



PARTICIPATIVE MANAGEMENT AND PERFORMANCE: AN EMPIRICAL ANALYSIS OF WORK ORGANIZATIONS

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Abstract

Workers' Participation in Management (WPM) has come to be the focus of scientific and academic attention in Sociological circles with its growing importance in the context of post industrial society. WPM is viewed as a principal mechanism through which the principles of human relations approach could be incorporated into the managerial practices in the contemporary work organizations and as such, has been looked upon as a positive and humanizing intervention in the process of management. However, the nature, extent and determinants of WPM have been found to be varying significantly in different socio-cultural contexts warranting culture specific and context specific empirical studies. An attempt, hence, is made in this paper to probe empirically into the extent and determinants of WPM in work organizations in an Indian setting. In all, eight work organizations from public and private sector, representing diverse types, and sizes are studied employing an organizational information schedule so devised as to elicit information required for conceptualizing organizational and contextual variables, along with three interview schedules each designed to ascertain the nature and extent of WPM, by representatives of workers, managers and unions operating as functionaries on diverse machineries of WPM. The findings seem to

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negate the much debated and lamented poor levels of participation by worker representatives, apathy of managerial personnel and antagonism of union leadership. The level of WPM wherever provided for, is found to be reasonably high and it varies significantly with organizational variables such as size, sector, age of the organization and extent of unionization on the one hand contextual variables such as labor force composition and ideological and political overtones of the unions operating in the plant on the other. Further, the findings indicate that the extent of WPM has significant positive implications for productivity, climate of industrial relations and profitability in particular and industrial performance in general.

Introduction

With the art of management evolving into a full-fledged rational science and with management coming to be identified as a streamlined profession, the scientific study of human behavior at work came to prominence in social sciences. This has led to the establishment of management as an independent academic discipline and a branch of knowledge. Since then, several experiments have been conducted to identify the positive interventions at work place and in work process. It could yield better results in terms of productivity, climate of industrial relations, development of a democratic sub-culture at work place, increased levels of commitment, morale and job satisfaction leading to the overall industrial and economic development. Workers' Participation in Management (WPM) has been one such experiment that has universally come to be recognized as a practice with positive implications for the process of work, workers, industry and society at large.

It is universally assumed that WPM leads to increase in productivity since it breeds commitment and identification on the part of workers to the industry. It also generates in them a feeling of being a part of the organization. This has been empirically ascertained by the studies of Mayo (1941), Coch and French (1948), Morse and Reiner (1956), Seashore and others (1963), Drucker (1964), Guest and Fatchett (1974), Aziz (1980), Sahu (1985) and Varandhani (1989). The impact of WPM has been equally strong and positive on the climate of industrial relations because it ensures willing, cooperation and coordination between workers and employers. The studies of Tennenbaum and Massarik (1967), Mamoria (1971), Alexander (1972), Pylee (1975), Anthony (1978), Vishnugopal (1984), Vishwanath (1992), Cooke (1994), Addison et.al (2000) and Haddad (2002) have found empirical evidence to this effect. Research conducted by

Strauss (1963), Hameed (1973), Heckscher (1988), Balundagi and Bagali (1994) and the like indicate to the fact that WPM democratizes the workplace by providing workers with an opportunity to express and participate. Further, the studies of Davis (1967), Blumberg (1968), Hebden and Shaw (1977) and Anthony (1978) concluded that a participative scheme will have positive influence on morale. Job Satisfaction has generally been understood as another positive outcome of WPM. The studies undertaken by Maslow (1943), Katz and others (1950), Jacobson (1951), Morse (1953), Patchen (1970), Francis and Milbourn Jr., (1980), Singh and Pestonjee (1990) seem to indicate to this association. Coming to the commitment, Blumberg (1968), Lawler and Hackman (1969), Siegal and Ruth (1973), Anderson (1984), Sahu (1985) and many others state empirically that, WPM in essence may be conceived as a device of sharing management authority with workmen as part of the strategy of creating a committed workforce in industry.

The much debated participative management has come to the forefront of Sociological attention in India in the recent past although human relations approach has been in vogue as a positive intervention in managerial philosophy and practice since pre-world war II years. India as a developing country is wedded to the policy of rapid industrialization. As a society, it is believed that it has not developed yet an industrial subculture in the context of which WPM would have gained acceptance and achieved desired goals. With traditional social order, predominantly agrarian economy and rural background of the new industrial workforce, it is assumed that WPM is an experiment out of context. An attempt is made in this paper to ascertain empirically the validity of these assumptions.

Statement of the Problem

In view of the positive implications of WPM testified by the studies perused above, the present paper addresses itself to several issues pertaining to WPM in the Indian industrial context, so widely debated and speculated in academic circles. In doing so, due consideration is given to the gaps in empirical literature and areas that seem to be lacking in empirical coherence and consistencies as evidenced by the existing literature as well as those aspects that could be of immediate applied significance. Hence, an attempt is made in this paper to identify the indices of the extent and effectiveness of WPM in the context of Indian work organizations. Having identified the extent and effectiveness of participation, an attempt is made further to ascertain empirically the implications of these for productivity, profitability, climate of industrial relations and industrial performance.

Methods and Field

The findings are based on a study of WPM in both public and private work organizations, carried out at Bangalore, Karnataka, India. The data are gathered principally through four instruments, an organizational information schedule and three independent interview schedules specifically devised to be introduced to the three principal actors in the process of WPM, the managerial personnel, union leaders and the operatives. Several scales for identification of the indices of participation, its extent, determinants, its effectiveness and its implications were incorporated in these schedules. The organizational information schedule seeks to ascertain details pertaining to the organizational features such as size, sector, installed capacity, capacity utilization, type of technology employed, machineries of WPM in operation, the climate of industrial relations, levels of productivity and so forth which could serve as both explanatory and dependent variables in the analysis of nature, extent, effectiveness and implications of WPM and also provide a necessary and meaningful backdrop against which the findings of the study could be meaningfully discussed and interpreted.

The data gathered were primarily qualitative in nature. The same were quantified by employing suitable coding and scoring techniques rendering the data amenable for statistical analysis. The data were also gathered from the office of the industries and unions to cross verify and authenticate the information obtained from the field.

Conceptualization

Further, for the purpose of analysis and interpretation of factual findings of the study, the concepts of extent and effectiveness have been evolved and operationalized in the present study.

The composite variable of 'extent of WPM' was ascertained and measured taking into account the score of respondents on diverse variables relating to scope, area and level of WPM, number of machineries in operation, frequency of meetings, and number of decisions taken through WPM. The data pertaining to these were coded and scored based on which the extent of participation was classified as 'high', 'moderate' and 'low'. The 'effectiveness' as a concept was developed by combining several indices such as extent of workers' say in JMCs, SFCs, QCs and WCs, number of grievances that could be resolved, general administration of the firm, the number of decisions taken in these machineries, the extent of their implementation, the ease with which the machineries of WPM function in the plant without friction, bottlenecks, apprehensions or reservations

and the like. Based on these criteria, the effectiveness of WPM was classified as 'high', 'moderate', and 'low'.

The 'climate of industrial relations' is another important concept used in the study and is viewed as being a positive implication of WPM on the one hand and a necessary pre-condition for WPM on the other. The criteria employed to ascertain the climate of industrial relations are the frequency and duration of strikes and lockouts during the last five years, number of man days lost, nature of strike in terms of intensity and violence, nature of interaction between union and management, number of disputes pending before mediation machineries, management attitude toward union and vice-versa and so forth. Based on these criteria, the plants are classified as those with 'peaceful', 'turbulent', and 'mixed' type of climate of industrial relations.

Further, 'industrial performance' was one such variable developed in the study which could be viewed as the function of WPM, Industrial performance was ascertained on the basis of criteria such as the extent of capacity utilization, level of productivity, operating status (profit-loss) and extent of commitment and job satisfaction among the workforce. Based on these criteria, the plants were classified as those with 'high' or 'low' performance.

The Field

The present study was undertaken in the two labor division of the State of Karnataka in India, that is Bangalore Division I and II which represent one of the leading industrial regions not only of India but of Asia. Eight plants operating in diverse areas such as machine tools, heavy electrical, electronics, engineering, textile and food, with strength of 400 or more were selected keeping in view the WPM machineries in operation and other variables such as size and sector. In all 56 managerial personnel, 56 trade union officials and 128 operatives were chosen to constitute the study group of 240 respondents.

Findings

It is assumed that the extent of WPM and its effectiveness together determine the extent to which the desired implications of WPM are achieved. An attempt hence is made in this paper to analyze and interpret the findings pertaining to the extent and effectiveness of WPM and the impact of these on productivity, climate of industrial relations, industrial performance and operating status.

It needs to be clarified here that the extent and effectiveness of WPM are viewed as two separate entities here and it is done so justifiably because, extent refers merely to the frequency and quantitative aspects of participation whereas, effectiveness of WPM emphasizes the qualitative aspect focusing on the influence of WPM on the actual decisions taken, the seriousness with which these decisions are actually implemented and the extent of achievement of the assumed and desired implications of WPM.

Extent of WPM

Extent is viewed as representing a measure of scope, the actual implementation and operational success of the schemes of WPM and is measured by the proportion of workers who take part, on the one hand, and by how actively they participate on the other. Indirect participation through representatives involves less participation by individuals than what could occur in direct participation (Walker, 1973).

Extent of participation will depend on the cooperation involved and the delegation of authority in decision making and their implementation and it also depends to a significant extent upon workers' propensity to participate and the managements' acceptance of workers' participation. Workers' propensity is a function of their attitudes, their perceived power to participate and actual capabilities to participate (Varandhani, 1989 and Bhatnagar, 1991). Nine variables were taken to constitute the composite variable of extent of WPM in the present study and taking into account the total of the scores of the respondents on all these constituent variables a scale was prepared to classify the extent as 'high', 'moderate' and 'low'. Some of the important constituents of the measure of extent of WPM were levels of participation, extent of involvement, the nature of participation, the areas and frequency of participation.

The extent of participation so identified and measured is found to be reasonably high with nearly 90 (87.5) percent of the units exhibiting moderate to high extent of participation. It is speculated that in an era of globalization, liberalization and with the emergence of competitive world markets, where, emphasis is increasingly being placed on quality, adaptability, up-gradation of technology, economic viability of business operations, humanization and democratization of work process and work place has come to be viewed as not a priority and relegated as philanthropic, ideological and utopian issue. But in spite of such developments and despite their natural outcome, the study seems to be indicating to a strong commitment to and firm belief in the desirability of WPM in the Indian work organizations. It may be viewed as a significant departure from traditional,

monarchic and patrimonial form, structure and governance, so typically found in erstwhile Indian enterprises. WPM which may be taken as one of the manifestations of principles of Human Relations approach in Elton Mayo tradition, has surprisingly appears to have found acceptance in the so called relatively young Indian business world. This may well be taken as a welcome departure from earlier forms of management.

Having ascertained the actual extent of WPM, an attempt is further made to focus on the explanatory variables that could be determining the extent of participation. Personal background variables such as, age, educational level, caste, span of career, social origin on the one hand and organizational and contextual variables on the other, such as, size, age, sector, technology and extent of unionization in the plant and the like have been analyzed for their bearing on the extent of WPM.

A curvilinear association was found to be existing between the extent of WPM and age and a very strong positive association was found between the educational level of the respondents and the extent of WPM. It is interesting and significant to note that, as evident from a negative association between caste status and extent, the respondents coming from lower castes were found to be contributing significantly to the extent of WPM. However, irrespective of this association, WPM was found to be positively varying with the social origin, indicating that caste is not the sole factor influencing the extent of WPM when it comes to the social background of the respondents, but it must be coupled with higher educational level and occupational attainments.

With regard to the organizational and contextual variables, the study finds that the public sector industries of relatively large size, established quite some time back with complex and formal bureaucratic structure exhibit a high extent of WPM. Quite interestingly, although union in general, owing to ideological considerations, is opposed to the idea of WPM, the extent of unionization in the plant was positively associated with extent of WPM. It is still more significant to note that, a strong independent union movement with no ideological affiliations and political overtones facilitates greater WPM. The leftist orientations or allegiance of the unionism, which is ideologically against codetermination or collaboration with the management, represents the least conducive context for the extent of WPM.

However, more significant determinants of the extent of WPM are the dispositions and experiences of those who participate in the WPM machineries toward the philosophy and practice of WPM. The extent of WPM may thus be viewed as being determined by dispositions and experiences of the respondents.

Effectiveness of WPM

Effectiveness of WPM refers mainly to the qualitative aspects of WPM. There could be several factors which determine the effectiveness of WPM, which in turn contributes a great deal to the working success of WPM.

Commitment of management to encourage WPM, decentralized organizational structure, frequent meetings, a strong, stable and responsible trade unionism, leadership style and the like are some of the factors found to be determining the effectiveness of WPM (Mehtras, 1966; Tanic, 1969; Alexander, 1972; Pylee, 1975; Sharma and Chauhan, 1989).

Hence, an attempt is made in this section to focus on the degree of effectiveness and its determinants in the light of earlier findings.

The effectiveness of WPM identified and measured as discussed in the section on methodology is found to be reasonably high with 75 percent of the respondents being associated with high to moderate levels of effectiveness. Again, viewed in the light of general opinion held about the functioning of WPM machineries, the perceived or observed level of effectiveness could be considered as reasonably high. For a developing economy with traditional workforce operating in traditional social structure, the level of effectiveness with which the WPM machineries were found to be operating may be considered as quite promising and gratifying though there is still scope for improvement.

The level of effectiveness is found to be varying significantly with educational level of the respondents and to some extent with caste and social origin. However, the organizational and contextual variables were found to be more significantly influencing the level of effectiveness. The analysis of data pertaining to effectiveness in the light of these contextual and organizational variables reveals that it is the public sector units of larger size established quite some time back have a higher level of effectiveness compared to small private sector units of recent origin. In terms of climate of industrial relations, it is significant to note that their implications for effectiveness could not be ascertained owing to an overwhelmingly majority of the units having cordial industrial relations. In terms of extent and nature of unionism as components of climate of industrial relations, the findings indicate that it is not the extent of unionization but it is nature of affiliation that has a considerable say in determining the level of effectiveness, that is, it is the politically and ideologically neutral unionism that contributes a great deal to the effectiveness of WPM with leftist unions having a negative impact on the same. Lastly, a very high positive association was found between

the effectiveness and the extent of WPM which could be indicating to an internal consistency between two positive and most important dimensions of WPM. Higher level of effectiveness is closely associated with high extent of participation.

WPM: Impact and implications

It is always assumed that the WPM enhances job satisfaction, morale, commitment, identification, improves climate of industrial relations, organizational climate and enhances productivity and thereby contributes to the overall performance of the industry.

Having found the extent and level of effectiveness of WPM reasonably high, an attempt is made further to ascertain empirically the implications of the extent and effectiveness of WPM for the industrial performance. However, for the purpose of analysis, the implications of WPM are ascertained under three broad categories, that is, climate of industrial relations, productivity and lastly, industrial performance.

Extent and Implications

The units studied were classified on the basis of the type of climate of industrial relations round therein. The data pertaining to the same reveal that about two thirds of the plants (62.5 percent) had cordial industrial relations and the remaining 37 (37.5) percent of the respondents belonged to the units in which the industrial relations could at best be described as neutral. Further, the climate of industrial relations is analyzed to ascertain its implications for the extent of WPM or to see whether the climate of industrial relations was the functions of the extent of WPM.

Table 1.1 Climate of Industrial Relations by Extent of WPM

Climate of Industrial Relations	Extent of WPM			Total
	High	Moderate	Low	
Peaceful	90 (75.0)	30 (33.3)	30 (100.0)	150 (62.5)
Neutral	30 (25.0)	60 (66.7)	---	90 (37.5)
Total	120 (100.0)	90 (100.0)	30 (100.0)	240 (100.0)

$X^2 = 58.66$, d.f. = 2, Significant at 0.01 level, C = 0.44

As expected, the climate of industrial relations appears to be a function of the extent of WPM or stated other way round; the cordial climate of industrial relations promotes the extent of WPM. It appears and it is quite logical to argue also that high extent of WPM breeds better industrial relations climate through better understanding between the parties, better interaction leading to the establishment of more cordial relationships between the managements, workers or unions. On the other hand, such a cordial climate of industrial relations as well could be considered as a precondition for a more active and meaningful operation of the machineries of WPM.

The table reveals that three-fourths (75 percent) of those having high extent of WPM are associated with cordial industrial relations. The corresponding proportion among those with moderate extent of participation is as low as 33 (33.3) percent. The argument, further, is supported by a statistically significant relationship between the climate of industrial relations and the extent of WPM with 'c' value being as high as 0.44. Thus, it may be stated that the extent of WPM has a positive implication for the climate of industrial relations and it could as well be vice-versa.

Further, this cordial climate of industrial relations in turn is responsible for other positive gains for industry, which may also be taken as indirect benefits of WPM. For instance, the cordial climate of industrial relation could be taken as a causal factor in determining the extent of positive impact on outcome of WPM. Similarly, it was noticed that, the extent of implementation of the decisions of WPM was much higher in those units where the climate of industrial relations was cordial. Another most important implication of cordial climate of industrial relations on the WPM was a greater participation of workers' representatives in WPM machineries. Thus the climate of industrial relations which is assumed to be a function of high extent of WPM, in turn is associated with several important dimensions of WPM and as such these two could be considered as mutually reinforcing. To this extent it may be stated that efforts need to be put in to promote both as well as in the interest of organization.

Productivity

Further, the study seeks to focus on the implications of WPM for productivity and other related aspects, such as morale, job satisfaction, commitment, capacity utilization and the like.

One of the most widely discussed, debated and accepted fact is the positive implications of WPM for the productivity. The literature on WPM is replete with

studies and findings supporting the nexus between these two variables, to state that higher extent of WPM induces higher level of productivity. Many studies have taken this association itself as the true touchstone of the effectiveness of WPM. The findings of the present study also support this assumption.

Table 1.2 Productivity and Extent of WPM

Productivity	Extent			Total
	High	Moderate	Low	
High	90 (75.0)	60 (66.7)	--	150 (62.5)
Low	30 (25.0)	30 (33.3)	30 (100.0)	90 (37.5)
Total	120 (100.0)	90 (100.0)	30 (100.0)	240 (100.0)

$X^2 = 26.66$, d.f. = 2, Significant at 0.01 level, C = 0.31

The findings of the present study, in tune with logic and expectation, tend to confirm the positive implications of WPM for productivity. It is observed from the table that, the proportion those with high productivity is as high as 75 percent among those associated with high extent of WPM and declines to two-thirds (66.7 percent) among those with moderate extent, with none having high productivity among those with low extent of WPM. Similarly the proportion of those with low productivity goes on from 25 percent among those with high extent to one-third (33.3 percent) among those with moderate extent and reaching 100 percent among those with low extent. The association being significant at 0.01 level with 'c' value being 0.31, the relationship between the two may be taken as strong. It is in this context again that, the study has proved that WPM could be viewed as strong positive intervention in the development of industry and economy at large through achievement of higher level of productivity. It is argued that WPM induces higher level of productivity through greater job satisfaction that the employees derive in a work situation they have been able to create by their own decisions. Through higher levels of morale that naturally come by owing to the confidence the workers come to have in themselves, through the power of decision making that affecting their working lives, through greater commitment and identification they develop towards the firm by coming to be the integral part of organization contribute to increase in the extent of capacity utilization. Thus, the extent of WPM is viewed as setting a chain reaction in operation to influence several phenomena associated with productivity.

The above argument is supported by the fact that, job satisfaction is significantly associated with extent of WPM. Extent of WPM and level of job satisfaction were found to be significantly associated at 0.01 level and further job satisfaction in turn facilitates higher levels of productivity.

Industrial Performance

Industrial performance was another composite variable analyzed for its relation with the WPM. Since it is known that WPM as a positive innovative intervention in the management of work organization has different implication for different aspects of work organization, a composite variable incorporating several structural and functional aspects of work organization was attempted to be developed. This would provide the researcher with a more realistic index and measure of the performance of industry. Accordingly, a composite variable identified as "industrial performance" was developed based on such diverse variables like capacity utilization, operating status, climate of industrial relations and level of productivity. The data pertaining industrial performance so ascertained reveal that 75 percent of units under study exhibit a high performance and in the case of remaining 25 percent of the cases the performance was low.

For a developing economy like India, which is lamented to be plagued with diverse teething problems, and especially problems relating to requisite kind of workforce, to have 75 percent of the industrial units performing at a higher level may be viewed as quite gratifying. However to what extent this level of performance could be attributed to the WPM as a managerial intervention is more pertinent question sought to be answered. Although there could be other factors contributing to this level of performances, an attempt is made here to analyze the level of industrial performance in the light of extent of WPM.

The analysis, quite logically, indicates to a positive association between the two. The analysis of the data indicates to a positive association between the extent of WPM and the level of industrial performance. All the units with high extent of WPM are associated with high performance and contrary to this all the units associated with low extent of WPM are found associated with low level of performance. The association between the two was found to be statistically significantly at 0.01 level. As such, the overall industrial performance, which is made up of diverse indices, could be viewed at least to some extent as a function of the extent of WPM. This could put an end to an ongoing debate as to whether WPM is practicable in Indian context and if practiced, whether it could be of any positive implications for the industry and economy at large. Thus, if the findings of this study are taken as being of some suggestive value, then, it may be stated

that efforts needs to be put in rendering WPM as a living and vibrant institution or practice that could finally contribute to the emergence of a more sound and viable economy.

Coming to the other constituents of the composite variable of industrial performance, it may be noted that productivity has already been found to be positively varying with the extent of WPM and so is the climate of industrial relations. As such only two other variables such as operating status and capacity utilization have to be analyzed afresh. Further, since capacity utilization has been quite high uniformly in all the units, there is no need for cross tabulation of the data pertaining to capacity utilization leaving only operating status to be probed into for the impact of WPM.

Operating Status

Coming to the operating status viewed as a function of the extent of WPM, the data indicate to a very strong association between the two.

Table 1.3 Operating Status by Extent of WPM

Extent of WPM	Operating Status					Total
	Incurring Heavy Loss	Incurring Loss	Making it Even	Profit Making	Highly Profit Making	
High	7 (33.3)	37 (61.7)	---	53 (88.3)	23 (33.3)	120 (50.0)
Moderate	7 (33.3)	23 (38.3)	30 (100.0)	7 (11.7)	23 (33.3)	90 (37.5)
Low	7 (33.4)	-	--	--	23 (33.4)	30 (12.5)
Total	21 (100.0)	60 (100.0)	30 (100.0)	60 (100.0)	69 (100.0)	240 (100.0)

$\chi^2 = 131.62$, d.f. = 8, Significant at 0.01 level, C = 0.59

The relationship between operating status and the extent of WPM is indicative of a curvilinear association between the two. The data seem to indicate that the operating status of the firm improves with the extent of WPM up to a point. It is significant to note that all the firms making it even have moderate extent of WPM and nearly 90 (88.3) percent of the profit making units are associated with high extent of WPM. Having reached this high level of operating status in units with high extent of WPM, the proportion comes down to one third (33.3 percent) among those with highly profit making units suggesting a curvilinear association between the two. This may suggest that WPM promotes operating status up to a

point and beyond that it comes to be of not much practical utility. It may also be stated that in organization where operational status is very high, other causative variables might be in operation. However, the relationship being statistically significant at 0.01 level with 'c' value being as high as 0.59, it may well be stated that the extent of WPM has a definite positive implication for operating status.

Thus, with regard to implications of WPM on industry, as ascertained through the extent of WPM, it may be concluded that, the extent of WPM could be of positive implications for the climate of industrial relations and the productivity. Further, the industrial performance, a variable which was formulated by taking into account all the important parameters of positive industrial operation was also found to be a function of the extent of WPM though in case of operating status, its impact was not linear but curvilinear.

Having ascertained the implication of extent of WPM for climate of industrial relations, productivity, industrial performance and operating status, an attempt is made further to ascertain the implications of the effectiveness of WPM again for three major concerns of industrial management in the order of importance as ascertained in the case of the extent of WPM, that is, the climate of industrial relations, productivity and the industrial performance.

Effectiveness and Implications

Climate of Industrial Relations

Surprisingly enough, the level of effectiveness of WPM was not strongly associated with the climate of industrial relations as was the extent of WPM.

Table 1.4 Climate of Industrial Relations by the Effectiveness of WPM

Climate of Industrial Relations	Effectiveness of WPM			Total
	High	Moderate	Low	
Peaceful	60 (66.7)	60 (66.7)	30 (50.0)	150 (62.5)
Neutral	30 (33.3)	30 (33.3)	30 (50.0)	90 (37.5)
Total	90 (100.0)	90 (100.0)	60 (100.0)	240 (100.0)

$X^2 = 5.33$, d.f. = 2, Significant at 0.05 level, C = 0.14

The proportion of those associated with peaceful industrial relations among those with high and moderate effectiveness is same (66.7 percent) which comes down to a half (50.0 percent) among those associated with low level of effectiveness, indicating to a rather weak impact of the effectiveness of WPM on the climate of industrial relations. It may thus mean that, when it comes to the climate of industrial relations, it is the extent of WPM which matters more than the effectiveness of it. Hence, the extent may refer to the number of contacts, frequency of interaction, participation in the deliberations-which are expected to breed confidence, good will, harmony and mutual trust leading to better understanding. Thus, with regard to the implications of the effectiveness of WPM for the climate of industrial relations, the findings seem to be suggesting to a positive association between the two, though not as strong as the one found with extent of WPM.

Productivity

Further, focusing on the implication of effectiveness for the issue concerning productivity, the data surprisingly suggest that there is rather a very weak association between the two indicating again that, the level of effectiveness is not as important as is the extent in determining the productivity.

Table 1.5 Productivity by Level of Effectiveness

Productivity	Effectiveness of WPM			Total
	High	Moderate	Low	
High	60 (66.7)	60 (66.7)	30 (50.0)	150 (62.5)
Low	30 (33.3)	30 (33.3)	30 (50.0)	90 (37.5)
Total	90 (100.0)	90 (100.0)	60 (100.0)	240 (100.0)

$X^2 = 5.33$, d.f. = 2, Significant at 0.05 level, C = 0.14

It is rather quite logical to expect the level of effectiveness with which the WPM machineries operate to be of significant implications for the level of productivity in the plant. Although the analysis of the data pertaining to these two variables indicates to a similar trend as could be observed from the table, it appears that the association between the two is not as strong as it could be expected.

However, it may still be assumed that though not as significant as the extent of WPM, the effectiveness may be of functional consequence for issues of more general nature than are the climate of industrial relations and productivity. It

may also be noted here that, a comparative view of the findings relating to perceived levels of extent and effectiveness is in favor of extent wherein the units with high extent constitute 50 percent, moderate extent represent 37.5 percent with low extent being only 12.5 percent. Whereas in case of effectiveness, proportion of those with high level of effectiveness is 37.5 percent, moderate level of effectiveness also is 37.5 percent and the proportion of those with low level of effectiveness is as high as 25 percent. Thus, it is found to be less significant in relation to the climate of industrial relations as well as productivity.

Operating Status

The analysis of the data, further, indicates to a very strong association between the level of effectiveness and the operating status of work plant. The operating status which is ascertained on the basis of final outcome of the operations in terms of extent of profit and loss could, in fact, be taken as a more important index of industrial performance than the climate of industrial relations, productivity, personnel relations and the like, although earning profit at any cost, particularly at the cost of human factor in the process of production may not be taken as desirable. However, in the world of business, the extent of profit earned is the real criterion for ascertaining the industrial performance. Hence, the association between the effectiveness and operating status is analyzed and presented in the table.

Table 1.6 Operating Status by Level of Effectiveness

Effectiveness of WPM	Operating Status					Total
	Incurring Heavy Loss	Incurring Loss	Making it Even	Profit Making	Highly Profit Making	
High	7 (33.3)	14 (23.3)	---	46 (76.6)	23 (33.3)	90 (37.5)
Moderate	7 (33.3)	23 (38.3)	30 (100.0)	7 (11.7)	23 (33.3)	90 (37.5)
Low	7 (33.4)	23 (38.4)	---	7 (11.7)	23 (33.4)	60 (25.0)
Total	21 (100.0)	60 (100.0)	30 (100.0)	60 (100.0)	69 (100.0)	240 (100.0)

$\chi^2 = 100.31$, d.f. = 8, Significant at 0.01 Level, C = 0.54.

A very high positive association may be observed between operating status and the level of effectiveness from the data presented in the table. This could be a finding that might appeal to the managements most, as many a time they seem to be reluctant to introduce and experiment WPM on the grounds that it might erode into their profits. In view of the conflicting interests of workers and

management, workers participation in decision making is feared to influence the decisions in favor of workers' interests. It may also be on the ground that, the worker component in the WPM machineries is not skilled and competent enough to make the process geared to the larger interest of the firm. But all these assumptions appear to be baseless, unfounded and are without empirical evidence. On the contrary, the empirical evidence is in support of WPM in so far as operating status of the industry is concerned. It may be observed from the table that only one third of those incurring loss are associated with the high level of effectiveness whereas, the corresponding proportion among those earning profit is as high as 77 (76.6) percent. It is also significant to note that all those units that are making it even have moderately effective WPM in operation. It may, hence, be stated that, though not as significantly influencing the climate of industrial relations and productivity positively as the extent of WPM, the level of effectiveness is rather more important than the extent of WPM in determining the industrial performance which is more important in the final analysis.

Industrial Performance

The industrial performance, as stated earlier is a more general or a broader concept, incorporating all the indices of performance of an industry like production, personnel, industrial relations, operating status, capacity utilization, and the like and as such is taken as more comprehensive index of the performance or health of an industry. An attempt is made here to ascertain the implication of the effectiveness of WPM for this composite variable and the findings suggest to a highly significant association between the two.

Table 1.7 Industrial Performance by Level of Effectiveness

Industrial Performance	Effectiveness			Total
	High	Moderate	Low	
High	90 (100.0)	60 (66.7)	30 (50.0)	180 (75.0)
Low	-	30 (33.3)	30 (50.0)	60 (25.0)
Total	90 (100.0)	90 (100.0)	60 (100.0)	240 (100.0)

$\chi^2 = 53.33$, d.f. = 2, Significant at 0.01 level, C = 0.42

It was assumed earlier, that the effectiveness being a more important trait of WPM, could be having significant implications for more general and important issues relating to the functioning of a work organization and the findings of the present study seem to support the assumption. It may be observed from the table that of those industries that are high on WPM effectiveness, all (100 percent) are associated with high level of industrial performance. On the other hand, units with moderate effectiveness are less likely (66.7 percent) to have high performance and those with low level of effectiveness are still less likely (50 percent) to have higher levels of industrial performance. This could be seen as one of the most important implications of WPM for the industry. It is further significant to note that, the impact of effectiveness on industrial performance is much greater than that of the extent of WPM in case of which the association with industrial performance was significant with 'c' value being 0.23. In comparison with this, the association between effectiveness and industrial performance is as high as nearly twice the score that is 0.42. This may clearly indicate that mere higher extent of WPM may not be of as much a positive implication for the general well being of the industrial organization as is that of higher level of effectiveness of WPM. Based on the findings, it may as well be suggested that while stressing the wider implementation and bringing more and more areas of management under the scope of WPM, emphasis or premium should also be placed in rendering the process of WPM more meaningful and effective.

Conclusion and Suggestions

Thus, with regard to the implications of WPM for the industry and the issues relating to them, the study bifurcates the total process as representing extent and effectiveness, that is the quantitative and qualitative dimensions of the process of WPM.

The findings of the study seem to indicate that the quantitative aspect, that is, extent of WPM influences more significantly such aspects like productivity, climate of industrial relations and operating status of industry whereas the qualitative dimensions of WPM, that is, effectiveness is found to be influencing more significantly the industrial performance as a whole which was a more comprehensive and more integrated measure of the functioning of the work organizations studied. And as such WPM in general is a positive practice which is in the interest of the industry in particular and the economy in general.

Keeping in view these findings of considerable applied significance and policy implications, a few suggestions are attempted here. Having found the extent and effectiveness reasonably positively and high, efforts need to be made to focus on the factors that have facilitated favorable situation. With regard to the background variables determining the extent and effectiveness of WPM, educational level of the respondents stands out as distinctly more important variable. Education may be viewed as contributing to the development of positive disposition toward value like liberty, equality, human dignity and human rights. Further, higher levels of educational attainment facilitate and enable the participants to involve themselves with greater facility and frequency. It may thus, be assumed that, a higher level of education is desirable to enable the participants to contribute more constructively to the process of WPM. If at all this findings is taken as having any applied implication for the process of WPM, then it may be stated that, it is in the interest of the WPM movement in general that the workers need to be better educated.

Coming to the organizational and contextual variables, unionism needs to be not looked down upon as detrimental to workplace discipline and democracy, and on the contrary needs to be encouraged, so as to have workers' interest better represented on diverse WPM fora. However, such unionism should be independent and free from ideological affiliations and political overtones, particularly of the leftist orientations. A very high positive association was found between the effectiveness and the extent of WPM which could be indicating to an internal consistency between two positive and most important dimensions of WPM. Thus, the extent and effectiveness could be considered as mutually complementary, in view of which wherever there is a need to enhance the effectiveness of WPM, efforts should be made to increase the extent of participation as a precondition. Further, the effectiveness, that is, the quality of WPM is found to be lagging behind the extent or the quantitative aspect of WPM. This could be attributed to lack of education among participants, leftist and politicized unionism, lack of procedural specificity and causal approach. Attempts should be made to ward-off the incidence of these constraining factors to enhance the extent and increase effectiveness of WPM.

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