

MANAGEMENT AND ITS IMPACT ON PRODUCTIVITY IN THE PHILIPPINE WORK SETTING OF FOOD AND GARMENTS INDUSTRIES

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The study investigates the impact on productivity of selected management variables, namely: motivational strength, satisfaction level, commitment level, leadership style and management level. Data are gathered principally through a survey conducted among managers and supervisors in food and garments firms in Metro Manila. The results of the survey show that moderate to strong relationships were exhibited when the independent variables were correlated with the objective measures of productivity, while subjective measures of performance showed very weak correlation with the independent factors, even when taken together.

Based on its findings, the paper ventures several recommendations which include, among others, a continuing dialogue between owners, top executives, and middle managers; the improvement of leadership styles among managers towards greater task- and people-orientation; and measures leading to the reduction of the communication gap between top managers and middle management. Furthermore, the paper proposes that similar studies be conducted in other industries, and points out the areas which future studies can further explore to clarify and/or validate the results obtained thus far.

1. Introduction

The growing concern for productivity among business as well as non-business organizations has resulted in the increased interest in organizational performance and worker productivity, and the variables affecting them. Productivity improvement has become the thrust of numerous business firms that look upon it as their tool for survival in a competitive socioeconomic environment. Several approaches and variations of productivity improvement programs have been adopted to suit the prevailing situations in the organization. However, there appear to be significant gaps in these programs because of the lack of an understanding about the interrelationships of variables that affect productivity as a whole, particularly those that pertain to management dimensions.

Surprisingly, very little attention has been given by local researchers to the impact of management-related factors on produc-

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CONCEPCION R. MARTIRES

tivity despite the widely accepted notion that it is management which necessarily creates the climate and orchestrates the resources for all productivity improvement efforts in the organization. Top management decides on the productivity objectives, approaches, and measurement of actual productivity effort. Middle management, on the other hand, handles the human relations aspects of productivity and provides the direct performance link with the rank-and file.

2. Statement of the Research Problem

The present research project was undertaken in an attempt to provide an answer to the growing need to define the role of management-related variables on productivity. In essence, the study examines the nature and extent of management's influence on productivity, with particular emphasis on selected variables.

Specifically, the study purports to achieve the following:

- 1 To obtain a profile of Filipino managers in the food and garments industries, in terms of their motivational strengths, levels of satisfaction and commitment, and leadership and management styles;
- 2 To assess the level of worker and organizational productivity in these industries;
- 3 To determine and explain the impact of the management-related variables on worker and organizational productivity.

The following general relationship was tested:

Productivity = f (Management Style, Leadership Style, Motivational Strength, Commitment Level, Satisfaction Level)

3. Significance of the Research

This research is in line with the national thrust towards total productivity improvement. Results of this study are expected to benefit the business sector, by providing insights into which aspects should be considered in the establishment of better recruitment and selection schemes, and in the design of training programs for potential and existing managers. Likewise, managers who fall below

MANAGEMENT AND PRODUCTIVITY

the line of management adequacy in relation to productivity will be afforded guidance in order to improve their performance and consequently improve the productivity of their subordinates. Furthermore, recommendations are made in line with the development of productivity improvement programs that will enhance the manager-worker relationship in an organization.

4. Review of Existing Literature

The present research study is the second phase of the project "Management and Its Impact on Productivity in the Philippine Work Setting". The completed first phase was undertaken with the primary purpose of reviewing existing literature on the topic, establishing research trends and determining the gaps which would set the direction for further studies.

Results obtained in Phase I indicate the relative lack of local researches covering the association or relationship between productivity and management-related variables. Although there have been many studies on leadership and management styles, job satisfaction and motivation, none of these researches have correlated the above-mentioned variables with productivity. This is further aggravated by the fact that the few studies that related management variables with productivity have come out with contradictory findings.

Four empirical studies were identified in Phase I, namely, those of Castillo (1984), Alvarez (1982), Talens (1982), and De Jesus (1983). Castillo, Alvarez, and Talens related worker performance with leadership patterns, while de Jesus correlated work productivity with management style. Castillo and De Jesus found significant associations, while Alvarez and Talens found none. The findings from these empirical studies are not comparable, however, because of major differences in settings and methodology. For instance, while Alvarez and Talens arrived at similar conclusions, Alvarez's work relied heavily on statistical testing while the work of Talens was essentially descriptive. It was actually Castillo who utilized basically the same methodology as that of Alvarez, although their samples were drawn from diverse populations.

It must be noted at this point that two major aspects of the preceding studies (Castillo, Talens, and Alvarez) are worth looking into because they could probably explain the conflicting findings. Firstly, these three researchers relied heavily on the performance rating form which may be a highly subjective way of measuring

actual worker productivity. Secondly, the leadership variables identified in their studies were generally measured based on perceptions of subordinates rather than on actual leader behavior.

The fourth study (De Jesus) gave the most significant results, although the author looked into variables other than management dimensions. De Jesus defined productivity as an individual worker's output which reflects actual accomplishments. Her study wanted to determine which human factors were related to productivity. The study involved 400 rank-and-file production workers from 20 large-scale, labor-intensive manufacturing establishments in Metro Manila. Bivariate analysis utilizing the chi-square test was employed to establish the relationship between work productivity and each of the three major factors, namely: socio-demographic characteristics (of the population being studied), traits and situational factors, including management styles. Management styles were classified as participative or non-participative. The chi-square and correlation analyses indicated the non-significance of socio-demographic characteristics as well as work attitudes as determinants of work productivity. On the other hand, significant relationships were found between work productivity and the situational factors, including management style, using the same chi-square and correlation analyses.

In summary, there are only four empirical studies to date that focus on management-related variables as they affect productivity. Specifically, only leadership patterns and management style have so far been correlated with productivity. The lack of research in this area, thus, warrants a more intensive research that would look into more management variables that influence the productivity of the worker, manager and organization as a whole.

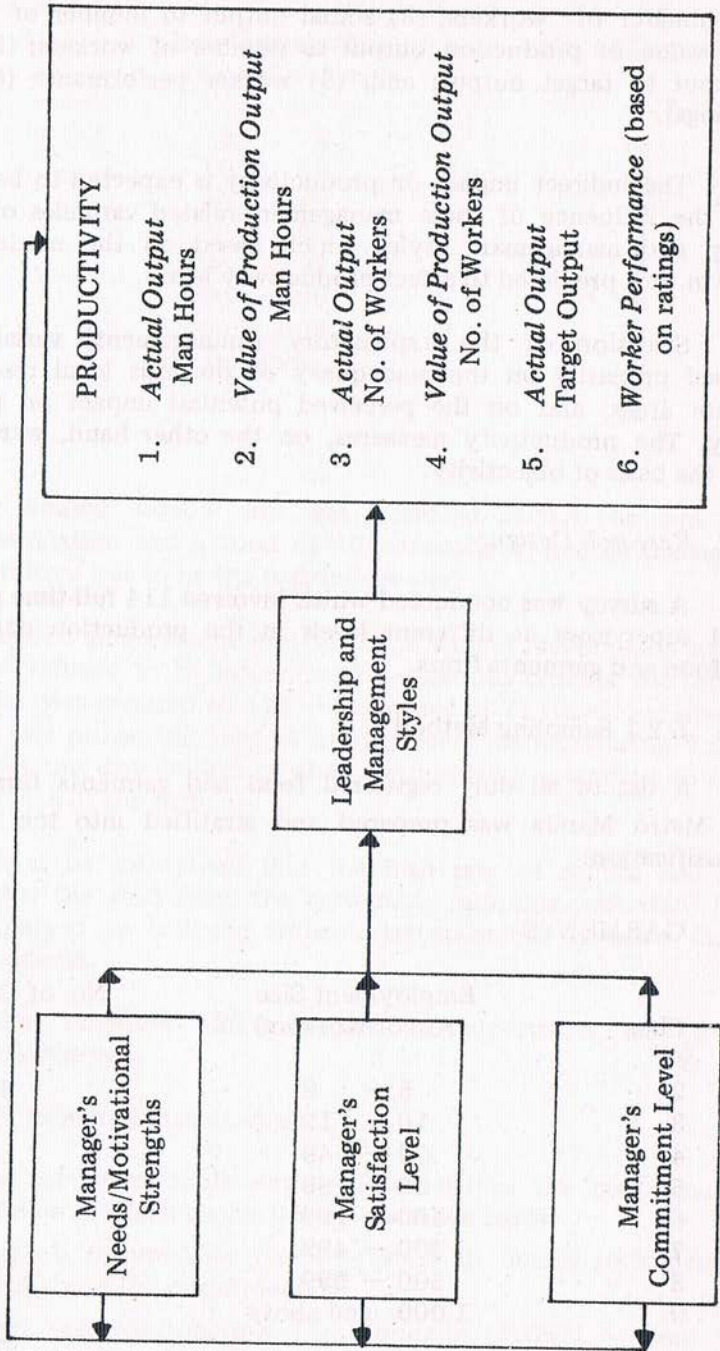
5. Research Methodology

5.1 *Conceptual Framework*

The study used the general framework shown in Figure 1 to describe the expected impact of selected management variables on productivity.

As hypothesized, manager's needs and motivational strengths, satisfaction and commitment levels are expected to either directly or indirectly affect productivity, measured in terms of the ratios of (1) actual output to manhours; (2) value of production output

FIGURE 1 — Theoretical Model of the Impact of Management Variables on Productivity



CONCEPCION R. MARTIRES

to number of workers; (3) actual output to number of workers; (4) value of production output to number of workers; (5) actual output to target output; and, (6) worker performance (based on ratings).

The indirect impact on productivity is expected to be by way of the influence of these management-related variables on leadership and management styles which, based on the model above, are in turn predicted to affect productivity levels.

Selection of the explanatory (management) variables was based primarily on the inadequacy of previous local research on these areas, and on the perceived potential impact on productivity. The productivity measures, on the other hand, were chosen on the basis of objectivity.

5.2 Research Design

A survey was conducted which involved 114 full-time managers and supervisors at different levels in the production department of food and garments firms.

5.2.1 Sampling Method

A list of all duly registered food and garments firms based in Metro Manila was prepared and stratified into the following classification:

GARMENTS

Class	Employment Size (No. of Workers)	No. of Companies
2	5 — 9	12
3	10 — 19	8
4	20 — 49	6
5	50 — 99	4
6	100 — 199	4
7	200 — 499	2
8	500 — 999	2
9	1,000 and above	2
Total		<hr/> 40

MANAGEMENT AND PRODUCTIVITY

FOOD

Class	Employment Size (No. of workers)	No. of Companies
2	5 — 9	15
3	10 — 19	8
4	20 — 49	4
5	50 — 99	4
6	100 — 199	3
7	200 — 499	2
8	500 — 999	2
9	1,000 and above	2
Total		40

The original sample size was targetted at ten per cent for each classification and a total of 400 executives, middle managers and supervisors was to be the respondent size.

Inasmuch as a sizeable number of firms and respondents could not be or refused to be interviewed for various reasons, the target sample size was reduced to 125 — composed of 71 from food manufacturing and processing, and 54 from garment manufacturing. Table 1 describes the distribution of these respondents according to employment size of the firm.

It must be mentioned that the high rate of refusal also accounted for the shift from the systematic sampling procedure initially employed to utilizing available replacements for some firms and respondents.

Of the targetted 125 managers and supervisors, 114 were actually interviewed.

5.2.2 Research Instruments

A set of seven tools was used to analyze the management variables involved. Each tool is briefly discussed below:

Manager's Information Sheet — used to obtain socio-demographic data about the respondents.

Porter Need Satisfaction Questionnaire (PNSQ) — used to determine respondent's satisfaction level derived from the job.

CONCEPCION R. MARTIRES

Organizational Commitment Questionnaire (OCQ) — used to measure the degree to which respondents feel committed to the employing organization.

T-P Management Grid — used to determine respondent's leadership style, i.e. task- versus-people orientation in carrying out his job.

Questionnaire on Productivity Measures — used to assess measures of productivity as perceived and utilized by managers.

Questionnaire on Management Styles — used to determine respondents' styles of management.

The management variables covered in the study and the instruments used to measure them are discussed below:

- 1) Motivational Strength — refers to the extent to which

Table 1 — Distribution of Food and Garment Respondents*

Employment Size (No. of Workers)	Food	Garment
5 — 9	30	18
10 — 19	13	12
20 — 49	10	9
50 — 99	7	5
100 — 199	6	6
200 — 499	3	2
500 — 999	1	1
1,000 and above	1	1
Total	71	54

*The breakdown by employment size was arrived at by applying the formula:

$$N_{ij} = W_{ij} * N_i$$

where W_{ij} = proportion of the population belonging to size range j , in industry i ($i = 1$ for food; $i = 2$ for garment)

N_i = total no. of respondents for industry i .

MANAGEMENT AND PRODUCTIVITY

needs (physiological, security, social status, prestige and self-actualization) motivate the manager based on Maslow's model. A 7-point scale (1 = minimum importance, 7 = maximum importance) was used to assess the importance assigned by each manager to the different need categories. The tool used was the Porter Need Satisfaction Questionnaire (PNSQ).

2) Satisfaction Level — refers to the extent to which the manager's needs are met in his work setting. A 7-point scale (1 = dissatisfied, 7 = extremely satisfied) was used to assess the degree of satisfaction of each manager with the different aspects of his work. The tool used was the PNSQ.

3) Commitment Level — refers to the degree of loyalty which the manager manifests for the organization's goal(s) and his job. Using a 7-point scale (1 = strongly disagree, 7 = strong agree) each manager was asked to react to a series of statements related to his findings about the organization. The tool used was the organizational Commitment Questionnaire (OCQ).

4) Leadership Style — refers to the manager's orientation in carrying out his job. Specifically two styles are evaluated namely: a) task-orientation, and (b) people-orientation. The questionnaire used was Blake and Mouton's T-P Managerial Grid.

5) Management Style — refers to the particular approach employed by the manager in operationalizing his plans and obtaining output from his subordinates. A questionnaire was developed by the staff to determine this component.

To reach those who are not very conversant with the English language, all instruments were translated into Filipino as the survey covered all classifications of middle managers.

All tools were also pretested on ten managers of each of the two categories of food and textile companies. Based on the pretest results, the tools were revised before final adoption.

5.2.3 Data Collection Procedure

The tools were administered over a period of seven months to managers and supervisors in their offices. The managers were invited together in one comfortable room in the company premises as arranged by management.

CONCEPCION R. MARTIRES

Aside from these questionnaires, personal data sheets of the respondents were requested and reviewed, as well as documents and reports containing pertinent information about the production department and the organization.

To obtain data necessary in the measurement of productivity, findings gathered through performance evaluation forms were filled out by the supervisors. In addition, the project staff also analyzed annual reports and company records to obtain information on production output and manpower inputs. Productivity measures were provided by the National Statistics Office (NCSO) and the Securities and Exchange Commission (SEC).

5.2.4 Hypotheses Testing Method and Analysis

Inasmuch as the study sought to find causal relationships and the variables included in the model are assumed to be related in a linear fashion, regression analysis was chosen as the appropriate analytical technique. Specifically, variables were estimated by fitting a multiple linear regression equation of the form:

$$\text{Productivity} = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e$$

here	a	:	constant
	b_i	:	partial regression coefficients
	x_1	:	motivation strength index
	x_2	:	satisfaction level index
	x_3	:	commitment level index
	x_4	:	leadership style index
	x_5	:	management style index

The significance of the resulting equation was measured using the coefficient of correlation, R , and the F test at confidence levels of 90 percent and 95 per cent.

MANAGEMENT AND PRODUCTIVITY

6. Summary and Implications

6.1 *Socio-Demographic Data*

- a. In the food and garments industries, the managers are only slightly predominantly male (54%). This implies that the women are almost catching up in number in the managerial ladder. This finding has great implications for the role, status and competence of the women managers and of their acceptance as managers by both their men and women superiors, colleagues and subordinates.
- b. While 42 per cent of the managers are of middle age, 31 per cent belong to the senior bracket and the juniors consist of 27 per cent. This finding is congruent with the finding that the largest percentage (49%) of managers have been in their positions only between one to five years. The combined middle and junior groups present a managerial unit which is predominantly young and most likely vibrant with new ideas and perhaps desirous of testing and operationalizing such ideas for results.
- c. The finding that the greater majority of the managers are married supports the finding showing the relatively small percentage of managers below 30 years of age, many of whom are single.
- d. Almost one-half (44%) of the respondents receive an annual income ranging from ₦20,000-₦49,999 and about one-fifth (21%) fall below this income bracket. With an average of two to four dependents, the needs of these two groups must fall along the lowest ranges of Maslow's hierarchy of needs. Their main activities must revolve around the struggle for material and economic resources. If these managers already find themselves in such financial difficulties, one can imagine the status and condition of the subordinates!
- e. Although the biggest percentage (44%) of the managers have finished only high school education, the incidence of those with college (35%) and graduate school (4%) education is justifiably satisfying. The tasks in the food and garments industries generally do not require high calibre educational requirements as those in other enterprises like financial, educational and research institutions.

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2. *Manager's Needs/Motivational Strengths and Satisfaction Level*

- a. The need categories that the managers perceive to be met in their present position are in the order mentioned: 1) autonomy, 2) social, 3) esteem, 4) self-actualization, 5) security and 6) physiological.
- b. The need categories that they perceive should be fulfilled in their present position are ranked thus: 1) autonomy, 2) security, 3) self-actualization, 4) physiological, 5) social and 6) esteem.
- c. The rating of importance of these need categories are ranked as follows: 1) security, 2) autonomy, 3) physiological, 4) self-actualization, 5) social and 6) esteem.
- d. On perceived deficiencies between what managers perceive to be met and what they believe they should have, the ranking is as follows: 1) physiological, 2) security, 3) autonomy, 4) self-actualization, 5) esteem and 6) social.

The above findings indicate disparities between the needs that are met in the present manager's positions and the needs that should be met in connection with their positions. The most glaring differences in perceptions on physiological, security and autonomy needs imply the lack of congruence between the organization's need satisfying conditions as provided by the owner/Board of Directors and management's perceived needs.

The low satisfaction level and the high deficiencies in the physiological and security categories are supported by the low range of income that the majority of the managers receive.

3. *Managers' Organization Commitment Level*

- a. The mean of 5.526 for the first group of statements and 3.818 for the second group portray a picture of middle-agers in commitment level among the managers.
- b. Replies to some statements show, however, that if given better work opportunities somewhere else, these managers would leave their present organizations. These results are consistent with the high physiological and security needs of the managers that remain unfulfilled, as discussed earlier.

MANAGEMENT AND PRODUCTIVITY

While commitment level is quite high as shown in responses to majority of statements, the managers feel that "they deserve more than what they are getting at the moment." The contradictions end up in a middle-of-the road stance implying that the managers do not have any other choice under the present circumstances but to be loyal to their organization.

6.4 *Managers' Leadership Style*

- a. The dominant leadership style of the managers in both food and garments industries is slightly more task-oriented (T 6.55) than people-concerned (P 5.62).
- b. The first and second back-up styles reveal lower scores in both factors than those of the dominant style.
- c. A statistical difference exists between style T and style P for both the dominant and first back-up styles. However, there is no significant difference between the two leadership styles for the second back-up style.

The finding that the managers of the two industries are relatively more concerned with production or task than with people is congruent with results of many research studies on Filipino leadership style and particularly with the style of managers in manufacturing organizations. Quantity and quality of goods are under strict control by production-oriented managers whose performance is rated mainly on these dimensions.

The difference in scores between the manager's dominant style on one hand and the first and second back-up styles on the other hand is a positive finding. It implies their flexibility in handling situations that may change on various aspects like size, age and resources of the organization; qualifications and abilities of both superiors and subordinates; distance between head office and branches. Their high dominant style scores in one work setting may not work well in another setting. Hence the need for back-up styles that are different from the predominating style.

6.5 *Management Style*

- a. In planning and strategy formulation, the largest percentage of managers use the consultative (42%) and participative (32%) styles.

CONCEPCION R. MARTIRES

- b. Almost half of the managers (44%) are also consultative in approach when they solve problems, while about one-fourth (27%) take the confrontational style and about one-fifth (21%) let peers and/or subordinates participate in problem-solving.
- c. In handling organization change, the bigger group of managers (44%) prefer to issue memos as a first strategy. Formal discussion is used by a little more than one-fourth while informal discussion and explanation of reasons take the least percentages.
- d. Performance evaluation is done objectively by the greatest percentage of managers (40%) followed slightly by 38 per cent who use proxies which tend to be subjective. Only about one-fourth (22%) utilize both styles.
- e. The management style in hiring and promotions follows the same pattern evidenced in performance evaluation, that is, a slight preference for objectivity with fewer managers using both objective and subjective practices.

The consultative and participative management styles used by the majority of managers in the area of planning strategy formulation and in problem-solving is a healthy sign for the food and garments industries. This finding agrees with their above average scores in the *autonomy* need scale as revealed in the PNSQ result discussed above. However, confrontational or avoidance styles might be a reflection of the need for more autonomy. This phenomenon is present usually among the younger group of managers as this study has shown.

The incongruence in the consultative and participative styles used in planning, strategy formulation and problem-solving and the style in handling organization change through the issuance of memos and formal discussions implies more study on the latter. The majority of the respondent managers gave unclear and even unrelated responses to the open-ended questions in this area.

The slightly greater percentage of managers who use objective practices in performance evaluation, hiring and promotions over those who opt for subjectivity is a positive sign. This is characteristic of managers who have finished higher education as mentioned above in the discussion on socio-demographic data.

MANAGEMENT AND PRODUCTIVITY

6.6 *Managers' Perception of Productivity Measures*

- a. The findings of a questionnaire and interview survey indicate that in the order cited, managers of both food and garment industries put importance on working conditions (82%), job characteristics (79%), monetary rewards (74%), worker characteristics (74%) and top management characteristics (72%) in improving job performance.
- b. In measuring productivity, the criteria used by the managers for themselves and for their workers are almost similar. These criteria are ranked in the order cited: best quality of work meeting the quota, quantity of work/high productivity output, efficiency, cooperation and work attitude.
- c. The findings on the extent of relationship between managerial dimensions and worker productivity indicate the order of importance given to the following manager characteristics: leadership style, commitment level, needs and motivational strengths, work satisfaction level and management style.

The relatively low rating given by middle managers to top management characteristics in improving high job performance in favor of working conditions, job characteristics, monetary rewards and worker characteristics implies that top management is perceived to be the least important performance booster. This perception may be due to top management's not being physically visible to the workers. Furthermore, top management's main tasks of decision and policymaking strategy formulation, resource allocation and planning may not be understood by both middle management and rank and file. This finding may also mean that being the frontliners, middle managers are the best direct guides to the workers who, in turn, would perform well on their own, if properly motivated.

The predominant criteria of quality and quantity of work used in measuring productivity by managers for themselves and for their workers imply that they place much importance on products/goods produced and services delivered. Other measures tend to be secondary.

The manager's perceptions of managerial characteristics that affect worker productivity (leadership style, commitment level, needs and motivational strength, management style: in the order mentioned) are not consistent with the results on the analysis of

Objective measures. Only management styles affect both labor productivity and capital productivity. However, total productivity bears a significant relationship with all independent variables except satisfaction and leadership styles. Since perception could be subjective, the results on the analysis of objective measures of productivity should be considered.

5.7 Correlations and Regression Analysis of Variables

A theoretical model (see Figure 1.1) was used to evaluate the impact of management variables on productivity. Utilizing the correlation and multiple regression analyses, relationships between the dependent and independent variables were evaluated. At three levels, a total of 480 possible relationships were examined and tested. The F-ratio was used to determine the significance of these relationships, at confidence levels of 90 and 95 percent.

Significant Relationships

Of the 480 relationships, only 11 or 2.29 per cent are significant at 90 to 95 per cent confidence level and these were all obtained in the third level analysis. Correlation coefficients, in general, are very low, indicating weak associations. They improve when the independent variables are taken together but the resulting correlation remains insignificant. The significant relationships are summarized below.

	Dependent Variables	Independent Variables	R	F-Ratio	Confidence Level
1)	Labor Productivity: Value-Added Approach	Management Style: Planning and Strategy Formulation	0.38	5.109	95%
2)	Labor Productivity: Valued-Added Approach	Management Style: * Planning & Strategy Formulation * Problem Solving * Organizational Change Management * Performance Evaluation	0.61	4.087	95%

MANAGEMENT AND PRODUCTIVITY

3)	Capital Productivity: Value-Added Approach	Management Style: *Planning & Strategy Formulation *Problem Solving *Organizational Change Management *Performance Evaluation	0.53	2.589	90%
4)	Capital Productivity: Value-Added Approach	Management Style: *Planning & Strategy Formulation *Problem Solving *Organizational Change Management *Performance Evaluation	0.53	2.651	90%
5)	Total Productivity: Value-Added Approach	Commitment Level	0.30	2.996	90%
6)	Total Productivity: Value-Added Approach	Motivational Strength	-0.45	7.491	95%
7)	Total Productivity: Value-Added Approach	Satisfaction Level, Commitment Level, Motivational Strength	0.51	3.306	95%
8)	Total Productivity: Value-Added Approach	Management Style: Planning and Strategy Formulation	0.36	4.427	95%
9)	Total Productivity: Value-Added Approach	Management Style: Problem Solving	0.55	13.173	95%
10)	Total Productivity: Value-Added Approach	Management Style: Organizational Change Management	0.47	8.663	95%
11)	Total Productivity: Value-Added Approach	Management Style: *Planning and Strategy Formulation *Problem Solving *Organizational Change Management *Performance Evaluation	0.72	7.075	95%

From the results of the survey it appears that moderate to strong relationships were found when the independent variables were correlated with the objective measures of productivity. This was done in the third level analysis. Subjective measures of performance which were covered in the first level analysis showed very weak correlation with the independent factors, even when taken together. This may be due to the fact that personnel appraisal of accomplishments, whether done by the manager or the worker himself, may not reflect actual productivity.

The second level analysis, likewise showed insignificant correlations which imply that the manager's personal character in terms of his satisfaction and commitment levels, as well as his motivational strength, do not influence his management and leadership styles.

7. Recommendations

Socio-Demographic Data of Managers

1. It is suggested that a comparison of the managers' socio-demographic data of this study be made with those of other studies already completed in other industries. This comparative investigation will verify if the socio-demographic characteristics of managers in the food and garments industries are observed similarly in other industries.
2. An analysis of these characteristics in other industries (e.g. education, banking, insurance, etc.) should also explain the factors responsible for its particular pattern. (For instance, it should explain why bank managers are relatively older than food managers.)

Managers' Needs/Motivational Strength and Satisfaction Level

1. A further examination of the environmental factors in the food and garments industries that are responsible for the findings of low satisfaction level and high deficiencies in the areas of physiological and security needs is desirable. This recommendation will also attempt to verify whether the findings are applicable in industries where managers receive higher salaries.
2. The need for continuing dialogue between owners, top executives and middle managers is felt based on the lack

of congruence between the top groups particularly on physiological, security and autonomy needs.

Managers' Organization Commitment Level

Task-oriented managers are easily able to move to any industry other than food and garments. The statement that "if given better work opportunities somewhere else, they would leave their present organization" needs to be answered as to what circumstances would convince these managers to be loyal to their organizations.

Managers' Leadership Style

The leadership style of the managers in the two industries could be improved to reach higher scores in both task- and people-orientation. Non-formal training programs and actual leadership roles and tasks may be made more available.

Management Style

1. The objective hiring and promotion management style in the two industries has to be fully analyzed in the context of the firm's market performance.
2. A similar recommendation applies to the consultative and participative management style. Are these positive characteristics inherent in the industry? Would any other style be more productive?
3. Of all the independent variables, management style has the greatest impact on labor productivity, capital productivity and total productivity.

Managers' Perception of Productivity Measures

1. Top managers may make themselves more visible through periodic visits to the various units and sections of the organization, by letting the middle managers know and understand their roles in the policy formulation, strategic planning and resource allocation and by discussing with the latter the rationale and content of these management policies and strategies. This recommendation is given in light of the middle manager's low perception of top man-

agement's contribution toward improving job performance.

2. It would be highly interesting to pursue the foregoing in future studies in other industries to validate the consistency of the finding that middle managers have a low perception of top management's contribution toward improving job performance.
3. If the perception of the true value of policy formulation, strategic planning, resource allocation and other tasks of top management is just not fully understood by middle managers, an in-depth study of this organizational communication gap is recommended.

Correlations and Regression Analyses of Variables

1. There is no significant relationship between management-related variables and performance variables. At 90 and 95 per cent confidence level, correlations between variables are weak, even when they are taken together.
2. Variables that affect labor productivity may be improved and used fully by managers. These variables are the four areas of management style, taken collectively. Such variables directly affect the operations of the unit being managed. Thus worker output is affected.
3. In order to improve capital productivity, better management style in the four areas may be adopted.
4. Total productivity can be improved through the utilization of many factors which are related significantly to the dependent variable. These factors consist of manager's commitment, motivational strength, satisfaction and the four areas of management styles.
5. Total factor productivity is related to managerial commitment, a combination of satisfaction, commitment and motivation, and management style in the areas of performance evaluation, hiring and promotion. These independent variables may be fully recognized and developed to increase total factor productivity.

6. In future similar studies, performance rating should be included as an independent variable to determine whether it bears upon the variables used in this study, particularly on productivity. In the present study, it was used only as a dependent variable.

Other Recommendations

1. The results of this study may be applied in the food and garments industries as soon as possible through their dissemination and through training programs for top and middle managers on the areas covered in this investigation. An evaluation of the information dissemination and training programs should be conducted before and after tests and measurement of productivity. These follow-up programs may be started in firms that participated in this study.
2. This study should be conducted in other industries and in the government sector to clarify if findings are observed similarly and to validate results.

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