

UNIVERSITY OF MISSOURI-COLUMBIA
COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
ELMER R. KIEHL, *Director*

Supervision in the Missouri Wood Products Industry

KENT T. ADAIR



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The wood products industry in Missouri may be loosely described as a grouping of firms that rely on stumpage (standing timber) as a primary raw material. The industry dates from the latter 19th century and is an important segment of the economy of the state. The present status of the industry reflects approximately 80 years of technological change and social development. It is now an established landmark on the economic landscape of Missouri.

The present study is designed to determine if there is a similarity in supervisor response patterns between firms engaged in directing the conversion of relatively high unit value material and firms processing stumpage of relatively lower unit value. Stated differently the question is one of determining the common supervisory problems of the wood products industry in the state.

As in other industries, the supervisor in the wood products field operates at the interface between labor and management. As will be shown, his problems are primarily those encountered in dealing with people. Questions of capital improvement, corporate growth, raw material acquisition, markets, and other planning-related activities are beyond the scope of the ordinary supervisor. He is concerned with these matters but he usually does not make decisions on them. He is responsible for the orderly operation of his existing department or plant and successful performance is measured by effective attainment of production goals.

The key to successful supervision is command. As stated by one author in the field of management, "... the one who commands the physical performance, which creates goods in industrial enterprises, is the supervisor. When the worker is being told what to do and how to do it, he is being supervised. Out of personal contact between employees and supervisors results production."¹

The problems of supervisors are people problems. To again quote the same author, "... what really occurs in industrial production is that supervisors have been forced to divest themselves of some of the requirements of managing, but, in turn, to specialize in the handling of men."²

Successful supervision requires command over people. However, in a free society control can never be complete. The supervisor finds himself constrained both by industry-wide influences and by the individual characteristics of the firm

¹Rago, Lewis, J., *Production Analysis and Control*, International Textbook Company, Scranton, 1963. pp. 752.

²Ibid., pp. 753.

for which he works. This is as it should be. Only the unfettered interaction between people allows competitive forces to generate improved performance. The question is one of balance between corporate and personal needs. Supervisory performance is determined by effective command over those factors subject to control by the individual. This study identifies pertinent industry factors beyond control of the individual supervisor, selected characteristics of the managerial environment within individual firms, and characteristics of supervisors in two segments of the wood products industry in Missouri.

METHODS

Environmental factors for supervisors are composed of both industry and firm constraints. The former consist of such items as number and size of firms in the state, type of products manufactured, and the relative wage and earnings position of workers in the wood products field.

Firm characteristics include such factors as form of corporate organization, type and complexity of the wage structure, age of the firm, growth as measured by the number of new employees, and stability as measured by the number of replacements hired during a given year.

In this study, data for industry characteristics are derived from secondary sources. Data for firm and supervisory characteristics are derived from personal interviews conducted during the summer of 1968. Sixty-eight owners or managers of individual firms and 27 supervisors were interviewed.³

Fifty-five of an estimated 488 sawmills using stumpage other than walnut were randomly selected and interviewed. These 55 firms were found to employ 20 supervisors. For walnut mills, 13 of an estimated 15 mills were interviewed and found to employ 7 supervisors.

The responses of these 68 owners and managers and 27 supervisors provide a basis for comparing firms using relatively high unit value species to those using material of relatively less unit value. In this manner, problems common to both segments of the industry are identified.⁴

³ The term "supervisor" means any individual having authority, in the interest of the employer, to hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward or discipline other employees, or responsibility to direct them or to adjust their grievances, or effectively to recommend such action, if in connection with the foregoing the exercise of such authority is not of merely routine or clerical nature, but requires the use of independent judgment. (49 statute 450, 29 U.S. Code, Sec. 152 (11) as amended by P.L. 101, 80th Congress, 1st session). The term owner-manager means any individual having the authority and responsibility for directing the activities of the firm.

⁴ McGinnes, E. A. Jr., A Survey of Wood Using Industries of Missouri, Missouri Agricultural Experiment Station, Bulletin 824, 1965.

INDUSTRY CHARACTERISTICS

The wood products industry is a significant component of the economy of the state of Missouri. Data for 1962 shows a gross product value of \$94.9 million in primary and secondary manufacturing of wood. Manufacturers in the state currently produce primary items such as rough one-inch and dimensional lumber, cross-ties, gunstock blanks, handles, barrel staves, charcoal, posts, and poles, to name a few of the more important products. The secondary line of products is more diversified and includes flooring, furniture, millwork, and novelties. Table 1 shows the types of primary and secondary manufacturers in the state, the quantity of raw material used by each group, the percent of raw material obtained within the state of Missouri, and total product value for the period 1960-1963.⁵

TABLE 1. AVERAGE ANNUAL INPUT OF WOOD AND PRODUCT VALUE, BY INDUSTRY, 1960-1963

Group	Quantity used (M bd. ft.)	Proportion from Missouri	Product value (M Dollars)
Sawmill	206,725	100%	\$20,150
Charcoal	54,950	100%	4,800
Cooperage	28,600	90%	8,250
Gunstock	7,987	60%	3,550
Post, Pole, Piling	23,850	90%	6,060
Pallet, & Container	60,939	70%	5,485
Handle stock	3,711	40%	1,090
Dimension stock	16,800	40%	4,650
Flooring	83,500	75%	7,600
Furniture & Millwork	26,800	20%	22,025
Novelty & Woodenware	2,339	90%	3,325
Miscellaneous	5,568	30%	7,875
Total	521,769		\$94,860

The major primary manufacturers—sawmills, charcoal plants, and cooperage factories—obtain almost all of their raw materials from within Missouri. In addition, the industry is vertically integrated in many instances, closely related in nearly all instances, and has a high interindustry multiplier.⁶ This means first, that primary and secondary manufacturers rely on local markets for labor and supplies and second, that local manufacturers sell their products to other local firms to a greater extent than any other manufacturing sector in the state.⁷

⁵ Ibid

⁶ Harmston, F. K. & Monroe, C. E. *The Inter-Industry Structure of Missouri, 1958*, Research Center, School of Business and Public Administration, University of Missouri, 1963.

⁷ Ibid, pp. 107

The wood products industries also have one of the highest personal income multipliers in the state. Each dollar of sales volume generates approximately \$1.51 of personal income.⁸ This is high enough to place the wood products industry seventh in a ranking of 36 sectors of the economy. In terms of an absolute dollar volume of income, the wood products industry ranked 24th of 36 sectors.⁹ While the industry does not generate a large dollar volume in terms of state totals, it does spend what it earns within the state and the industry contributes substantially to the total level of personal income in Missouri.

In terms of national importance, charcoal production in Missouri represents 20 percent of total nationwide production; wooden handles from Missouri comprise 20 percent of the national output; 5 percent of all hardwood pallets are manufactured in the state; and 90 percent of cedar novelties in the United States come from Missouri manufacturers.¹⁰ Thus, selected segments of the wood products industry in the state make an important contribution to the national as well as local economy.

Another measure of industry importance is employment. In 1967, the total employment in manufacturing in Missouri was estimated at 455,300 persons. Total wood products industry employment in that year was 15,100 people or slightly more than 3 percent of total manufacturing employment.¹¹ Although no figures are available, it is obvious that most of this employment and payroll was realized in the rural sections of the state. If these industries were analyzed separately, the wood products industries would undoubtedly show a significance second only to agriculture in terms of rural income and employment.

Although an important employer, the industry does fall below most state averages in wage rates, weekly earnings, and in general working conditions. Table 2 shows averages for 22 industry groups compared to lumber and wood products firms, excluding furniture manufacturers.

TABLE 2. WEEKLY EARNINGS, HOURS WORKED, AND WAGE RATES
BY INDUSTRY GROUPS, MISSOURI, 1967

Group	Weekly earnings	Hours worked	Wage rate
	<u>Dollars</u>	<u>Hours</u>	<u>Dollars/hour</u>
State Average	111.27	40.1	2.77
Wood Industry (Ex. Furniture)	75.27	39.0	1.93
Difference	36.00	1.1	0.84

Source: Missouri Division of Employment Security

⁸ Ibid., pp. 103

⁹ Ibid., pp. 104

¹⁰ McGinnes, E. A., Jr., A Survey of Wood Using Industries of Missouri. Agricultural Expt. Station, Bull. No. 824, Univ. of Missouri, 1965.

¹¹ State of Missouri, Division of Employment Security, Jefferson City, Missouri.

The wood products industry shows: an earning potential for the individual employee of \$36 per week less than the average; a shorter than average work week; and an hourly wage rate fully \$.84 below that of other reporting industry groups in the state.

In addition, working conditions within the industry are often undesirable. Outside work in all weather, lack of adequate winter heating in most mills, and the fact that the wood products industry offers some of the most dangerous employment opportunities in the state all contribute to a work environment that does not have a sustained appeal to many employees. These conditions may help explain a quitting rate in the lumber and wood products industry which averaged almost twice (1.8 times) the statewide rate in 1967 (Table 3).

TABLE 3. QUITTING RATES PER 100 EMPLOYEES FOR ALL MANUFACTURING AND LUMBER AND WOOD PRODUCTS FIRMS BY MONTHS, MISSOURI, 1967

Month	All Manufacturing	Lumber and Wood Products		
January	2.0		5.2	
February	2.2		4.1	
March	2.2		4.2	
	Average	---	2.13	---
April	2.4		6.2	
May	2.3		4.9	
June	2.3		4.3	
	Average	---	2.33	---
July	2.1		4.0	
August	3.1		4.2	
September	3.7		3.6	
	Average	---	2.97	---
October	2.4		3.9	
November	1.9		3.0	
December	1.5		2.1	
	Average	---	1.93	---
AVERAGE	2.34	2.34	4.14	4.14

Source: Missouri Division of Employment Security.

State efforts to alleviate some of these difficulties are under the jurisdiction of the State Division of Employment Security. These efforts include workmen's compensation plans for industrial accidents, supplemental payment plans for involuntary unemployment, and a relocation service for those seeking new jobs. A firm must employ 4 or more people for an average of 20 or more weeks per year in order to participate in the unemployment insurance program and 7 or more employees to participate in the workman's compensation program. As Table 4 shows, many of the lumber and wood products firms in the state do not meet these criteria.

The proportion of qualified firms is probably less than indicated by Table 4 since the data shows the distribution of *reporting* firms. There are in the state of Missouri, however, numerous small firms which are not represented in the above tabulation. While the exact number and size of these firms is not available, it is sufficient to recognize that 44 percent of the *reporting* firms do not employ 4 or more people for 20 weeks a year and 62 percent employ 7 or fewer employees. In short, the industry is not characterized by large firms and, in fact, is more accurately described as consisting of many small firms. Industry environment, therefore, is one in which management and supervision are traditionally more critical to corporate success than other factors, the supply of trained personnel in these areas being such that quality talent is usually priced beyond the reach of the small firm. This means the small company usually can not compete on the open market for its supervisory needs, but must train people recruited from within. An aggressive company or an aggressive industry must do one or the other. As will be shown, the segments of the industry represented in this report do neither, but rely on native or natural ability rather than trained competence as a mark of supervisory excellence.

TABLE 4. LUMBER AND WOOD PRODUCTS FIRMS BY EMPLOYEE SIZE CLASS, MISSOURI, 1966

Size of Class	Number of firms	Relative Importance
Employees	---	Percent
1-3	259	44
4-7	103	18
8-19	117	20
20-49	73	12
50-59	26	4
100-249	9	2

Source: County Business Patterns, Missouri; U.S. Dept. Commerce, 1966.

FIRM CHARACTERISTICS

One of the main factors affecting supervisor efficiency is the environment of his firm. These factors are type of organization, size of operation, growth, development of a strong middle management force, sponsorship and participation in formal training programs, and the presence or absence of a strong labor union. All affect overall supervisory efficiency.

While environment also includes the attitudes and social aspirations of workers, such factors are beyond the scope of this study. Instead, an indication of supervisory environment within the firm will be determined through a listing of factors which can be quantified and are normally associated with favorable managerial circumstances. The 68 sample firms represented in this study are, therefore, compared on the basis of organizational factors, general personnel factors, and special considerations reserved for supervisors.

Organizational Factors

The advantages of the limited liability corporation over the single proprietorship have been cited by many experts. Despite these apparent advantages, 64 percent of the non-walnut manufacturing firms interviewed in this study were proprietorships (Table 5).

TABLE 5. TYPE OF ORGANIZATION BY SAMPLE FIRMS AND INDUSTRY GROUPS, MISSOURI, 1968

Ownership Class	Industry Group			
	Walnut Firms		Non-Walnut Firms	
	Number	Percent	Number	Percent
Proprietorship	2	15	35	64
Partnership	4	31	6	11
Corporation	7	54	14	25
Total	13	100	55	100

No explanation of this reliance on the fully liable proprietary form or organization is immediately available. Lack of size may be a contributing factor. For instance, walnut firms averaged 21.5 employees while non-walnut firms employed an average of only 8.5 employees (Table 6).

TABLE 6. TOTAL AND AVERAGE NUMBER OF EMPLOYEES FOR SAMPLE FIRMS BY INDUSTRY GROUP AND EMPLOYEE CLASS, MISSOURI, 1967

Employee Class	Industry Group	
	Walnut	Non-Walnut
	Number of Employees	
Woods	7	13
Mill	258	429
Supervisors	14	25
TOTAL	279	467
REPORTING FIRMS	13	55
AVERAGE	21.5	8.5

The advantages of incorporation seem to be more closely associated with the increasing size of operation than with the type of material processed. In essence incorporation provides a limiting of personal liability *only* to the extent that sellers are willing to negotiate with the legal entity of the firm. It is a fact of economic life that small corporations with limited assets do not generate large

liabilities. Sellers prefer to negotiate directly with individuals in the case of small companies and not with the corporation. In this context personal liability is preferable to corporate liability. Thus, small firms find that the legal advantages ascribed to incorporation are not available in practice and so they remain proprietorships and partnerships.

A second reason for the proprietary form of organization, is the reluctance to surrender control of the company to stockholders. Incorporation usually means that individual direction and control is replaced by a governing body of elected directors. While data determining the extent of this influence on the form of corporate organization actually practiced is not available, the independence of small businessmen in general and of those engaged in processing stumpage in particular is rather common knowledge. The point is, a form of organization relying on a dominant personality does influence the supervisory environment of the industry.

The fact that 64 percent of the non-walnut firms and 15 percent of the walnut firms interviewed in this study are proprietorships undoubtedly has an effect on the demand, supply, and quality of trained supervisors available to the industry. This factor was not measured in the present study, but it does pose an interesting question for further research.

A third and probably dominant factor explaining the popularity of the proprietary form of organization is that many mill owners are only part-time manufacturers. They derive most of their income from sources other than wood processing. Farming is a principal occupation for these small operators and given the part time nature of their mill operation, there is no pressing need for a corporate form of organization.

Also, the small number of employees per firm negates the advantages of corporate organization and so these small firms remain sole proprietorships.

While walnut and non-walnut using firms differ with respect to the average number of employees per firm, the distribution of respondents by employee size class and type of employee shows that few firms in either category employ woods workers, most employ less than 10 mill employees, and very few firms employ supervisors (Table 7).

The total organization of these firms is focused on the manufacturing or milling of stumpage. Sample firms in both categories specialize in the conversion process, are relatively small in number, and employ few supervisors. Problems of management are usually handled by the owner-manager without formal supervisory assistance.

General Personnel Factors

Another structural factor affecting supervisory environment is the length of time the organization has been established. As shown in Table 8, with one exception, walnut firms are less than 10 or more than 20 years old. Non-walnut firms, on the other hand, tend to be evenly distributed throughout all age classes.

TABLE 7. NUMBER OF SAMPLE FIRMS BY EMPLOYEE CLASS AND INDUSTRY GROUP, MISSOURI, 1968

Employee Class	Industry Group			
	Walnut		Non-Walnut	
	Firms	Percent	Firms	Percent
<u>WOODS EMPLOYEES</u>				
None	11	85	49	89
Less than 10	2	15	6	11
<u>MILL EMPLOYEES</u>				
None	0	0	5	9
Less than 10	7	54	35	64
10-19	3	23	10	18
20-29	0	0	3	5
30 or more	3	23	2	4
<u>SUPERVISORS</u>				
None	6	46	37	67
1	3	23	13	24
2	1	8	4	7
3	3	23	0	0
4	0	0	1	2

TABLE 8. LENGTH OF TIME ESTABLISHED ON PRESENT LOCATION BY SELECTED INTERVALS AND INDUSTRY GROUPS, SAMPLE FIRMS, MISSOURI, 1968

Age Class	Industry Group			
	Walnut		Non-Walnut	
	Firms	Percent	Firms	Percent
Less than 5 years	3	23	8	15
5-9	5	38	10	18
10-14	1	8	10	18
15-19	0	0	12	22
20 or more years	4	31	15	27
TOTAL	13	100	55	100

One reason for this difference is that proprietorships and partnerships tend to reflect the age of the individual owners. Corporations date from establishment and are not limited by the age of individuals. While this reasoning explains the distribution of the non-walnut mills, among all age classes, it does not explain the relative youth of walnut firms. For instance, 8 of the 13 walnut mills contacted have been established in their present locations since the middle 1950's. Thus, this segment of the wood products industry has shown considerable growth in Missouri in the last 15 years.

Unfortunately, this growth has not resulted in a large number of new jobs in the state nor has it extended to other segments of the wood products industry. For example, only 4 of the 68 firms represented in this study hired employees for new positions in 1967 (Table 9).

TABLE 9. NUMBER OF SAMPLE FIRMS HIRING EMPLOYEES FOR NEW POSITIONS BY INDUSTRY GROUP AND TYPE OF EMPLOYEE, MISSOURI, 1967

Employee Class	Industry Group			
	Walnut		Non-Walnut	
	Number	Percent	Number	Percent
<u>WOODS EMPLOYEES</u>				
None	13	100	55	100
<u>MILL EMPLOYEES</u>				
None	11	84	53	96
Less than 10	1	8	2	4
10-19	1	8	--	--
<u>SUPERVISORS</u>				
None	13	100	55	100

The two walnut firms hired 15 new employees in 1967 to bring total employment for the 13 firms to 279. Non-walnut firms hired 9 new employees to bring total employment for the 55 firms to 467 by the end of the year. This represents a total of 24 new positions on an employment base of 746 people—an average growth of 3.3 percent based on employment at the beginning of the year.

Walnut mills realized a growth rate of 5.4 percent while non-walnut mills showed only a 1.9 percent growth in total employment during the year. Thus, walnut mills recorded the higher growth rate of the two segments studied, but the total number of people involved remained relatively small.

It must be emphasized that these growth percentages are *not* net rates for the entire industry. They reflect only the employment experience of the 68 firms represented in this study. While figures are not available, it is possible that net employment for the industry has been negative for the past few years. The continuing rural to urban population migration, increasing competition for markets, and the closing of numerous marginal mills may well have resulted in an actual decline in total employment.

Questions such as these, however, are beyond the scope of this study. It is sufficient for present purposes to recognize that the supervisor in the wood products industry operates in an environment showing limited growth in total employment. In fact, for 64 of the 68 firms total employment growth was zero; no new positions were added in 1967! Thus, the supervisor, where he exists at all, is faced with the task of handling a rather stable number of employees.

In the same vein, these 68 firms hired no new supervisors in 1967. This means that opportunities for advancement through job changing involve replacement of existing supervisors rather than additions to the total supervisory force. The effect of this situation on the supervisor's environment is open to question. Job enrichment, fringe benefits, and special treatment are of minor importance when current supervisors have no where to go and little opportunity to better their personal living standards except at the expense of those they replace. The net result is a stable employment structure characterized by little replacement of supervisors. This was the case in the wood products industry in Missouri in 1967. (Table 10).

TABLE 10. NUMBER OF SAMPLE FIRMS HIRING REPLACEMENTS BY INDUSTRY GROUP AND TYPE OF EMPLOYEE, MISSOURI, 1967

Employee Class	Industry Group			
	Walnut		Non-Walnut	
	Number	Percent	Number	Percent
<u>WOODS EMPLOYEES</u>				
None	12	92	54	98
Less than 10	0	0	1	2
10-19	1	8	0	0
<u>MILL EMPLOYEES</u>				
None	3	24	24	44
Less than 10	4	30	15	27
10-19	1	8	8	14
20-29	1	8	2	4
30 or more	4	30	6	11
<u>SUPERVISORS</u>				
None	12	92	55	100
Less than 10	1	8	0	0

While the supervisory force displayed almost no turnover in 1967, the replacement rate for workers can only be described as enormous. As Table 10 shows, only one of the 68 firms replaced one or more supervisors in 1967; conversely, 41 of these firms replaced workers in that year.

The turnover rate for workers is actually worse than indicated by Table 10. Specifically, 13 walnut firms employed a total of 279 men in 1967 and yet these same 13 firms mailed a total of 655 reports of individual taxable income (i.e., W-2 forms). This represents a turnover rate per firm of 2.55 employees for each position; or a new man in each job approximately every 5 months. The 55 non-walnut firms in the study employed a total of 467 people and mailed 1,124 forms reporting taxable income for employees in that year; this is a turnover rate of 2.21 employees for each position.

A linear regression shows that these turnover rates are not related to the size of the individual firm as measured by total number of employees; those firms employing 10 or less people show turnover rates per firm equal to those mills employing 90 or more persons.

Employment stability as a factor in supervisory environment thus shows almost a static employment pattern for supervisors and a highly dynamic pattern for workers in both walnut and non-walnut mills.

Moreover, turnover rates do not vary significantly with mill size as measured by numbers of employees; there is more difference in turnover rates between mills of the same size than between mills of vastly different size. Why this situation exists is not clear. However, it appears that the individual firm can do a great deal to control employee turnover. Some have been successful and enjoy relatively low turnover rates. Other mills of the same size, however, have not been successful and are subject to turnover rates of 6 or higher.

Turnover is thus a very real factor in the environment of the individual supervisor. It would seem most of his time is spent training new employees rather than guiding and improving experienced workers.

The lack of support that owner-managers give to a training program complicates the supervisor's job. A majority of both walnut and non-walnut firms indicated that formal training has not been given to employees during the last five years. A small percentage said that such training either is not needed or does not apply to their firm (Table 11).

TABLE 11. NUMBER OF SAMPLE FIRMS INDICATING THAT FORMAL TRAINING HAS BEEN GIVEN OR IS NEEDED BY EMPLOYEES, MISSOURI, 1968

Firm Response	Industry Group			
	Walnut		Non-Walnut	
	Number	Percent	Number	Percent
<u>TRAINING GIVEN DURING LAST 5 YEARS</u>				
Yes	4	31	6	11
No	9	69	39	71
Not Applicable	--	--	10	18
<u>TRAINING NEEDED</u>				
Yes	8	62	16	29
No	5	38	27	49
Not Applicable	0	0	12	22

Of those who do recognize a need for formal training, walnut firms indicated that employees need training primarily in grading of logs, lumber, and veneers. Other kinds of training required included kiln operation, equipment maintenance, and general management considerations, in that order. Non-walnut owner-managers ranked equipment maintenance, grading, and timber or woods work as areas where training is needed.

However, as Table 11 clearly shows, those firms indicating that training has been given or is needed by their employees are in a distinct minority. This fact clearly influences the environment in which the supervisor must operate. He must either train new employees or organize to minimize required skill levels. With owner-management support of training limited, the latter approach

is more likely to be effective and this definitely affects the manner in which a supervisor discharges his responsibilities.

Special Supervisory Treatment

Modern theory recognizes the importance of the supervisor as a member of the management team. It also recognizes that special treatment of supervisors is justified as a means of improving supervisor loyalty and efficiency.

The first opportunity for management to secure supervisor loyalty is in the manner in which supervisors are hired. The two most frequently used means of attracting applicants for supervisory positions were found to be "word of mouth" advertising and the "Hunt and Hire" approach (Table 12). In the latter, supervisors are observed in their present positions and if the reaction of the observer is favorable, an offer is extended.

The effect of both "word of mouth" and Hunt and Hire" methods on supervisor loyalty can be significant if properly and exclusively employed for supervisors. However, the firms interviewed in the present study also used these two methods for attracting workers. Thus, the effect of selective recruiting on supervisor loyalty is questionable.

TABLE 12. PERCENTAGE OF SAMPLE FIRMS USING SELECTED METHODS FOR ATTRACTING APPLICANTS, MISSOURI, 1968

Method of Recruitment	Industry Group			
	Walnut		Non-Walnut	
	<u>Supervisors</u> <u>Percent</u>	<u>Workers</u> <u>Percent</u>	<u>Supervisors</u> <u>Percent</u>	<u>Workers</u> <u>Percent</u>
Word of Mouth	14	69	67	62
Hunt and Hire	28	54	56	62
Employment Offices	0	8	17	18
Office Applications	14	23	28	16
Local Newspapers	14	0	11	9
Trade Publication	14	0	11	4
Reporting Firms	7	13	18	55

The most obvious method of special treatment is to be found either in the manner in which supervisors are paid (Table 13) or in the actual amount of payment made to supervisors in comparison to that paid to workers. (Table 14).

As Table 13 shows, all 13 walnut firms and 48 of 55 non-walnut mills pay workers by the hour. Two of the seven walnut mills and 10 of the 18 non-walnut mills reported using this method to pay supervisors. Thus, a common method of payment used for supervisors and workers is to pay by the hour.

TABLE 13. NUMBER OF SAMPLE FIRMS BY METHOD OF PAYMENT FOR SUPERVISORS AND WORKERS BY INDUSTRY GROUP, MISSOURI, 1968

Method of Payment	Walnut		Non-Walnut	
	Supervisors	Workers	Supervisors	Workers
Salary	4	0	8	1
Hourly Rate	2	13	10	48
Base Plus Differential	1	0	0	1
Not Applicable*	6	0	37	5
TOTAL	13	13	55	55

* No Supervisors or workers employed in 1968. All work performed by owners or partners.

In terms of magnitude of earnings, supervisors averaged \$141 per week in walnut mills and \$130.07 per week in non-walnut mills. In both types this was approximately 88 percent more than the average weekly earnings of all workers in the industry (Table 14).

TABLE 14. AVERAGE WEEKLY EARNINGS FOR SUPERVISORS AND WORKERS BY INDUSTRY GROUP, MISSOURI, 1967

Employee Class	Industry Group	
	Walnut	Non-Walnut
	Dollars	Dollars
Supervisors	141.00	130.47
Workers	75.20	72.00

This earnings differential appears sufficient to promote though not insure supervisory incentive and loyalty to management.

The average weekly earnings of supervisors compares favorably with the all-industry average earnings for employees of \$111.27 per week (Table 2). In addition, several sample firms indicated that bonus plans, profit sharing, insurance, and other forms of fringe benefits are made available to both supervisors and workers. Such plans increase the actual earnings position of the men covered. In this manner supervisors can be preferentially treated and fringe benefit programs can be used as a form of job enrichment.

While a wide array of benefit programs are made available in both walnut and non-walnut mills, there is little evidence that such plans are used as means of special compensation for supervisors; in fact, the extent of participation by individual firms in any particular program seldom exceeds 50 percent and in

many programs covered in this study, participation fell to 15 percent or less. It is doubtful, therefore, that the fringe benefit program is a significant job determinant for supervisors on an industry-wide basis, although it may be important in individual cases.

As shown in Table 15, there are only three fringe benefits in which provision for supervisors exceeds provision for workers. These are in non-walnut mills and include retirement, profit sharing, and bonus programs. Only a few firms provide these plans for supervisors and not for workers. In all other instances (Table 15), the percentage of firms providing fringe benefits for workers exceeds the percentage providing the same fringe benefits for supervisors. Thus, there is no industry-wide pattern of fringe benefit use as a form of job enrichment for supervisors. In fact, if fringe benefits are provided at all, they are either provided only for workers or provided to both workers and supervisors equally.

TABLE 15. PERCENTAGE OF SAMPLE FIRMS PROVIDING SELECTED FRINGE BENEFITS BY INDUSTRY GROUP AND EMPLOYEE CLASS, MISSOURI, 1968

Benefit	Industry Group			
	Walnut		Non-Walnut	
	Supervisors Percent	Workers Percent	Supervisors Percent	Workers Percent
Group Insurance				
Accident	54	69	24	57
Health	39	46	16	24
Life	39	46	16	16
Unemployment Comp.	46	85	27	55
Retirement	15	15	4	0
Profit Sharing	15	15	5	2
Bonus Plans	23	23	7	2
Reporting Firms	13	13	55	55

Fringe benefits are not the only means of securing supervisor loyalty to management. Responsibility for hiring or firing workers, as well as special treatment of various types, can be used effectively to enhance identification with management. Interview results show that such programs are not widely used in either the walnut or non-walnut industry. For instance, only four of 13 walnut and seven of 55 non-walnut mills indicated that the supervisor was responsible for hiring or firing mill employees. In all other instances, this prerogative was reserved for owners, partners, or general managers. Perhaps this is good, perhaps

not; but it is certain that a recommendation for either employment or termination does not carry the same impact with the individual worker as a clear decision. This means that the relationship of worker to supervisor and of the supervisor to management is not clear. The decision-making responsibility for employment is not being used as a significant means of securing supervisor identification with management: at least it is not being used formally or in a clearly defined manner.

Preferential treatment can be extended to supervisors in other ways. However, data for the seven walnut and 18 non-walnut mills employing supervisors in 1968 show that few firms extend such treatment and that the pattern of preferential consideration is very similar in both industry groups. Above average earnings, payment by salary rather than the hour, and being regarded as a member of the management team represent the most common forms of preferential treatment for supervisors in both the walnut and non-walnut mills represented in the study.

TABLE 16. PERCENTAGE OF SAMPLE FIRMS PROVIDING SELECTED FORMS OF PREFERENTIAL TREATMENT FOR SUPERVISORS, MISSOURI, 1968

Treatment	Industry Group	
	Walnut Percent	Non-Walnut Percent
Above average earnings	100	89
Regarded as Management	57	56
Method of payment	71	50
Extra holidays	43	17
Bonus plans	43	28
Private office	29	28
Formal training	29	6
Overtime pay	14	6
Reporting Firms	7	18

Both industry groups rated above average earnings as the first order of preferential treatment for supervisors. Method of payment and being regarded as part of management were ranked second and third with formal training and overtime pay being regarded as being of least importance.

Additional forms of preferential treatment reported by individual firms, but not shown in the above tabulation, included company picnics and parties, personal loans, and other forms of intimate, individual, relationships between com-

panies and supervisors. These items were not reported frequently and cannot be regarded as significant determinants of supervisor loyalty except in the case of the individual company or persons involved. Certainly there is no industry-wide pattern of such practices.

The final method of separating supervisors from workers is definition of those areas in which supervisors have complete responsibility and authority. The results of this form of questioning show a relatively clear distinction between traditional production and general management functions (Table 17).

TABLE 17. PERCENTAGE OF OWNER-MANAGERS RATING SELECTED FACTORS AS SUPERVISOR RESPONSIBILITIES, MISSOURI, 1968

Factor	Industry Group	
	Walnut	Non-Walnut
Safety	72	95
Quality Control	57	84
Reporting to Management	72	78
Work flow	85	67
Work scheduling	72	67
Personnel	57	67
Production quotas	43	61
Staffing	29	39
Planning	15	22
Coordination	15	22
Organizing	0	17
Budgeting	0	6
Reporting Firms	7	18

Factors which more than one-half of the owner-managers felt were supervisor responsibilities began with safety and ended with attainment of production quotas. These are production factors. The remaining factors, which less than 50 percent of the owner-managers felt were supervisor responsibilities, included the tasks of organizing, planning, staffing, budgeting, and coordinating with other departments. Thus, owner-managers look to supervisors for the efficient internal operation of their departments and reserve the over-all direction of the company for themselves. This pattern of responsibility assignment undoubtedly separates supervisors from workers, but it may also lead to separation of supervisors from management. The former is normally desirable; the latter is not! The problem is one of balance, the traditional art of management.

SUPERVISOR CHARACTERISTICS

It has been shown that the supervisor in the wood products industry operates under both industry-wide and managerial constraints which he can neither influence nor control; he must deal with a labor force which is characterized by low wages and high turnover rates; and he personally is faced with an almost static employment structure for supervisors in Missouri.

A question naturally arises as to the type of individual found operating under these circumstances. What kind of man is he? How well is he trained for the job he has to do? What training and experience does he bring to his present position and which is more important? Finally, how does he personally view his role in the firm and his relations with employees. These are significant questions. Productive efficiency is directly influenced by the individual supervisor and where he exists, his efficiency directly affects the economic position of his firm and his industry.

While it is not possible, nor is it the intent of the present study, to provide complete answers to questions on supervisor characteristics, data collected do provide a basis for initial description of common supervisor traits. Specifically, data are presented on personal characteristics of supervisors such as age, educational background, residency, qualifications, and so forth; the position of the supervisor in the firm; his relationships with employees; and on those problem areas which supervisors felt currently presented greatest difficulty in the daily performance of their duties.

Personal Attributes

One obvious characteristic of supervisors in both walnut and non-walnut firms is that they consider themselves natives of Missouri. Only two of 27 supervisors interviewed claimed another native or home territory. These two were from Arkansas and Kansas. In terms of distribution, six of seven supervisors in walnut mills and 19 of 20 supervisors in non-walnut mills claimed Missouri as their home state.

In terms of residency, all seven supervisors in walnut mills and 17 of 20 supervisors in non-walnut mills stated that they had been residents of Missouri for more than 19 years. The remaining three claimed residency of 5 to 9 years; 10 to 15 years; and 15 to 19 years. Clearly, these supervisors like living in Missouri or have had no favorably considered opportunity to leave the state.

As far as geographic mobility is concerned, six of seven walnut supervisors and 14 of 20 non-walnut supervisors stated that they had never moved more than 250 miles to accept a new job. This means that most supervisors moved into their present positions from other jobs within the state and probably from other jobs in their immediate locality.

The actual count showed five of the seven walnut supervisors being employed in Missouri and two in Kansas immediately prior to accepting their pres-

ent positions. Nineteen of 20 supervisors in non-walnut mills claimed employment in Missouri and one claimed Arkansas as his place of employment immediately prior to accepting his present job. This pattern indicates rather close ties to a particular locality and certainly influences the attitude of a supervisor toward his job. No doubt employment as a supervisor is viewed more as a means of improved livelihood in a particular locality than as a professional opportunity leading to an expanded career.

Age and educational levels between the two groups of supervisors varied more than other personal factors. Supervisors in walnut mills are older, have a longer history of experience, and less formal education than those in non-walnut mills. Specifically, 55 percent of the supervisors in walnut mills were 50 years old or older (Table 18); five of the seven finished school in either the seventh, or eighth grade (Table 19); and only one of the seven reported a total supervisory experience of less than 5 years (Table 20). Corresponding figures for supervisors in non-walnut mills show 25 percent were 50 years old or older; 10 of 20 finished either the 11th, or 12th, grade of school; and six of 20 had a total supervisory experience of less than 5 years.

TABLE 18. AGE DISTRIBUTION OF SUPERVISORS IN WOOD PRODUCTS .
MANUFACTURING BY INDUSTRY GROUPS, MISSOURI, 1968

Age Class	Industry Group			
	Walnut		Non-Walnut	
Years	Number	Percent	Number	Percent
Less than 20 years	0	--	1	100
20-29 years	1	100	3	95
30-39 years	1	85	5	80
40-49 years	1	70	6	55
50-59 years	4	55	4	25
60 or more	0	0	1	5
TOTAL	7	--	20	--

As Table 19 shows, approximately 85 percent of the supervisors in both industry groups completed at least the 8th grade. However, only two of seven supervisors in walnut mills went further: one completed the 9th grade and one completed the 10th grade. None of the seven supervisors in the walnut mills finished high school. The situation is similar, but not as drastic, in the non-walnut category where eight of the 20 supervisors interviewed had completed the 12th grade; two had completed the 11th grade and 10 of 20 reported a 7th-grade education or less.

TABLE 19. NUMBER AND PERCENTILE OF SUPERVISORS BY YEAR OF FORMAL EDUCATION AND SELECTED INDUSTRY GROUPS, MISSOURI, 1968

Education Level	Industry Group			
	Walnut		Non-Walnut	
<u>Years</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
0	0	--	1	100
7	1	100	2	95
8	4	85	7	85
9	1	30	0	--
10	1	15	0	--
11	0	--	2	50
12	0	--	8	40
TOTAL	7	--	20	--

The point to be emphasized is that only eight of 27 supervisors interviewed had completed high school while 15 of the 27 reported an 8th grade education or less. This situation must affect supervisor attitudes and abilities toward implementation of sophisticated managerial and production technology.

There is no argument that the experience level of these men is not adequate; they know their jobs as currently performed. What is argued is that the paucity of academic education demonstrated by supervisors will probably affect the implementation of new management technology in the wood products industry in Missouri, and this in turn will affect the competitive status of the industry.

Training and Experience

Knowledge of management technology can be acquired through training and experience. However, 17 or 20 supervisors in non-walnut mills and four of seven supervisors in walnut mills indicated that they had not participated in any vocational or technical training courses in the last five years. The six men who had participated in such programs were exposed to technical rather than management-oriented subjects: two attended sessions on safety; two attended schools on the operation and maintenance of dry kilns; one studied to be a mechanic; and one participated in an evening course on mathematics. One of the six also had attended a 5-month lumber inspection school and one had some training in boiler engineering. Such programs are not directed toward improving the managerial efficiency of supervisors.

Experience in administration can supplement or even replace training if it is of the right type. Unfortunately, this is not the case. The type of experience

TABLE 20. NUMBER OF SUPERVISORS REPORTING YEARS OF EXPERIENCE IN PRESENT POSITIONS AND IN TOTAL BY INDUSTRY GROUPS, MISSOURI, 1968

Experience	Industry Group			
	Walnut		Non-Walnut	
Years	Present Position	Total	Present Position	Total
Less than 5	1	1	11	6
5-9	2	2	4	4
10-14	1	1	4	2
15-19	--	--	--	--
20-24	1	1	1	3
25-29	1	1	--	--
30 or more	1	1	--	1
TOTAL	7	7	20	20

gained in positions held by supervisors prior to their promotion to management does not relate directly to current administrative responsibilities. All 27 reported previous job experience which was related more to labor than to management (Table 21).

TABLE 21. NUMBER OF SUPERVISORS REPORTING JOBS HELD IMMEDIATELY PRIOR TO BECOMING A SUPERVISOR, MISSOURI, 1968

Last Job	Industry Group	
	Walnut	Non-Walnut
Sawyer	1	6
Mill hand	--	5
Woods Worker	--	5
Carpenter	1	2
Laborer	3	--
Lumber inspector	2	--
Other	--	2
TOTAL	7	20

Since these supervisors did not report either training or previous experience which qualified them for the administrative responsibilities of their present positions, it is presumed they were promoted to managerial positions because of their natural ability to lead and intuitively administer the men and machines under their jurisdiction.

Despite lack of training or experience, the men interviewed described themselves as holding positions of substantial responsibility over a relatively large number of people. For instance, six of seven supervisors in walnut mills indicated they were plant superintendents and one reported he was the yard foreman for his company. Supervisors in non-walnut mills were less concentrated with two of 20 responding as plant superintendents; 15 of 20 as mill foreman; and three of 20 as yard foreman. The number of people supervised ranged from less than 16 to more than 50 (Table 22).

TABLE 22. NUMBER OF SUPERVISORS BY EMPLOYEE SIZE CLASS AND INDUSTRY GROUP, MISSOURI, 1968

Employees Supervised	Industry Group			
	Walnut		Non-Walnut	
	Present Position	Maximum at any one time	Present Position	Maximum at any one time
Less than 10	3	1	9	7
10-24	1	1	11	10
25-49	1	3	--	3
50 or more	2	2	--	--
TOTAL	7	7	20	20

There is no doubt that the supervisors recognize their responsibilities. However, when queried on the type of training they felt would be most helpful in the daily performance of their jobs, all seven supervisors in walnut mills and 13 of 20 supervisors in non-walnut mills answered "none!!" Three of the remainder felt training in equipment maintenance would be most helpful and two indicated a need for management training. One man, perhaps, was the most honest in declaring that he was not in a position to judge his most critical training need.

This lack of an awareness of training, experience, or educational needs by supervisors can be explained in one way; that is, supervisors are fulfilling assigned tasks adequately and are generally not exposed to the type of responsibilities in which their deficiencies become apparent. In short, they are called upon for production expertise and not managerial or administrative expertise. While comfortable for the individual, this practice does affect the long-term ef-

iciency and, perhaps, is an unfelt but major problem in the industry. Certainly it would be difficult for the supervisors represented in this study to actively participate in large-scale expansion of job responsibilities. This fact introduces a stability to the industry which may not be advantageous in an age characterized by wide-spread and rapid technological change.

Relations with Employees

Supervisory effectiveness is directly related to success in dealing with workers. In this effort, worker age is a critical factor. Supervisors in both types of mills estimated that workers in their departments displayed approximately the same age structure.

TABLE 23. SUPERVISOR ESTIMATES OF WORKERS BY AGE CLASSES AND INDUSTRY GROUP, MISSOURI, 1968

Age Class	Industry Group	
	Walnut	Non-Walnut
Less than 20 years	22	33
20-34 years	154	201
35-50 years	75	172
More than 50 years	28	61
TOTAL EMPLOYEES	279	467
REPORTING SUPERVISORS	7	20

The age structure of workers in both walnut and non-walnut mills is characterized by relatively few workers in either the less than 20 or more than 50 years age classes. Supervisors estimated most workers were 20 to 50 years old with a majority of those in the 20 to 34 age group. Thus, supervisors in both industry groups face a relatively young group of workers.

Apparently workers in both walnut and non-walnut mills are adequately experienced and trained to handle their assigned tasks and are not expected to advance to positions of greater responsibility. When queried, four of seven supervisors in walnut mills and nine of 20 in non-walnut mills answered that they could think of no training of workers which would be helpful to them as supervisors or to the over-all performance of their departments.

Those who do recognize a need, recommend training in job skills such as equipment operation and maintenance, product grading, and saw filing. Personal attributes requiring attention included better work habits, learning to accept responsibility, listening to instruction, and experience on the job, all of which are common complaints of supervisors. Apparently, therefore, correction of personal deficiencies coupled with on-the-job experience will eliminate or minimize most of the training needs cited by supervisors in both industry groups.

TABLE 24. NUMBER OF SUPERVISORS INDICATING TRAINING NEEDS OF WORKERS UNDER THEIR JURISDICTION, MISSOURI, 1968

Type of Training	Industry Group	
	Walnut	Non-Walnut
None	4	9
Job skills	2	8
Personal attributes	1	2
Safety	0	1
Reporting Supervisors	7	20

It is also interesting that only one of the 27 supervisors interviewed in this study felt training in safety would be beneficial to workers. This ranking came despite the fact that 72 percent of the owner-managers in the walnut group and 95 percent in the non-walnut group rated safety as a major supervisory responsibility (Table 17). Thus, either the supervisors do not rate safety as important a factor as do the people who employ them or workers actually are not in need of additional safety training.

In addition to citing few training needs for workers, a relatively small percentage of supervisors felt that the company should give training to workers in areas other than job skills, equipment use and maintenance, and safety (Table 25).

While responses to specific items in Table 25 are interesting, it is more significant to note the conversion of emphasis from job related to company related forms of training. Tasks associated with immediate job needs are given top priority by supervisors in both industry groups. Conversely, training emphasizing the over-all direction of the company or the role of the individual in the future of the firm is rated as important by less than one of four supervisors in both industry groups.

Only one supervisor in each industry group felt that training should be given on career opportunities with the firm and only two in each group felt company policies and regulations warranted explanation to workers.

The pattern of responses to training emphasizes a strong job orientation on the part of supervisors. Workers are employed to serve the production needs of the company and not to fulfill their own desires for a sense of participation or a feeling of satisfaction in being a member of a working team. The training designed to generate a sense of individual importance on the part of the worker or to assure the employee that management is concerned about his future with the firm is important to only a small percentage of supervisors in both industry groups.

TABLE 25. PERCENTAGE OF SUPERVISORS INDICATING THAT SELECTED TYPES OF TRAINING SHOULD BE GIVEN EMPLOYEES BY THE COMPANY, MISSOURI, 1968

Type of Training	Industry Group	
	Walnut Percent	Non-Walnut Percent
Job skills	72	65
Use and Maintenance of new equipment	72	60
Safety on the job	57	55
Personal money management	29	45
Team spirit as a means of improving job performance	43	35
Good work habits	29	30
Attitudes toward other employees	0	25
Attitudes toward the company	29	20
The need to become acquainted with new people	0	15
Company policies and regulations	29	10
Knowledge of career opportunities with the firm	29	5
Political issues affecting the firm	0	5
Reporting Supervisors	7	20

The emphasis on job performance is not readily apparent, however, in the pattern of ratings for factors to be considered in recommending an employee for either a promotion or pay raise. Supervisors in both groups rated factors not directly connected with production as being of primary importance in their considerations of workers for advancement (Table 26). This may be misleading. Certainly a worker must be able to perform his assigned tasks in a competent manner before being considered for advancement. Therefore, the factors cited by supervisors in Table 26 are means of discriminating among qualified workers rather than universal factors to be considered in evaluating all workers. In essence, all factors listed are probably secondary rather than primary considerations. Regardless of intent, supervisors in walnut mills primarily want their workers to show-up from day to day while those in non-walnut mills want their workers to be happy before considering them for advancement. Certainly job requirements account for much of the difference in emphasis. Walnut mills are larger, employ more people, and more closely resemble production-line operations than non-walnut mills. Thus, it is important that workers be reliable in their obligation to be present each day in walnut mills. Non-walnut mills are smaller and supervisors generally work more closely with individual employees. Here morale is a critical factor in considering an employee for advancement.

Additional comparisons of individual ratings could be advanced. It is more significant to recognize the general pattern of rating those factors which the individual worker can control above departmental factors which are beyond his immediate influence. With few exceptions, supervisors rated both job performance and personality above departmental influences as factors to be considered in employee advancement. The introduction of personality clouds the rather pure job orientation of supervisors and presents the possibility of personality selection as a means of creating a group of employees who will work well as a team. This may prove successful if consistently pursued over a long period of time. However, the high turnover rates noted for both industry groups preclude this possibility.

Creation of a highly motivated team of workers is doubly difficult in the absence of both formal training programs and worker tenure. Additionally, job requirements necessitate different approaches in both industry groups. Thus, no common pattern of worker motivation can be identified. The magnitude of the difference in approaches used by supervisors interviewed in this study, however, is not great and can be observed in the ratings of factors considered important to the daily job performance of employees (Table 27).

The first eight items in Table 27 are common to both industry groups although the pattern of response varies. The significant fact, however, is that with one exception, factors involving relations between supervisors and workers are rated above those relating the worker to the company. The essence of this emphasis can best be appreciated by reading down the list of those factors considered least important to the daily job performance of workers.

TABLE 26. SUPERVISOR RANKINGS OF FACTORS TO BE CONSIDERED IN RECOMMENDING WORKERS FOR EITHER A PROMOTION OR A RAISE IN PAY, MISSOURI, 1968

Factor	Industry Group	
	Walnut	Non-Walnut
Morale	8	1
Safe working habits	5	2
Skilled use of equipment and material	6	3
Attitude toward management and the company	3	4
Attendance or absenteeism	1	5
Efficient use of time	2	6
Quality of material produced	11	7
Ability to get along with other employees	4	8
Average cost of production in your department	10	9
Percent cull material being produced	7	10
Total orders produced per day by your department	9	11
Percent down time	13	12
Attitude toward you as the supervisor	12	13
Reporting Supervisors	7	20

TABLE 27. SUPERVISOR RANKINGS OF FACTORS CONSIDERED IMPORTANT TO THE DAILY JOB PERFORMANCE OF WORKERS, MISSOURI, 1968

Factor	Industry Group	
	Walnut	Non-Walnut
A clear knowledge of what is expected of the employee	4	1
Safe working conditions	2	2
Adequate wage and fringe benefits	1	3
A good public school system	6	4
Job stability and job security	7	5
Reasonable, fair, and competent management	3	6
Deriving a sense of pride in work accomplished	8	7
Prompt recognition of both good and poor work	5	8
Attainment of daily quotas or goals	14	9
Facts and figures on current department performance	15	10
Formal meetings with management	18	11
A well defined program of promotion and advancement	11	12
Formal training programs for new employees	13	13
Availability of commercial recreation facilities	9	14
Living in a rural area	12	15
Formal training provided by the company	16	16
Official news letters, memos, and bulletins	17	17
Formal, scheduled, reviews of job performance	10	18
Reporting Supervisors	7	20

Whether the listing of factors in Table 27 reflects actual worker desires or the view of supervisors is not the question. What needs to be emphasized is the narrow view of the factors that supervisors rank as being of primary importance to the individual worker. While it is possible that workers are adequately motivated in their jobs by supervisory emphasis on the first eight items listed, such a situation is doubtful. It is by now common knowledge that being well paid, treated fairly by management, and working in a safe environment are not sufficient to assure employee tenure and performance. A sense of belonging and participation in the future of the company is also required for workers to be motivated and content in their jobs. Efforts commonly employed to generate this feeling among workers in other industries include many of the items listed below the line in Table 27. These factors are rated of least importance by supervisors in both walnut and non-walnut industry groups: two groups which suffer under an employee quitting rate twice the all-industry average in Missouri. This is a point management would do well to consider!

Supervisory emphasis on job related factors is also apparent in the type of cooperation expected of employees. All supervisors in both industry groups rated employee obedience as being of primary importance to the successful operation of their departments. Cooperation and individual initiative as means of maintaining or improving departmental performance were rated second and third respectively and of considerably less importance. Leadership styles employed by supervisors in both industry groups probably, therefore, tend to be autocratic or authoritarian. This means that democratic, paternalistic, and group-decision-making styles of leadership are employed less frequently, if at all. Certainly the "Tell Them," approach is rated above either the "Sell Them, Consult Them, or Join Them," styles of leadership. While the authoritarian approach is effective measured in terms of prompt obedience, it remains the least sophisticated leadership style and does emphasize job demands with little or no recognition of worker motivation or the personal needs of employees. In the extreme, authoritarian leadership can create problems in attracting and holding qualified employees. Further research is required before the relationship between leadership styles and quitting rates can be established. However, the question can be raised, particularly in light of the relatively high quitting rates in both industry groups.

Supervisor ratings of communication methods show no definite patterns between walnut and non-walnut groups or within either group. Those in non-walnut mills rated periodic production reports above all of the 14 factors listed (Table 28). This is a highly formal means of communication. These same supervisors rated group discussions with workers during coffee breaks as an effective means of keeping informed. This is, of course, a highly informal means of communication. A similar pattern repeats itself in the walnut group. Ranked first is the suggestion box, probably management's earliest formal system of communication. In second position, however, is the informal method of talking with key people in a department.

TABLE 28. SUPERVISOR RANKINGS OF COMMUNICATION METHODS,
MISSOURI, 1968

Communication Method	Industry Group	
	Walnut	Non-Walnut
Required periodic production reports	9	1
Group discussion with workers at coffee breaks	10	2
Formal procedures for handling grievances	5	3
The " Grapevine"	12	4
Formal company-wide meetings	11	5
Official bulletin board notices	6	6
Off-hand conversations with individuals during the day	7	7
A suggestion box	1	8
Company or department picnics or parties	8	9
Scheduled short meetings with employees	3	10
Talking with key people in your own department	2	11
Routine, periodic, accident reports	4	12
Informal, after-hours, discussions with one or two individuals	14	13
Talking with key people in other departments	13	14
Reporting Supervisors	7	20

Formal and informal methods of communication are completely intermixed in order of importance. This normally reflects a lack of distinction between two types of information flowing from workers to supervisors. First, there is the knowledge related to current department performance. This includes production reports, means of handling grievances, accident reports, and so forth. In these instances, supervisors in both industry groups apparently favor formal systems of communication. That is, a well defined procedure for reporting.

The second type of information required for the efficient operation of a department relates to worker attitudes, morale, motivation, and other personal factors which influence individual performance. In these instances, supervisors in both groups apparently favor informal systems of communication.

A final flow of information is from supervisors to workers. In this effort, the supervisor must be able to control reliability, quantity, and timing of information released to workers. This requires a highly structured, formal means of communication to obtain consistent results. Workers need a recognized channel for reliable information or the integrity of material is subject to question. The absence of a recognized method of communication between supervisors and workers is indicated by the presence of a "Grapevine," a highly informal method of communicating information.

While the transmittal of information from the supervisor to the worker was not specifically studied, it is interesting that official bulletin board notices ranked sixth of fourteen methods of communication. Supervisors apparently are aware of the need for recognized outlets for information even though they do tend to rely on informal as well as formal methods for various types of information.

The final characteristic studied relates to the kinds of problems supervisors encounter in maintaining production. With only one exception, the major problems ranked by supervisors involved the performance of workers. High labor turnover, lack of skilled labor, absenteeism, people who like to work their own hours, and lack of motivation on the part of workers, were placed near the top of the list of problems by both groups of supervisors (Table 29). Also, when asked to name their number one problem as a supervisor, 17 of the 27 answered "personnel problems"; five named either plant layout or equipment; five said they either did not have or could not identify any single factor as being their number one problem.

This emphasis on personnel again indicates that supervisor problems are people problems. Production, equipment, work flow, and so forth all create difficulties for the individual supervisor, but his number one concern is, and remains, the people under his jurisdiction, and it is the problems of personnel that create the greatest difficulty in maintaining production.

TABLE 29. SUPERVISOR RANKINGS OF PROBLEMS ENCOUNTERED IN MAINTAINING PRODUCTION, MISSOURI, 1968

Problem Area	Industry Group	
	Walnut	Non-Walnut
High labor turnover	4	1
Lack of skilled labor	2	2
Absenteeism	3	3
Down-time for equipment maintenance	7	4
People who like to work their own hours	10	5
Lack of interest or motivation on part of employees	1	6
Lack of authority to make decisions and take action	9	7
Wide differences in size of materials handled	8	8
Drinking, either on or off the job	5	9
Lack of immediate inspection of each employee's work	11	10
Lack of clear understanding of who is responsible for each job	13	11
Too much area or too many people to supervise	14	12
Inefficient plant layout	6	13
Differences in capacity of machines in the same line	12	14
Reporting Supervisors	7	20

CONCLUSIONS

The one recurring theme in supervisor responses throughout this study has been the problem of attracting and keeping qualified, motivated, efficient employees. People problems as opposed to equipment or material difficulties have consistently been emphasized by supervisors. However, despite this emphasis, it has been shown that current supervisors in both walnut and non-walnut mills in Missouri came to their jobs with little or no training in management or personnel relations. It has also been shown that supervisors have not been generally subject to such training since accepting their current positions. Indeed, most supervisors indicated that they did not feel the need for training and tended to place responsibility for their problems on the low quality of labor available to the wood industry. The position being simply that employees of higher quality would greatly reduce the difficulties faced by supervisors in the daily operation of their departments.

This must be a comfortable position for supervisors. However, modern theory recognizes the responsibility of management for creating the environment necessary to attract and sustain motivated, efficient employees. The lack of such a

labor force is recognized as a failure of management rather than labor. Both supervisors and higher levels of management must recognize their responsibilities in this area and institute programs appropriate to the magnitude of the problem.

Educational programs may be promoted on either an industry-wide or an individual firm basis. Heroic efforts by individual mills will have little total effect unless industry-wide constraints are favorable. Supervisors and individual mills operate in less than a favorable atmosphere. The industry is characterized by small firms, high quitting rates, and low wages for workers. Within the individual firm, the supervisor is well paid, but in almost no other way is he associated with management. He operates between the workers he supervises and the management he serves with little or no direct ties to either group. He relies on native ability and job experience to keep both groups satisfied. He has never been formally trained for his job.

The picture is one of an industry where personnel training at all levels of management is seriously lacking. Further, this deficiency in implementation of basic managerial practices was evidenced in all types of firms interviewed; in short, there is an industry-wide need for education and training programs designed to improve both management and supervision within the wood products industry of the state. As stated above, such programs may be instituted on either an industry or individual firm basis. The general need shown in this study implies the former approach. However, the industry does not now have an association or other form of organization capable of taking on so large a task. This is changing, however, and a new association of sawmills in the state of Missouri is being undertaken. Management training could be one of the most important projects facing this group. Certainly when one considers that production is dependent on machines, material, and men, the results of this study indicate that manpower training is of primary importance in the wood products industry of Missouri. If this publication causes owners and managers in this industry to look more closely at their use of the human resources available to them, the purpose of the study will have been fulfilled.

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