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Studies in Management and Accounting for the

FOREST PRODUCTS INDUSTRIES

PRODUCTIVITY IMPROVEMENT PROGRAMS OF KNOWLEDGE WORKERS IN THE FOREST PRODUCTS INDUSTRY

Two Papers

**"Improvement Programs within
the Controller's Department**

by Michael L. Hollowell and Robert E. Shirley

"Sales and Administrative Productivity Programs"

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PREFACE

Enclosed are two monographs concerned with “knowledge” worker productivity in the Forest Products Industry.

The first one, by Michael Hollowell and Robert Shirley analyzes the results of a survey of productivity improvement programs for accounting personnel in controller’s departments of forest products companies.

The second monograph, by Robert Stolz, Jr, discusses Boise Cascade’s program to improve productivity of its sales and administrative employees.

Both should provide ideas for the reader to implement in his or her own company.

R. E. Shirley, Director
Research and Monograph Program
for the Forest Products Industry

PRODUCTIVITY IMPROVEMENT PROGRAMS WITHIN THE CONTROLLER'S DEPARTMENTS OF FOREST PRODUCTS COMPANIES

by Robert E. Shirley, Oregon State University
and Michael L. Hollowell, Deloitte Haskins and Sells

INTRODUCTION

Productivity is widely defined as output divided by input. Within the forest products industry, the use of productivity improvement programs has traditionally been confined to the manufacturing process where efficiency gains are measured as a function of increased output per unit of raw material. White collar, professional or knowledgeable workers, however defined, are working in a different environment than the rest of the organization. White collar workers do not produce finished lumber. Though they do contribute to its production, their true outputs are decisions, reports, transactions, and documents. These true outputs are not easily quantified, which makes the use of productivity measurement and improvement programs difficult, time consuming, and often very subjective. Within this monograph we have elected to treat the improvement of individual performance as the end result of a productivity program, which in turn is thought to lead to overall system improvements, the acknowledged broader concept of productivity improvement programs.

The purpose of this monograph is two-phased. First, to focus on the current status of the adoption and implementation of productivity programs for white collar workers within the forest products industry. To further limit the scope of our research, we have specifically focused on white collar workers within the controller's department of these companies (controller's department defined as the group responsible for the accounting and reporting functions of a company). Second, to provide a case study of white collar employee performance improvement systems in place and operating within the industry to afford a "hands on" example of a functioning system.

Phase I: A look at the current status of the adoption and implementation of productivity programs for white collar workers within the controller's department.

OVERVIEW

As might be assumed by those familiar with the forest products industry, any attempts at making generalizations as to industry norms are severely hampered by the wide range of the types of operations, location, and size of the companies operating within it. The one common factor for all companies is the profit squeeze brought about by operating cost increases, primarily through labor

and stumpage costs, and the lagging demand for finished products. In order for companies to adapt to those conditions and maintain a competitive edge in the industry, productivity at all levels of operations must be monitored and improved. It is the awareness of productivity that is the first step in the cycle toward improvement.

Functioning productivity programs should have five key elements to operate effectively. They are:

1. Awareness
2. Organization
3. Measurement
4. Appraisal
5. Improvement

The initial element, awareness, is the heart of the productivity concept. White collar workers are an integral part of any forest products operation. Management and investor decisions are based upon data supplied by the accounting function. The efficiency and accuracy of the information gathering process often is the key to the long-range profitability of an organization. Certainly this segment of an organization must be aware of and committed to productivity improvement.

The organization element of a productivity improvement program may be the key element in determining the relative success or failure of such a program. A system which is too complex or not fully understood by those who are expected to administer it could, by its very nature, fail due to lack of interest or excessive time requirements. The organizational element involves defining the goals, structure, and level of resources to be devoted to a productivity program.

Initially, the goals of such a program must be identified and agreed upon. Within the controller's department, this might be achieved through first defining the department's function, such as "administrative support to the management decision-making process." From this functional definition, the goals of the proposed productivity improvement program might be determined as the "improvement of the timeliness, accuracy, and amount of support provided to management."

Once the goals have been defined, the type or structure of the productivity program can be developed. The options here are numerous, and dependent on the level of resources to be devoted to such a program. It may be decided to employ the

services of an outside consulting firm to come in and review the department's operations and render a report. Or a formal employee performance planning and review system may be developed. Other options available are employee group participation programs, time-measurement studies, communication and leadership training, bonus-incentive plans, or budget-cost center review.

The list is endless, and what may work for one organization may not be appropriate for another. What is important is that management develop a definite approach for their own company and devote adequate resources, both in time and money, to support its development, implementation, and operation.

The third element, measurement techniques, can vary from the very complex use of engineered standards to the very simple management by exception process. A productivity measure is only useful if it can be compared with some other measure, a standard, or against itself over time. These standards can be derived from either past or current performance, or the experience of some other, outside entity. Within the realm of white collar productivity, standards have traditionally been expressed in terms that are too subjective. A measurable event must be established and agreed upon, or it is meaningless. Examples of quantitative measurement devices for white collar productivity are:

- Labor hours/reports produced,
- Actual expense/budget expenses (by department),
- Document error rate,
- Percentage of reports delivered on time,
- Receivable turnover,
- Percentage of discounts taken on accounts payable,
- Accounting department cost as a percentage of total administrative cost per unit of production.

The "appraisal" element is the process of evaluating the measured results of the productivity improvement program. This step in any program requires the review of problems or opportunities arising during the measurement process, which must then be weighted against existing company goals and objectives. The establishment of a formal appraisal system demands time, effort, and a firm commitment from management. The objectives of the appraisal process are many, the primary being to improve employee productivity through highlighting strengths and weaknesses, and helping employees to overcome these deficiencies and develop new capabilities for advancement. Additional objectives of the appraisal process may be:

- Compensating employees
- Planning manpower needs
- Increased communication between management and staff personnel
- Developing management potential
- Deciding promotions/layoffs
- Increased employee motivation and morale

For the appraisal process to be effective, it should be applied uniformly to all employees or groups of employees. It is also important that employees understand how the program works, it's goals, and what level of involvement is expected from them.

The final element, the improvement phase of a productivity program, allows the employees and managers time to respond to the agreed upon corrective actions, goals, or achievement standards set in the appraisal process. It is important that management support employees in this process of a program and perpetuate the cycle through timely follow-up and the devotion of adequate resources. Here the productivity program should be viewed as to its stream effect on company-wide measures, such as earnings or return on investment and its relative cost-benefit evaluated.

SURVEY

In order to get a feel for the current level of white collar productivity programs currently functioning within the industry, a research questionnaire was designed and distributed to participants in Oregon State University's Research and Monograph series. Though the selection of those companies surveyed was not random, it did reflect the geographic dispersion of the industry with primarily the larger firms polled. For purposes of the questionnaire, productivity was defined as measuring employee performance.

Of the 65 research questionnaires distributed, 24 usable replies were received, or 37 percent. The relative size of those companies responding in terms of assets and number of personnel working directly within the controller's department was as follows:

1. Size of organization in term of assets:

A. Up to \$100 million	33%
B. \$100 to \$500 million	42%
C. \$500 million to \$1 billion	8%
D. \$1 billion and above	17%
2. Size of controller's department in terms of directly assigned personnel:

A. 0-10	38%
B. 10-50	41%
C. 50 - 100	13%
D. 100 and above	8%

Of the companies responding to the questionnaire, 25 percent had organized productivity programs operating within the controller's department, while 75 percent relied on informal methods of monitoring productivity or had no such programs. Approximately half of the sample companies used "Management By Objective" (MBO) techniques for both executive and staff level personnel. Only one firm had a full-time productivity director.

The questionnaire presented nine possible approaches or structures for monitoring employee productivity. For those companies with programs in effect, the three most frequently used methods were performance planning and review, budget review, and standards of performance. The three least used monitoring methods were time measuring techniques, consultant interview and recommendation, and group participation methods.

Within each type of productivity monitoring program, specific measuring devices are utilized to quantify an employee's progress (or lack thereof) toward reaching predetermined performance goals or standards. The three most frequently used measurement devices for those companies with employee productivity programs in place were individually developed standards (by employee), error analysis, and cost center analysis. These types of measurement devices tend to be oriented toward the specific employee or area of concern, rather than to broader general standards or outside statistics, such as the most infrequently used measurement device, published industry statistics.

This tendency toward individually or group developed measurement standards is consistent with the nature of the tasks performed within the realm of white collar productivity. Decision making and reporting efficiencies are not easily measured against a industry norm or management standard. The effectiveness or efficiency of such tasks is dictated by the relative success of their outcome.

In addition to seeking specific responses to a predetermined set of questions, informal comments were obtained from the controllers concerning the objectives of their programs, any limitations, and the relative cost benefit of administering such a program. Of those controllers responding with organized productivity programs, 93 percent felt their programs were cost effective. The two primary limitations expressed concerned the limited number of staff personnel and their varied duties. In some cases, it was felt that staff size limitations within the department made any formal productivity program too burdensome for the supervisory staff to maintain in an effective manner. One respondent felt that understaffing a controller's department was, by its very nature, an effective productivity program.

Varied staff duties within the accounting function have led some controllers to believe that the use of standards as guideposts for productivity measurement are ineffective or even misleading. One controller wrote:

"Our company's approach has been to primarily review job performance on an overall basis with some minor performance reporting standards, which have only been recently established. Our objective is to gauge these employee's performance against this subjective job standard modified to include, where possible, objective guideposts. The program is relatively effective since most job assignments are such that either an individual does many varied tasks or there is only one individual performing a major task. We do not have a group of employees performing the same tasks."

The objectives or goals of functioning productivity programs tended to follow the same lines throughout the industry. The most frequently mentioned concepts being:

1. Improved accuracy and timeliness
2. A basis for wage increases
3. Improved morale and communication
4. Improved quality of work and working atmosphere

The complexity of the objectives vary from the simple to the very detailed. One controller wrote:

"The basic objective of our employee performance programs is to ensure timely, consistent, and accurate reporting of financial transactions. To a large extent, our program amounts to an after-the-fact management by exception review process. Despite the drawbacks inherent in that type of process, we feel that the results are very good."

While another controller submitted this view:

"The administrative function (payables, billing, etc.) are measured on an input/output basis with targets for annual improvements exceeded every year since installation (of the program). The more qualitative functions of business analysis, reporting, etc. are rigidly controlled via budgets and performance appraisals of both the functional boss and the line manager. Professionalism has improved substantially and real costs have declined."

A significant method of productivity improvement mentioned by many controllers which was not addressed by the research questionnaire involved the use of mini-computers and word processing equipment. With the cost of acquiring

this type of equipment becoming more and more affordable, and the range of effectiveness of available software increasing dramatically, this "means" of productivity improvement has shown significant results within the white collar sector.

The primary uses of this equipment mentioned by the controllers included forecasting, financial modeling, graphics, reporting, and even entirely new general ledger systems. Existing staff personnel have been allowed to function more efficiently and perform a wider range of duties. In some instances, staff level requirements have decreased or planned increases were cancelled. A future monograph is planned which will specifically address the impact of computer technology on industry productivity.

Phase II: A case study of a white collar employee performance improvement systems operation within the forest products industry.

OVERVIEW

Two forest products companies were selected as examples of white collar employee performance improvement programs operating within the industry. For purposes of simplicity and clarity, we have included only examples of the basic evaluation forms and a general description of the systems as applied by the companies.

COMPANY A

This is an example of a fairly complex performance evaluation system for which the primary goal is to objectively determine employee compensation. As the program involves the interaction of employees and management, other natural outgrowths of such a program include improved communication, morale, and employee performance through the quantification of career goals and objectives. We have included the employee performance appraisal form and an excerpt from the instructional administrative manual. The company maintains full instructional manuals and guidelines for objectively measuring employee performance.

In addition to the above employee performance evaluation system, Company A has developed a separate system to review and rate key employees for future planning purposes. This system involves group discussions among various departmental supervisors having contact with the employee. The discussions involve the evaluation of the employee's past performance and future potential. The results of these sessions are used for employee development and the planning for future personnel needs of the company.

COMPANY B

A large forest products firm, Company B utilizes a simple, one-page evaluation form for purposes of salary review of key personnel within the controller's department. The evaluation form is completed at least annually by the employee's supervisor in a personal interview. A work performance rating is computed and the employee is evaluated according to the scale at the bottom of the form. The company expects rating scores to exceed the satisfactory (27-40) level. All evaluations are reviewed by the corporate controller.

The main function of the program is to help key employees within the controller's department set career goals and monitor their career development. While Company B's system seems quite simple and relies heavily on subjectivity, it apparently works well and management is satisfied with it.

CONCLUSION

The improvement of white collar productivity through employee performance and review programs or other approaches to productivity improvement is important to the long-term growth prospects of the industry. Through this monograph, we have not tried to recommend one type of system or approach over another, for this is a decision which must be made on an individual company basis. It is a decision which must be weighted dependent upon corporate goals and available resources.

Rather, through this monograph, we have attempted to focus on one element, awareness, which is the first step, the beginning, of productivity improvement.

NON-EXEMPT PERFORMANCE APPRAISAL FORM

NAME		DATE
PRESENT POSITION	DATE ASSIGNED	LOCATION

I. PERFORMANCE AREAS: Rate the employee's performance in each of the following areas. Support your ratings with performance data, facts, descriptions of patterns of behavior you have observed and other job-related information.

QUALITY

Extent to which work output is free from error, neat, well organized and complete. Consider:

- Supervisory time to correct errors or improve quality of routine work.
- Effect of quality on co-workers, department or the company.

Makes few or no errors. Detects subtle errors others would overlook. Can almost always be counted on to produce a superior quality service or products.	Quality clearly above norm. Limited spot-checking required. Often receives compliments for quality of work done.	Standard work quality. Routine editing or spot-checking required. Quality rarely causes complaints.	Accuracy, neatness and organization below standard. Quality occasionally causes complaints by co-workers or people outside the department.	Errors, sloppiness or incompleteness at unacceptable level. Frequently turns in incomplete or inaccurate work. Repeatedly makes the same kind of errors.
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EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

QUANTITY

Amount of work output compared to job standards or norm. Consider:

- Number of assignments completed and speed.
- Promptness and efficiency.

Output is unusually fast enabling this person to handle more work than others. Regularly exceeds deadlines.	Generates output clearly higher than expected. Meets or exceeds all deadlines.	Output meets established standards on routine tasks. Meets all deadlines.	Minimally acceptable speed and quantity in completing routine tasks. Meets most deadlines.	Work completed slowly or not at all. Very slow on routine assignments. Output below minimum expectations.
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EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

HUMAN RELATIONS SKILLS

Interactions with clients, co-workers and supervisors. Consider:

- Tact and diplomacy
- Cooperation and helpfulness

Extremely effective in handling people. Goes out of way to cooperate and help others.	Good sense of tact. Interacts successfully with uncooperative persons.	Generally works well with peers, clients, and supervisors. Adequate diplomacy and tact.	Needs to improve tact and diplomacy in handling sensitive business situations or complaints. Seldom volunteers to work with or assist others.	Frequently inappropriate or discourteous. Manner interferes with work output of unit.
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EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

FOLLOW-THROUGH

Consider extent to which you can expect employee to complete work conscientiously and dependably. Consider supervisory follow-through required to get desired results.

Rarely needs follow-up or guidance to complete assignments.	Follows instructions conscientiously and independently with good results. Little follow-up required.	Carries out instructions adequately. Only in unusual situations is detailed follow-up necessary.	Requires frequent follow-up when assignments are not routine.	Does not recognize inaccuracies or mistakes unless pointed out. Must be repeatedly instructed in standard.
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EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

Company A

***KNOWLEDGE**

Grasp of information and know-how in job duties. Knowledge of policy and procedures. Consider:

- Degree of working knowledge.
- Need for assistance or instruction.

Exceptional depth of knowledge on all essentials. Can give expert job-related information.	Excellent working knowledge of required duties. Handles difficult, non-routine responsibilities.	Satisfactory knowledge of all phases of the job.	Limited knowledge of job. Some progress being made in learning the job.	Does not understand work after reasonable training.
EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

III. OVERALL PERFORMANCE RATING: Identify the overall rating that best summarizes the employee's performance for this period.

OVERALL RATING

Consistently exceeds all performance requirements. Achieves performance objectives which are judged to have considerable stretch. Overall performance is clearly exceptional.	Exceeds most performance requirements and meets all others. achieves objectives set to stretch performance. Results obtained are substantially above standard.	Meets performance requirements in a competent and fully satisfactory way. Meets objectives which may not stretch performance, but are in line with major job responsibilities. Good solid performance. Corporate standard.	Meets most performance requirements. Performs major job responsibilities in a satisfactory way in many areas, but not all. May be new in the position. Requires improvement to meet corporate standard.	Fails to meet most performance requirements. Does not achieve major job responsibilities and objectives. This performance level is not acceptable for continued employment.
EXCEEDS ALL	EXCEEDS MOST	MEETS ALL	MEETS MOST	FAILS MOST

COMMENTS:

IV. DEVELOPMENTAL PLAN: List the actions and target dates needed to further develop this employee's skills and value to the company.

DEVELOPMENTAL NEEDS	DEVELOPMENTAL ACTIONS	START DATE	COMPLETION DATE

V. EMPLOYEE COMMENTS:

Appraisee Signature _____ Date _____

Appraiser Signature _____ Date _____

Manager Signature _____ Date _____

The Pay-For-Performance System

The corporate standard for performance is that the employee meets the requirements for the position. A majority of employees in the company are considered to be in this "Meets Requirements (MR)" category. Those falling below the corporate standard are classified as either "Meets Most Requirements (MM)" or "Fails Most Requirements (FM)." Exceptional performers are classified as "Exceeds Most (EM)" or "Exceeds All (EA)" requirements.

Salary increase guidelines are designed to award compensation based on your objective evaluation of the employee's performance, in accordance with your group's performance appraisal program. Please note that these are just guidelines. In cases where individual compensation objectives can be better served by granting increases above or below or in between these guides, this can and should be done. If the amount of the increase is greater than the

Fails Most (FM)

0-5%

Fails to meet most performance requirements. Does not achieve major job responsibilities and objectives. This performance level is not acceptable for continued employment.

Company A

guideline, or if the review period between salary increases is shorter than the guideline, approval of the functional executive is required. Additional approval is not required if the recommended increase falls below the guideline.

We are adopting entirely new performance definitions for our new program. There is no connection at all with the previous performance ratings. Our new ratings are centered around a corporate standard of performance. The above table describes the new performance categories and the expected employee distribution to be found in each category:

A new salary increase guideline has also been adopted by _____ based on the Compa-Ratio system. The guideline is based on a normal 12-month review schedule which is very common in industry, except those employees newly promoted or hired can be reviewed sooner. In the table below, the X represents periodic guideline salary structure adjustments responding to competitive forces. If the X was 10%, the highest guideline merit increase would be 18% for an EA employee at 90% Compa-Ratio or below. If the X was 6%, the highest guideline increase would be 14%. The percentage increases correspond with performance ratings and performance improvements. The percentage change is based on the employee's current performance rating in conjunction with his or her current salary Compa-Ratio position.

Performance Evaluations

Ratings	Expected Employee Distribution	Performance
Exceeds All (EA)	0-10%	Consistently exceeds all performance requirements. Achieves performance objectives which are judged to have considerable stretch. Overall performance is clearly exceptional.
Exceeds Most (EM)	15-20%	Exceeds most performance requirements and meets all others. Achieves objectives set to stretch performance. Results obtained are substantially above standard.
Meets Requirements (MR)	45-55%	Meets performance requirements in a competent and fully satisfactory way. Meets objectives which may not stretch performance, but are in line with major job responsibilities. Good solid performance. Corporate standard.
Meets Most (MM)	15-20%	Meets most performance requirements. Performs major job responsibilities in a satisfactory way in many areas, but not all. May be new in the position. Requires improvement to meet corporate standard.

Salary Increase Guidelines

Performance Rating

	90% Compa- Ratio or Below	91%- 100% Compa- Ratio	101%- 110% Compa- Ratio	111% Compa- Ratio & Above
Exceeds All (EA)	X + 8%	X + 6%	X + 4%	X + 2%
Exceeds Most (EM)	X + 5%	X + 3%	X + 1%	X
Meets Requirements (MR)	X + 3%	X + 1%	X	X - 2%
Meets Most (MM)	X	X - 2%	0%	0%
Fails Most (FM)	0%	0%	0%	0%

Every employee should know his or her Compa-Ratio position, the performance rating system, and the salary increase potential based on his or her performance. Once this is done, an individual can calculate his or her own Compa-Ratio at any time by dividing his or her salary by the guideline salary for the job.

Company B

SALARIED EMPLOYEE EVALUATION

Employee: _____	Date (this evaluation): _____	Excellent	Above Average	Average	Fair	*Unacceptable
Job Classification: _____	Date (last evaluation): _____					
Evaluated By: _____	Hire Date: _____					
Reviewed By: _____						

PLANNING:	Does he/she determine proper approach to get satisfactory results--identifies priorities, resources, objectives and goals clearly?	8	6	4	2	0
QUALITY OF WORK:	Is he/she industrious and conscientious about the work he/she supervises and are the results accurate, neat and thorough?	8	6	4	2	0
QUANTITY OF WORK:	Does he/she plan and organize the work loads in order to accomplish the desirable results in a timely manner?	8	6	4	2	0
FOLLOWS DIRECTIONS:	Does he/she follow directions within the limits of instructions given?	8	6	4	2	0
ATTENDANCE:	Relating to absenteeism from work.	8	6	4	2	0
ATTITUDE:	Does he/she cooperate, anxious for self-improvement, self-reliance with a cheerful disposition?	8	6	4	2	0
INTEREST TOWARD WORK:	Does he/she exercise initiative, display an inquiring mind for knowledge, show enthusiasm for accomplishing work?	8	6	4	2	0
ADAPTABILITY:	Is he/she flexible for readjustment to new procedures, environment, different people?	8	6	4	2	0
COMPATIBILITY:	Does he/she display a harmonious relationship with the office employees, supervisors, and management?	8	6	4	2	0
COMMUNICATIONS:	Does he/she communicate with his/her subordinates and his/her supervisors?	8	6	4	2	0

* Any rating of unacceptable must be fully explained under comment section.

COMMENTS:	WORK PERFORMANCE RATING	
_____	Excellent	50 - 56
_____	Good	41 - 49
_____	Satisfactory	27 - 40
_____	Unsatisfactory	Below 29

This evaluation report was discussed with the above named employee on _____ 19 ____.

SALES AND ADMINISTRATIVE PRODUCTIVITY PROGRAMS AT BOISE CASCADE

**Robert K. Stolz, Jr.,
Director of Productivity Services
Boise Cascade Corporation**

Until about three years ago, most companies, including the forest products industries, concentrated their productivity efforts in manufacturing. Boise Cascade was no exception. In an earlier monograph, Boise Cascade's total productivity improvement program was described. Since that time, a lot of work has gone into sales and administrative productivity improvement efforts, and this is written to describe those efforts. Basically, we have started a major knowledge worker effort ("knowledge worker" is a term which covers white collar, clerical, technical and management personnel). We have worked primarily in administrative staffs but also some sales departments; the organizations involved include operating groups and divisions as well as corporate staffs.

Like other people, we started out looking for "state-of-the-art" examples in knowledge worker productivity that we could follow; unfortunately, we found none that fit our situation. We developed our own approach which recommends this pattern:

- I. Develop an Organization
- II. Create Awareness of Productivity
- III. Build Measurement Programs
- IV. Determine Productivity Opportunities Participatively
- V. Increase Quality of Work Life

Not every organization is following this pattern exactly, of course. Examples from various BCC organizations will be used to illustrate the steps we are taking.

I. DEVELOPMENT OF AN ORGANIZATION

We are organized for productivity improvement as described in a previous monograph entitled "Boise Cascade's Productivity Improvement Program" published in early 1982. We have two almost identical structures, one for staffs and one for operating groups. The operating group has an executive committee headed by the president of the company and a group under them composed of nine people who have productivity coordination responsibilities in these operating groups. The staff executive group is chaired by the chief executive officer; and, under them, there is a group of nine people with various corporate staff productivity responsibilities. These coordina-

tor groups also contain some people who act as resources for productivity, such as the manager of training and development and the head of office technology. The director of productivity services acts as a resource to all four of these groups.

The sales and administrative productivity improvement efforts fit directly into these organizations, but these groups act only as a resource, catalyst and communications device. The responsibility for the actual productivity improvement efforts lies with the heads of the line and staff organizations.

II. CREATE AWARENESS OF PRODUCTIVITY

Awareness of the need for productivity improvement is an absolutely essential element which must come very early in a productivity improvement program. The subjects covered include the definition of productivity, its tie-in with quality of work life, the national and international implications of lack of productivity growth, various techniques for improvement, etc. It has been done a number of ways in our company, but most of our administrative and sales personnel have been exposed to speeches, films, video programs (developed by our own people) and/or programs such as Productivity Payoff from the American Productivity Center.

Oftentimes, it is assumed that knowledge workers have this awareness because of all the literature which is published on the subject; but this is a mistake—they are oftentimes the forgotten people. An example of an awareness program as a preliminary step will be described in III below.

III. BUILD MEASUREMENT PROGRAMS

The most controversial part of sales and administrative productivity effort is, oftentimes, measurement. It is thought to be impossible to measure anyone who is doing nonrepetitive or creative type of work. There is a feeling that measurement is for a different class of people than knowledge workers. A number of other prejudices and myths about measurement surround the knowledge worker area. This must be overcome during the process of building and implementing a program.

In wood products marketing, we have recently developed a measurement program. We organized a group headed by the vice president of marketing and composed of his direct reports. The productivity director of this group is the director of international marketing. After this group was given in-depth exposure to productivity, they decided that measurement would be the first task that they would undertake. As the first step, a productivity awareness program was held for all employees of the division. Then two teams were selected to build measurement systems—one for direct sales and one for sales administration. These teams each contained people from the various levels and expertises in the division (we call this a "diagonal slice"). The nominal group technique was used, and four or five measures for each were developed.

These measures have been traced back to 1981 and productivity trends established. They track productivity historically since there we have no other base of information. The direct sales measures are tracked by product line (for example, lumber sales in MBF/lumber sales employees) and then rolled up into an overall direct sales measure. We measure the administrative part with a family of measures (for example, number of orders processed/administrative employees). Then the marketing and administrative measures are combined to reflect the productivity of the entire division. Everyone in the marketing department is included. We will undoubtedly revise the measures as experience dictates that there are "glitches" in our numbers or random variables are entering.

In a number of our operating divisions (Corrugated Container, Composite Can, Office Products, Building Materials Distribution, and Envelopes), we measure the administrative functions in all of our locations. Again, these measures were built using a task force composed of people from various levels in the organization and the nominal group technique. Some of these programs are relatively mature and have led to measurable increases in productivity. We talk about these measures being comparative—that is, they have the advantage of comparing the number for each location against other similar operations in the division. Comparative measures track an individual location's productivity trends but also individual operations can learn from more productive similar operations.

We have developed separate measures for eight corporate staff departments and are tracking their productivity changes each month.

As mentioned in my previous monograph, we have an overall productivity measure called sales/employee. As a part of this program, we measure the entire corporate administration. Productivity has improved steadily over the last five quarters.

IV. DETERMINE PRODUCTIVITY OPPORTUNITIES PARTICIPATIVELY

We have started a process which surfaces productivity improvement opportunities in a participative manner in many of our knowledge worker areas. A meeting is structured to start with awareness (if the people have not had this), move through a set of experiential exercises and then ask the group to surface the most important barriers/problem/opportunities/issues in productivity in their department. These are then carefully clarified, and the ones to tackle first are decided upon democratically.

The next step is to select the people and the method to attack the issue selected. This is becoming a common approach to corporate staff productivity improvement work; it is moving into the sales and administrative areas in the operations.

V. INCREASE QUALITY OF WORK LIFE

Quality of work life is a relatively new term and needs definition. We stress that it really must be inseparable with productivity improvement. As a matter of fact, one of our operating group calls its efforts "quality of work life/productivity improvement." Employee involvement is an allied concept. A lot of our administrative and sales people are coming at this from various angles:

- The formation of problem-solving teams and some quality circles.
- The participative building of productivity measurement (as in III above).
- The simplification of paper work flow by the people in the department themselves.
- The use of other productivity improvement techniques by means of using employee involvement.
- A standard employee opinion survey universally applied throughout Boise Cascade. We feed back their own survey results to each department, and action plans are developed to correct the problems which have surfaced. This is a powerful quality of work life tool.
- Increase communications at all levels in the Company, sharing information about company plans and soliciting input from all employees using a variety of media.

- Executives are becoming more involved with their employees by having organization-wide meetings, having executives travel to locations and spend time with local employees, sharing information about company plans, and other similar types of efforts are very important. Basically, we are increasing communications between all levels in the Company.

In closing, we should stress that the knowledge worker productivity and quality of work life efforts are relatively new in Boise Cascade. What has been described here is a beginning. It is organized, a lot of time is being devoted to it, there is management support for it and it is gaining momentum. Some results have been achieved, but we are in the early stages of a change effort which will take a long time.

MONOGRAPHS PUBLISHED TO DATE

"The Rush to LIFO: Is It Always Good for Wood Products Firms?" issued in December 1974 and published in condensed form in the April 1975 issue of Forest Industries. This monograph was revised and reissued in January 1976.

"Accounting and Financial Management in the Forest Products Industries: A Guide to the Published Literature," issued in June 1975. (A supplement to this monograph was issued in March 1977 and January 1981.)

"A Decision Framework for Trading Lumber Futures, issued in October 1975.

"Capital Gains Tax Treatment in the Forest Products Industries," issued June 1976.

"Measurement Difficulties in the Log Conversion Process," issued June 1976.

"Capital Budgeting Practices in the Forest Products Industry," issued March 1978.

"A Reporting and Control System for Wood Products Futures Trading Activities," issued July 1978.

"Selected Issues of Financial Accounting and Reporting for Timber," issued November 1978.

"Pool Log Transfer System," issued August 1979.

"Fundamentals of Financing Major Timber Acquisitions," issued February 14, 1980.

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"Accounting Controls for a Forest Products Firms," issued January 1981.

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"Accounting Treatment for Wood Products Futures Trading Activities," issued October 1981.

"A Reporting and Planning System for a Wood Products Operations," issued November 1981.

"Boise Cascade's Productivity Improvement Program," issued January 1982.

"Information Systems Planning in Weyerhaeuser Company," issued August 1982.

"Developing a Strategic Plan for a Forest Products Company: A Case Study," issued March 1983.

"Company/Employee Gainsharing Programs," issued July 1983.

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