial setups.

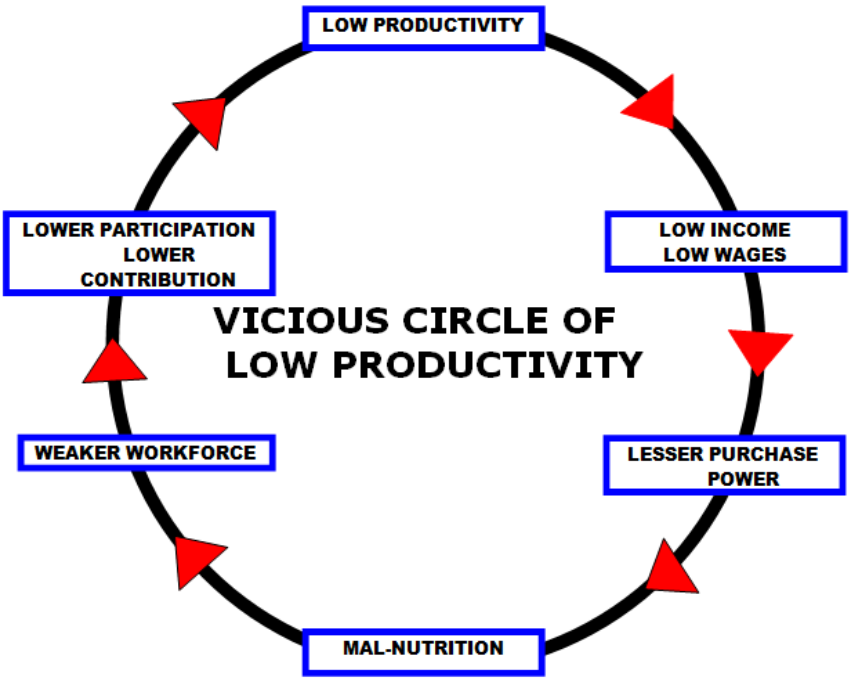

Fig. 1: Vicious Circle of Low Productivity

2. EARLIER STUDIES ON PRODUCTIVITY

Measurement and quantification of white collar personnel have always been a dilemma for researchers. Even there is a great amount of ambiguity on the definition of white collar jobs and the ambit of white collar responsibilities scale. Due to this reason one may not find too many studies in literature with a pointed reference to the white collar personnel and their productivity. However, during the quest of literature survey, the authors came across a very useful and focused work presented by Wallace J. H., Seyed M. R. I., and Fang L. [1]. The study presented a very appreciable operations oriented literature survey on managing the white collar work. It meticulously profiled and dealt with the historical pursuits of the white collar productivity domain. The survey revealed that in-spite-of the fact that the white collar work was of vast importance to the economy, the literature has focused largely on traditional blue-collar work. In an effort to stimulate more operations management research into the design, control, and management of white-collar work systems, the survey in [1] provided a systematic review of disparate streams of research relevant to understanding white-collar work from an operations perspective. The review classified research according to its relevance to white-collar work at individual, team, and organizational levels. The survey identified gaps in understanding of white-collar work that suggest promising research directions. The works cited in the survey being very relevant and worth to be included, have been given place in this study also as there is dearth of studies so relevant and pointed.

Historically, the term ''white collar'' has been used loosely to refer to salaried office workers, in contrast with hourly ''blue-collar'' manual laborers Shirai [2[. Other definitions of white- and blue-collar work are based on whether the worker performs manual work. For example, Prandy et al. [3] used the term ''white collar'' to refer to non-manual labor, e.g., supervisors, clerks, professionals, and senior managers.

Still other definitions of white-collar work have focused on job categories. For example, Coates [4] divided white collar work into three categories: clerical, professional, and managerial. Because of the nature of the work, some scholars have equated white-collar workers with knowledge workers McNamar [5], Ramirez and Nembhard [6]. Stamp [7] summarized eight important aspects of white-collar work: (1) surfacing and aligning values and vision, (2) thinking strategically, (3) focusing key resources, at the same time maintaining flexibility, (4) managing Priorities, (5) measuring performance, (6) accepting ownership, responsibility, and accountability, (7) influencing, while maintaining interpersonal awareness, and (8) continually improving people, products, and processes. Although these definitions give a general sense of what constitutes white-collar work and how it differs from blue-collar work, they do not provide a precise or consistent statement that we can use to focus research on the operations of white-collar work. For example, Coates [4] classified clerical work, such as typing, as white-collar work. However, typing does not have any of the eight features of white-collar work as defined in Stamp [7]. Moreover, from an operations perspective, typing has much more in common with machining (commonly thought of as ‘‘blue collar’’) than with management (commonly thought of as ‘‘white collar’’).

White-collar tasks involve significant use of knowledge in generating ideas, processes or solutions, Davenport and Prusak [8], while blue-collar tasks consist primarily of physical transformations or transactions. In these terms, a data analysis task is intellectual because the worker must select and/or develop appropriate models specific to each different case by operations analyses of systems in which white-collar work is an essential component.

White-collar tasks often rely on generation of novel solutions or combination of previously unrelated ideas (Davenport and Prusak [8], Perry-Smith and Shalley]9], Shalley [10], While blue-collar tasks consist primarily of repetitive application of known methods to familiar situations. For example, developing a new drug is a creative task because researchers must visualize new solutions and experiment with unfamiliar alternatives. In contrast, sewing garments is a routine task because it involves repetition of the same actions on each garment. Indeed, some researchers have argued that new technologies have transformed work in such a way that traditional distinctions between white- and blue-collar workers have been rendered obsolete (Barley and Kunda [11]. Learning is slower and more central in white collar systems than in blue-collar systems (Ryu et al. [12]. The complexity of the resources and the novelty of the tasks mean that workers performing white-collar tasks often have more to learn than workers performing blue-collar tasks.

Measurement of output is more difficult in white-collar work systems than in blue-collar systems. In white-collar systems, outputs often have a knowledge component. For example, a consultant writes up an analysis of a management problem for a client. The value of such outputs is more difficult to measure. The intangible knowledge outputs of white-collar work are particularly difficult to value economically until long after the task has been completed. White collar tasks involve a higher degree of creativity. Workers tend to have more discretion over processing times in white-collar systems than in blue-collar systems [13]. Because the amount of time spent on a task is discretionary, system utilization is not exogenously determined in white-collar systems as it is in blue-collar systems. Hopp et al. [13] showed that this implies important differences in the operating behavior of blue- and white-collar work systems. One school of thought has argued that work contexts, such as task complexity, deadlines, goal orientations, perceived evaluations, and supervisory styles, affect worker motivation and therefore creative performance, Chesbrough [14]. The prevalence of discretion in white-collar work makes it difficult to apply many results from blue collar research to white collar work systems because most of research on blue collar work systems is built on the assumption that workers are inflexible or have very limited flexibility, Hopp et al. [13].

A key challenge of studying white-collar work systems is due to the difficulty of measuring work performance, Davenport and Prusak [8]. In blue collar work, worker utilization, task completion time, output quality, and quantity can be objectively measured, and thus they can be used to specify a number of quantitative performance measures for evaluating system performance, including utilization, throughput make span, failure rate, etc. However, these metrics often do not translate directly to white-collar work because the inputs are much harder to measure.

Ramirez and Nembhard [6] provided an excellent overview of the literature on productivity measurement in knowledge work. This review reveals that, while researchers have made some progress in approximating or measuring white collar productivity, there has been relatively little effort devoted to building general system level models based on specific performance measure. Furthermore, as Ramirez and Nembhard [6] pointed out we still lack methodologies that integrate and cover multiple performance dimensions. Because performance measures are fundamental to OM modeling and analysis, that was a clear research need.

3. METHODOLOGY

For the purpose of data collection for this study, a 43 items standardized scale consisting of various facets of white collar productivity was used. The split half reliability of the scale was 0.89. The responses on the structured questionnaire were collected and analyzed using appropriate techniques as detailed below: -

One hundred and thirty (130) white collar employees working in flagship automobile sector large manufacturing industry, constituted the universe of the present study. From this universe the individual units were selected by dividing the universe into equal weighted strata so that the final sample is representative. If the sample is representative then the outcome of the study is said to be much reliable.

30% of the universe was taken as sampling size, i.e. 39 employees (Ss). The standardized scale was administered to 45 subjects (Ss) so that even after discarding a couple of in-ordered responses the final sample size should not be less than 39 Ss. With this, the cell frequency in each stratum was kept uniform and there were 13 Ss in each stratum which was a good size. Thus the stratified random sampling technique was used for the purpose of this study.

Looking into the requirements of the present study the basic statistical tools mean, standard deviation, and co-relation coefficient have been used. Finally for testing the significance of the hypotheses, chi-square test was applied at 5% level of significance.

4. TABULATION AND ANALYSIS OF DATA

The data collected on standardized scale from Ss is presented in tables 4.1 and 4.2.

Table -4.1 Productivity Correlates Balance Score Card

Resp. → / Q. No. ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1	1	1	1	1	2	1	2	1	2	2	1	1	1	1	1	1	2	1
2	2	2	2	2	1	2	2	2	1	2	2	2	2	1	1	1	-1	2	-1
3	1	2	1	1	2	2	2	1	1	2	1	1	2	1	1	1	1	2	1
4	2	1	2	-1	2	2	1	2	1	2	2	1	1	2	-1	2	1	2	2
5	1	1	1	1	1	2	1	2	1	2	1	1	2	-1	-1	1	1	2	-1
6	2	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	2	1
7	2	2	1	-1	1	2	1	1	1	2	2	1	1	1	-1	-1	1	2	1
8	2	1	2	1	1	2	2	1	1	2	2	1	1	1	1	1	1	2	-1
9	1	1	1	-1	1	2	2	2	1	2	2	1	1	1	-1	1	1	2	-1
10	1	1	1	-1	1	2	1	1	1	2	2	1	2	1	-1	1	-1	2	-1
11	1	2	-1	1	1	2	2	1	1	2	1	1	1	1	1	1	2	2	-1
12	1	0	1	1	1	-2	-1	-1	-1	1	1	-1	1	1	-1	-1	1	2	1
13	1	2	1	1	1	2	2	1	1	1	2	2	2	1	-1	1	1	2	1
14	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	-1
15	1	2	2	1	2	1	2	1	1	1	2	1	2	1	1	1	1	2	1
16	1	2	1	2	2	2	1	1	1	2	1	2	2	1	1	1	1	2	1
17	1	1	-1	1	1	1	1	2	2	2	1	1	-1	-1	1	1	1	2	-1
18	-1	1	1	1	-1	2	-1	-1	1	1	1	1	1	-1	1	1	-1	-2	-2
19	1	1	1	1	1	2	1	1	1	2	2	1	1	1	1	1	1	2	-1
20	1	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	1	-1	-2	-1
21	1	1	1	-1	1	1	2	1	-1	1	1	1	1	-2	-1	-1	1	2	-1
22	1	1	1	1	1	2	1	2	1	2	1	1	2	1	1	1	1	2	1
23	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	1	-1	2	1
24	2	2	2	1	2	1	2	2	1	2	1	1	1	1	1	1	1	2	-1
25	2	1	1	1	1	2	2	1	1	2	1	1	1	1	-1	1	1	2	-1
26	1	1	2	-1	1	2	1	1	1	2	2	1	2	1	1	1	1	2	1
27	1	1	1	-1	1	1	2	1	1	2	2	1	2	1	-1	1	1	2	-1
28	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	-1	1	2	1
29	1	1	2	1	1	1	2	1	1	1	1	1	1	1	2	-2	1	2	-1

30	2	1	2	1	1	2	2	1	1	1	2	1	2	1	2	1	1	2	-1
31	1	1	1	-1	1	1	2	1	1	2	2	1	1	1	2	1	1	2	-1
32	1	1	1	-1	1	2	2	2	1	2	2	1	1	1	2	1	1	2	1
33	1	1	1	-1	1	2	1	2	1	2	1	1	1	1	2	1	1	2	1
34	1	1	2	1	1	2	1	1	1	2	2	1	2	1	2	1	1	2	1
35	1	-1	-1	-2	1	1	2	1	1	2	-1	1	2	1	1	2	-1	2	-1
36	-1	1	1	-1	1	1	1	1	1	2	-1	1	-1	1	1	1	1	2	1
37	-1	1	-1	-1	1	-1	-1	1	1	-1	-1	-1	-1	-1	-1	-1	1	-2	1
38	1	1	1	1	-1	2	1	1	1	1	1	1	2	1	1	-1	1	2	1
39	1	1	1	-1	1	2	-1	1	1	2	1	1	1	-1	-1	-1	-1	-2	-1
40	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	-2	-1	-1	-2	-1
41	-1	1	-1	1	-1	1	-1	-1	1	1	1	-1	1	-1	-1	2	0	-2	-1
42	1	-1	-1	-2	1	1	1	1	1	2	-1	1	1	1	1	-1	0	2	1
43	-1	1	2	-1	1	-1	1	1	1	1	-1	1	-1	1	1	-1	0	2	1
Total	**39**	**43**	**38**	**7**	**39**	**56**	**46**	**44**	**37**	**67**	**50**	**37**	**48**	**25**	**19**	**23**	**25**	**62**	**-1**

Table - 4.2 Productivity Correlates Balance Score Card

Resp. → / Q. No. ↓	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**
1	2	2	2	2	1	2	1	1	1	2	1	1	1	1	1	1	2	1	1	2
2	2	1	2	2	2	1	1	1	-1	2	-1	1	1	-1	1	1	2	1	1	1
3	1	1	-1	1	1	1	2	1	1	1	1	2	-1	1	1	1	2	1	1	2
4	1	1	1	2	2	2	2	1	1	2	1	1	2	1	2	1	2	1	1	2
5	2	1	1	1	2	1	1	1	1	1	1	1	-1	1	2	1	1	1	1	1
6	1	1	1	1	2	1	1	1	1	1	0	1	1	0	1	1	1	1	1	2
7	2	2	1	2	1	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	1	1
8	1	2	-1	1	1	2	1	1	1	1	1	1	1	1	1	1	2	1	1	2
9	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2
10	1	1	1	2	1	-1	1	1	-1	-1	-1	1	1	-1	1	1	1	1	1	1
11	2	1	1	1	1	1	1	1	2	1	2	1	1	2	1	1	1	1	1	2
12	-1	1	-1	-1	1	-1	1	1	1	1	-1	-1	-1	-1	1	1	1	1	-2	1
13	2	2	1	2	2	-1	2	1	1	1	1	1	-1	1	1	1	1	1	1	1
14	1	1	1	2	1	2	1	1	1	1	1	2	-1	1	1	1	1	1	1	1
15	1	2	1	2	2	1	2	-1	1	1	1	1	1	1	1	1	1	1	1	2
16	2	2	1	2	2	1	2	1	1	2	1	2	1	1	1	1	1	1	1	2
17	1	2	2	1	2	1	1	1	1	-1	1	1	2	1	1	1	1	1	1	1
18	1	-1	-1	1	2	1	1	-1	-1	-1	-1	1	1	-1	1	-1	1	-1	2	1
19	2	1	1	2	1	1	1	2	1	2	1	2	1	1	1	1	-1	1	1	1
20	-1	-2	-2	1	-2	-2	1	-2	-1	-2	-1	-1	-2	-1	-2	-1	-1	-1	1	-1
21	1	1	1	1	1	-2	2	2	1	1	1	1	-1	1	-2	1	2	1	1	1
22	2	1	1	2	2	1	1	1	1	1	-1	1	1	-1	1	1	1	1	1	2
23	2	1	1	2	2	2	2	1	-1	1	1	-1	1	1	2	1	2	1	1	1
24	1	1	1	2	2	1	2	1	1	1	1	-1	-1	1	1	1	1	1	1	2
25	2	1	1	1	2	-1	2	1	1	1	1	1	-1	1	-1	1	1	1	1	1
26	2	2	2	2	2	1	1	1	1	1	1	1	-1	1	1	1	1	1	1	2
27	2	1	2	2	2	-1	1	1	1	2	1	-1	-1	1	-1	1	1	1	1	1
28	2	2	1	2	2	-1	2	1	1	1	1	-1	1	1	1	0	1	1	1	1
29	2	2	1	1	2	1	2	1	1	1	1	-1	1	1	-1	1	1	1	1	2
30	2	2	1	1	1	2	2	1	1	1	1	1	1	1	-1	1	1	1	1	1
31	1	2	1	1	1	1	2	1	1	1	1	1	1	1	-1	1	1	1	1	2

32	2	2	1	1	1	1	2	2	1	1	1	-1	-1	-1	-1	1	1	1	1	1
33	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
34	2	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	-1	2	1	1	1	1	-1	-1	-1	1	1	-1	1	-2	1	-2	1	2
36	1	2	1	2	1	1	2	1	1	1	1	-1	1	1	1	-1	1	-1	1	1
37	-1	1	-2	-2	1	-1	1	-1	1	-1	1	2	1	1	1	1	-1	1	-1	1
38	1	2	1	2	1	1	1	2	1	1	1	1	1	1	1	-2	2	-2	1	1
39	1	1	-1	-1	1	-1	1	-2	-1	2	1	2	1	1	-1	2	1	2	-1	2
40	-2	1	-1	-1	1	-2	-1	-1	-1	1	-1	1	-1	-1	-1	2	1	2	-1	-1
41	1	1	1	-1	-2	-1	1	-1	0	1	-1	-1	1	-1	-1	-2	1	-2	1	-1
42	-1	2	-1	-1	-1	1	1	1	0	-1	1	1	1	1	1	-2	-1	-2	1	1
43	1	1	1	-1	1	1	-1	1	0	1	1	2	-1	1	2	-2	1	-2	1	1
Total	**51**	**55**	**27**	**47**	**53**	**22**	**55**	**31**	**25**	**35**	**25**	**28**	**14**	**23**	**23**	**23**	**44**	**24**	**35**	**53**

The mean, standard deviation and group wise responses from Ss have been tabulated in table 4.3.

Table - 4.3 Mean, Standard Deviation and Group Wise Responses

RESPONDENT NO.	GROUP-I EMPLOYEES	GROUP-II EMPLOYEES	GROUP-III EMPLOYEES
1	39	25	31
2	43	19	25
3	38	23	35
4	7	25	25
5	39	62	28
6	56	-1	14
7	46	51	23
8	44	55	23
9	37	27	23
10	67	47	44
11	50	53	24
12	37	22	35
13	48	55	53
TOTAL	**551**	**463**	**383**
Mean ($\bar{X}$)	**42.385**	**35.615**	**29.462**
Standard Deviation (σ)	**13.690**	**19.099**	**10.268**

Hypotheses Testing Using Chi Square (χ^2) Test

1. Null Hypothesis *Ho*: Productivity of White Collar Employees and Freedom to Work/Suggest/Express are independent without any association between them.

Table - 4.4

Groups	Productive Approach		Non-Productive Approach		Neutral Approach		Total
Group-I	21	**(A)**	10	**(B)**	60	**(C)**	91
Group-II	22	**(D)**	16	**(E)**	53	**(F)**	91
Group-III	11	**(G)**	10	**(H)**	70	**(I)**	91
TOTAL	**54**		**36**		**183**		**273**

Table - 4.5

Cell	Observed Frequency (O)	Expected Frequency (E)	$(O-E)^2$	$(O-E)^2/E$
A	21	18.000	9.000	0.500
B	10	12.000	4.000	0.333
C	60	61.000	1.000	0.016
D	22	18.000	16.000	0.889
E	16	12.000	16.000	1.333
F	53	61.000	64.000	1.049
G	11	18.000	49.000	2.722
H	10	12.000	4.000	0.333
I	70	61.000	81.000	1.328
Tabled Value $\chi^2$for 4 degrees of freedom = 9.49 Hence, the Null hypothesis is ACCEPTED			**TOTAL**	**8.505**

2. Null Hypothesis *Ho*: Productivity of White Collar Employees and Competitive Environment are independent without any association between them.

Table - 4.6

Groups	Productive Approach		Non-Productive Approach		Neutral Approach		Total
Group-I	28	(A)	7	(B)	56	(C)	91
Group-II	32	(D)	8	(E)	51	(F)	91
Group-III	9	(G)	10	(H)	72	(I)	91
TOTAL	69		25		179		273

Table - 4.7

Cell	Observed Frequency (O)	Expected Frequency (E)	$(O-E)^2$	$(O-E)^2/E$
A	21	23.000	4.000	0.174
B	10	8.333	2.778	0.333
C	60	59.667	0.111	0.002
D	22	23.000	1.000	0.043
E	16	8.333	58.778	7.053
F	53	59.667	44.444	0.745
G	11	23.000	144.000	6.261
H	10	8.333	2.778	0.333
I	70	59.667	106.778	1.790
Tabled Value $\chi^2$for 4 degrees of freedom = 9.49 Hence, the Null hypothesis is REJECTED			**TOTAL**	**16.735**

3. Null Hypothesis *Ho*: Productivity of White Collar Employees and Recognition Of Achievement/Potential are independent without any association between them.

Table - 4.8

Groups	Productive Approach		Non-Productive Approach		Neutral Approach		Total
Group-I	25	(A)	0	(B)	40	(C)	65
Group-II	23	(D)	10	(E)	32	(F)	65
Group-III	3	(G)	6	(H)	56	(I)	65
TOTAL	51		16		128		195

Table - 4.9

Cell	Observed Frequency (O)	Expected Frequency (E)	$(O-E)^2$	$(O-E)^2/E$
A	21	17.000	16.000	0.941
B	10	5.333	21.778	4.083
C	60	42.667	300.444	7.042
D	22	17.000	25.000	1.471
E	16	5.333	113.778	21.333
F	53	42.667	106.778	2.503
G	11	17.000	36.000	2.118
H	10	5.333	21.778	4.083
I	70	42.667	747.111	17.510
Tabled Value $\chi^2$for 4 degrees of freedom = 9.49 Hence, the Null hypothesis is REJECTED			**TOTAL**	**61.084**

4. Null Hypothesis *Ho*: Productivity of White Collar Employees and Supportive/Cooperative Work Culture are independent without any association between them.

Table - 4.10

Groups	Productive Approach		Non-Productive Approach		Neutral Approach		Total
Group-I	31	(A)	16	(B)	57	(C)	104
Group-II	31	(D)	24	(E)	49	(F)	104
Group-III	12	(G)	27	(H)	65	(I)	104
TOTAL	74		67		171		312

Table - 4.11

Cell	Observed Frequency (O)	Expected Frequency (E)	$(O-E)^2$	$(O-E)^2/E$
A	21	27.667	44.444	1.606
B	10	6.333	13.444	2.123
C	60	57.000	9.000	0.158
D	22	27.667	32.111	1.161
E	16	6.333	93.444	14.754
F	53	57.000	16.000	0.281
G	11	27.667	277.778	10.040
H	10	6.333	13.444	2.123
I	70	57.000	169.000	2.965
Tabled Value $\chi^2$for 4 degrees of freedom = 9.49 Hence, the Null hypothesis is REJECTED			**TOTAL**	**27.227**

5. Null Hypothesis *Ho*: Productivity of White Collar Employees and Informal Relations and Welfare are independent without any association between them.

Table - 4.12

Groups	Productive Approach		Non-Productive Approach		Neutral Approach		Total
Group-I	45	(A)	1	(B)	45	(C)	91
Group-II	30	(D)	8	(E)	53	(F)	91
Group-III	8	(G)	10	(H)	73	(I)	91
TOTAL	83		19		171		273

Table - 4.13

Cell	Observed Frequency (O)	Expected Frequency (E)	$(O-E)^2$	$(O-E)^2/E$
A	21	27.667	44.444	1.606
B	10	6.333	13.444	2.123
C	60	57.000	9.000	0.158
D	22	27.667	32.111	1.161
E	16	6.333	93.444	14.754
F	53	57.000	16.000	0.281
G	11	27.667	277.778	10.040
H	10	6.333	13.444	2.123
I	70	57.000	169.000	2.965
Tabled Value $\chi^2$for 4 degrees of freedom = 9.49 Hence, the Null hypothesis is REJECTED			**TOTAL**	**35.211**

5. CONCLUSIONS

The general productivity level and approach of white collar employees in the industry under study is satisfactory. Group-I employees are comparatively more productive followed by group-II and group-III level of white collar employees. The white collar employees belonging to all the three groups have unanimously shown their discontent that they are affected with extremely busy schedule and work load. All the employees are satisfied with senior-junior relationship. Hierarchy is clear to each and everybody. Group-II and Group-III white collar employees have affirmed about the existence of professional jealousies among the white collar employees while the group-I employees have also yielded a very low score on this count. There is little autonomy at work. Each and every decision is taken by top management. Appropriate recognition of work doesn't seem to prevail. Encouragement to do any innovative work at white collar level of employees is the need of the hour.

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