

**Damachi, U.G. & H.D. Seibel (Eds.), *Management Problems in Africa*. London, Macmillan 1986, S. 69 – 85**

## **Workers Participation in Nigeria**

### SUGGESTIONS FOR IMPROVEMENT

Since the industrial revolution, modern societies have been propelled by basic innovations in industry, and individual firms by improvements on these. The improvements have not only been the work of engineers in research and development departments but to a large extent of workers who have thus made an essential contribution to the technological progress. It is the workers who are in the closest daily contact with technology; an Organisation which does not utilise the technological potential of its workers is therefore wasting one of its major resources. Many firms in industrialised countries have therefore institutionalised a system of suggestions for improvement, with rewards going to the workers whose suggestions for improvements are found to be useful.

The institutionalisation of suggestion programmes began about a hundred years ago - in Germany in 1872 (Krupp), in Scotland in 1880 (Denny Shipbuilding), in the United States in 1894 (National Cash Register). In 1942 the National Association of Suggestion Systems (NASS, Chicago) was established in the US which now has more than a thousand member firms. National associations exist in numerous other countries, especially in Europe, which, in 1971, formed the European Suggestions Schemes Association (ESSA).

IBM/Germany may serve as an example of a firm which fully utilises the technological potential of its workers. Since its inception, 270 000 suggestions have been received, of these 150 000 during the last ten years. In 1982 its employees submitted a total of 20 031 suggestions, or 1670 suggestions per month or almost one hundred per working day. Of the suggestions in 1982, 28.7 per cent were accepted, and DM 4 306 807 were paid in premiums, which is an average of DM 743 per suggestion. The highest premium paid in that year was DM 90 000. By the company's regulations, premiums may vary between DM 50 and DM 250 000. Intangible suggestions, which amount to more than half of all suggestions, are rewarded with a premium between DM 50 and about DM 300.

Modern technologies are usually developed for usage in industrial countries. When imported into Third World countries, many problems may arise, from purely technical to organisational and to social-cultural ones. There is an arising awareness that adaptation of imported technology to local conditions, whatever that implies, is needed to render technology 'appropriate' to the situation. Yet little progress has been made to date in that direction. Again, it is the workers in Third World countries who are most affected by inappropriate technologies, organisational structures, and management techniques. Yet they are usually the last ones anyone would think of asking when trying to develop appropriate technology and Organisation. We believe that development of appropriate technology and organisation from below, that is, from the worker base, is one of the greatest needs and one of the most promising chances in Third World countries.

## SCOPE OF STUDY, METHODOLOGY AND SAMPLE

To examine the potential of African workers to contribute to the adaptation and development of technology and Organisation, we took a random sample of 512 workers from nine companies in Ibadan and Lagos. The industrial branches covered were textiles, brewing, soft drinks, canning, plastics, metal and printing. The interviews were carried out by students of the Universities of Ibadan and Lagos and supervised by Dr M. S. Igben, Tjark E. Seibel and H. Dieter Seibel between October 1981 and August 1982. The study was sponsored by the University of Lagos, with supplementary funding for data processing from the University of Cologne.

Of the workers 59.4 per cent were interviewed in Lagos and 40.6 per cent in Ibadan, 92.8 per cent of them were male, 7.2 per cent female. Their average age was 30.5 years. 28.2 per cent were unskilled, 36.1 per cent semiskilled, 26.8 per cent skilled and 8.9 per cent supervisory (foremen and supervisors). Mean pay rate was N 167.26, mean take-home pay, including overtime, was N 178.81. The mean length of employment was 5.8 years.

Of the workers 12 per cent had less than elementary education, among them 3 per cent were illiterate, 32 per cent had standard VI, 25 per cent some secondary education, and 30.8 per cent secondary education completed. Only 31 per cent had their apprenticeship completed or some higher kind of training. Another 18 per cent had some apprenticeship training but were not freed. Of the workers 33.7 per cent were actively seeking to improve their education or training by taking a correspondence or evening course. Absenteeism rates were exceedingly low - on average .61 days during the two months preceding the interview, or 3.66 days per annum. Of the workers 79 per cent had not been absent at all during the preceding two months.

A positive attitude to their job was expressed by 59.3 per cent of the workers. Most reasons given for a positive valuation of their job were intrinsic such as ,gaining experience', ,interesting work' or ,technical job'. Negative work aspects comprised low wages, hard working conditions, low position, lack of chances for promotion or of training facilities. Of the workers 45.6 per cent would like to change their job, more than half of them giving preference to a technical job or a job with more knowledge.

Three areas which are fundamental for a suggestion programme will now be presented in more detail: the workers' technical understanding and interest, their participation in decision-making, and their actual suggestions for improvement.

## TECHNICAL UNDERSTANDING AND INTEREST

The effective functioning of an industrial firm depends very much on the quality of technical instruction by superiors, on the resulting technical understanding of the workers, and on the interest they take in the technical aspects of their work. The picture obtained in the interview study is a very encouraging one -89 per cent of the workers stated that their foreman or supervisor explained their work well to them so that they understand their work fully (see Table 3.1).

TABLE 3.1 *Quality of technical instruction by superiors*

<i>Quality of instruction</i>	<i>%</i>
Good	88.6
Undecided	2.2
Poor	4.8
Very poor	4.4
Total	100.0

N = 499\*

\*Totals vary from N = 512 due to missing data.

As a result, an equally high proportion of workers feel they understand well how everything functions where they work (see Table 3.2).

TABLE 3.2 *Technical understanding of work*

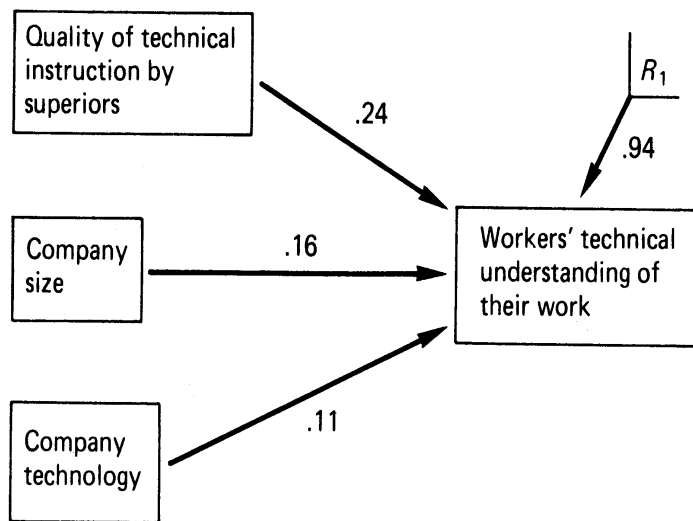
<i>Quality of understanding</i>	<i>%</i>
Good	88.3
Undecided	2.4
Poor	8.3
Very poor	1.0
Total	100.0

N = 505

The perceived quality of technical instruction has an impact on the workers' technical understanding - 91.2 per cent of those who rated the quality of technical instruction as 'good' as compared to 64.9 per cent of those who gave a different rating claimed a good technical understanding of their work (dichotomised variables:  $\chi^2=30.8$ ;  $df= 1$ ;  $s=.0000$ ;  $r=.26$ ).

Using path analysis (see Path Model) three variables emerge which have an influence on the workers' technical understanding of their work –

PATH MODEL 1 *Determinants of workers' technical understanding of work*



the most important predictor variable is quality of technical instruction by superiors, with a path coefficient of .24. Second in importance is company size (coded as a dichotomised variable), with a path coefficient of .16, which means that the workers' understanding of their work is better in bigger companies. Company technology (coded as continuous, high batch and low batch), is third in importance, with a path coefficient of .11, which means that the workers' technical understanding is better in companies with continuous technology. Total proportion of variance explained is 11.1 per cent.

Yet the high level of imputed technical understanding and of technical instruction by superiors does not imply that the workers feel they know enough about their work and do not need to improve their knowledge. On the contrary, 81 per cent would 'like to learn more about the way everything functions around here', and only 12 per cent feel well enough informed (see Table 3.3).

TABLE 3.3 *Attitude to improving one's knowledge about work*

<i>Attitude</i>	<i>%</i>
Would like to learn more	80.7
Undecided	7.2
Informed well enough	12.0
Total	99.9

N = 498

More than half the workers feel their knowledge and competence is not being adequately used: 57 per cent think they are able to do more qualified work (see Table 3.4).

TABLE 3.4 *Ability to do more qualified work Attitude*

<i>Attitude</i>	<i>%</i>
Able to do more qualified work	56.9
Undecided	7.8
Satisfied with work as it is	35.3
Total	100.0

N = 499

#### PARTICIPATION IN DECISION-MAKING

Participation in decision-making is an important yet little used management technique, particularly with regard to worker participation.

The workers were asked, 'Does your foreman or supervisor always tell you what to do or can you make your own decisions *about what* to do in your job or how to do your work?' The majority (54 per cent) felt they can make their own decisions; but there is also a sizeable proportion (35 per cent) who are 'always told what to do'. (see Table 3.5)

TABLE 3.5 *Decision-making situation*

<i>Situation</i>	<i>%</i>
Can make my own decisions	54.1
Undecided, mixed	10.9
Always told what to do	34.9
Total	99.9

N = 495

There is a strong interest among workers in participation in decision-making: The majority - 58 per cent - would like to, and think they are able to, participate in decisions concerning their work. But there are also 27 per cent who prefer to be told what to do (see Table 3.6).

TABLE 3.6 *Attitude to participative decision-making*

<i>Attitude</i>	<i>%</i>
Would like to participate	58.1
Undecided, mixed	14.9
Prefer to be told what to do	27.0
Total	100.0

N = 497

The workers' general interest in participation is matched by specific notions of the decisions in which they would like to participate. 36 per cent want to participate in decisions regarding the Organisation and their work, 23 per cent in technical decisions including the purchase of new machinery, 24 per cent express an interest in the participatory process as such (discussions and problem solving) and 12 per cent cannot specify the field of participation (see Table 3.7).

TABLE 3.7 *Preferred field of participative decision-making*

<i>Field</i>	<i>%</i>
Decisions about work, organisation	36.1
Technical decisions	17.4
Suggestions regarding new machines	5.9
Discussions: in groups, with boss	17.1
Problem solving	7.3
Miscellaneous	3.9
Do not know	12.3
Total	100.0

N = 357

Participation in decision-making can only work if there is a sense of concern about one's work and about the firm. To examine what workers were most concerned about, they were asked: 'If the management asked you, what in this company should be changed most urgently, what would you say?' Only 18 per cent did not answer the question, indicating thus either a lack of concern or of insight. Work conditions, wage structure, technology, training facilities, and organisational set-up, in that order, were the items of most concern to the workers (see Table 3.8).

TABLE 3.8 *Urgent suggestions for changes in the firm*

<i>Suggestion</i>	<i>%</i>
Work conditions, conditions of service	19.4
Pay, wage structure	15.7
New, modern equipment, machines	15.5
Organisational system	6.1
Replace, reduce top management	2.2
Training facilities	7.8
Safety devices	3.1
Miscellaneous	11.9
Do not know, not in a position to make suggestions	18.2
Total	99.9

N = 489

## SUGGESTIONS FOR IMPROVEMENT

### **Ideas of Suggestions for Improvement**

To examine the potential of workers for a suggestion programme, we first asked them, 'Did you ever have any ideas about how to improve your work?' 77.9 per cent stated they did have such ideas, 22.1 per cent said they did not.

Who are the workers with improvement ideas? The better educated, the better trained and those in higher positions are statistically more likely to have such ideas; but differences are not very pronounced so that we have to assume that such ideas are generated among almost all strains of workers. The proportion of those with improvement ideas varies from 70.0 per cent of those with less than standard VI education, over 71.1 per cent of those with standard VI, 81.5 per cent of those with some secondary education, to 84.7 per cent of those with secondary education completed ( $\chi^2=11.3$ ;  $df=3$ ;  $s=.01$ ;  $r=.14$ ). The impact of training is slightly more pronounced -proportions of workers with improvement ideas vary from 71.7 per cent among those with no or little training through 75.5 per cent among those with apprenticeship training under a local master, and 84.5 per cent of

those with apprenticeship training under a modern master to 93.8 per cent among those with higher training (City & Guilds, RSA) ( $\chi^2=16.8$ ;  $df=3$ ;  $s=.0008$ ;  $r=.18$ ). Occupational position is more strongly related to improvement ideas. Proportions range from 61.9 per cent among the unskilled through 80.7 per cent among the semiskilled, and 86.4 per cent among the skilled to 87.8 per cent among the foremen and supervisors ( $\chi^2=27.7$ ;  $df=3$ ;  $s=.0000$ ;  $r=.22$ ). Another factor is continuing education - the proportion of workers with improvement ideas is 89.4 per cent among those who do and 72.9 per cent among those who do not take evening or correspondence courses ( $\chi^2=16.2$ ;  $df=1$ ;  $s=.0001$ ;  $r=.19$ ). Company size (74.3 per cent among workers in big and 82.8 per cent among workers in small companies) is only weakly related to improvement ideas ( $\chi^2=4.5$ ;  $df=1$ ;  $s=.03$ ;  $r=.10$ ). Company technology (dividing companies into those with continuous production technology, high-batch and low-batch technology) is unrelated.

The quality of technical instruction by superiors as perceived by the workers does not seem to have an impact on their improvement ideas as there is no statistically significant relationship, but the workers' technical understanding of work has a slight impact - 79.7 per cent of those who claim technical understanding of their work also claim they have ideas about how to improve their work; this proportion is 63.8 per cent among those who do not claim to understand their work well ( $\chi^2=6.6$ ;  $df=1$ ;  $s=.01$ ;  $r=.12$ ).

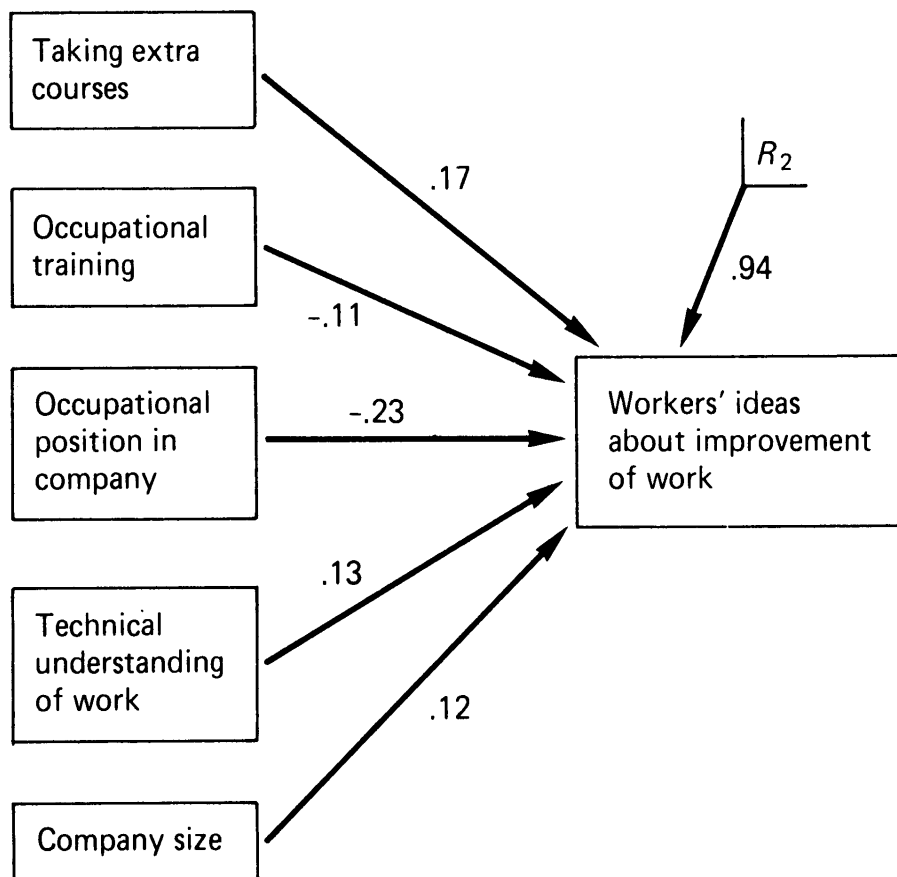
Using path analysis (see Path Model 2) the following model of determinants of ideas of suggestions for improvement of work emerges:

- (a) Higher-ranking workers have more ideas (path coefficient:  $-.23$ );
- (b) workers who take evening or correspondence courses have more ideas (path coefficient:  $.17$ );
- (c) workers with higher occupational training have more ideas (path coefficient:  $-.11$ );
- (d) workers with a better technical understanding of their work have more ideas (path coefficient:  $.13$ );
- (e) workers in bigger companies have more ideas (path coefficient:  $.12$ )

The percentage of variance explained is 10.8 per cent.



**PATH MODEL 2** *Determinants of workers' ideas about improvement of work*



**Submission of Proposals**

Do workers keep their ideas for themselves or do they submit them? Asked, 'Did you ever submit any proposals for improvement?', 48.0 per cent said they did, 52.0 per cent did not. The main factor influencing their submission of proposals is, of course, whether or not they had any ideas for proposals. 57.5 per cent of those with ideas and only 9.5 per cent of those without such ideas said they had submitted suggestions for improvement ( $\chi^2= 68.6$  ;  $df=1$ ;  $s=.0000$ ;  $r=.38$ ).

The second most important factor is the extent to which workers perceive a positive climate for work improvements by workers in their particular company - the percentage of those who ever submitted proposals is 60.3 per cent among those who perceive a positive improvement climate, 39.4 per cent among those who are undecided, and only 21.1 per cent among those who do not consider the improvement climate as favourable ( $\chi^2=40.9$ ;  $df=2$ ;  $s=.00$ ;  $r=.29$ ).

Again, the better educated, the better trained and those in higher positions are more likely to submit suggestions for improvement. 42.9 per cent of those with less than standard VI education, 37.2 per cent of those with standard VI, 49.6 per cent of those with some secondary education, and 58.7 per cent of those with secondary

education completed, submitted suggestions for improvement ( $\chi^2 = 14.9$ ;  $df=3$ ;  $s=.0019$ ;  $r=.16$ ). 41.4 per cent of those with little or no training, 44.0 per cent of those with apprenticeship training under a local master, 54.3 per cent of those with apprenticeship training under a modern master and 64.1 per cent of those with RSA or City & Guilds submitted suggestions ( $\chi^2 = 12.3$ ;  $df=3$ ;  $s=.0064$ ;  $r=.15$ ). The influence of occupational position is more pronounced: 34.1 per cent of the unskilled, 46.1 per cent of the semiskilled, 56.9 per cent of the skilled and 71.8 per cent of the foremen and supervisors submitted suggestions ( $\chi^2 = 23.0$ ;  $df=3$ ;  $s=5.0000$ ;  $r=.22$ ). Continuing education has no significant influence: 54.4 per cent of those who do and 45.5 per cent of those who do not take evening or correspondence courses submitted suggestions ( $\chi^2 = 3.0$ ;  $df=1$ ;  $s=.0829$ ;  $r=.08$ ). Workers in small companies (58.3 per cent) are more likely than those in big companies (40.7 per cent) to submit suggestions ( $\chi^2 = 14.0$ ;  $df=1$ ;  $s=.0002$ ;  $r=.17$ ). Company technology is unrelated to submission of proposals.

Submitting these variables to path-analytical scrutiny (see Path Model 3), only three remain as significant predictors:

- (a) Ideas about improvement of work (path coefficient of .32);
- (b) perceived climate for work improvements (path coefficient of .20);
- (c) position in hierarchy (path coefficient of -.10).

The total percentage of variance explained by this model is 20.3 per cent.

### Rewards for Improvement Suggestions

Of those who submitted a suggestion for improvement, more than half received no reward, another 13 per cent stated they were only lauded and 7 per cent were promised a reward. Only 26 per cent definitely received a reward (see Table 3.9).

**PATH MODEL 3** *Determinants of submission of proposals for work improvement*

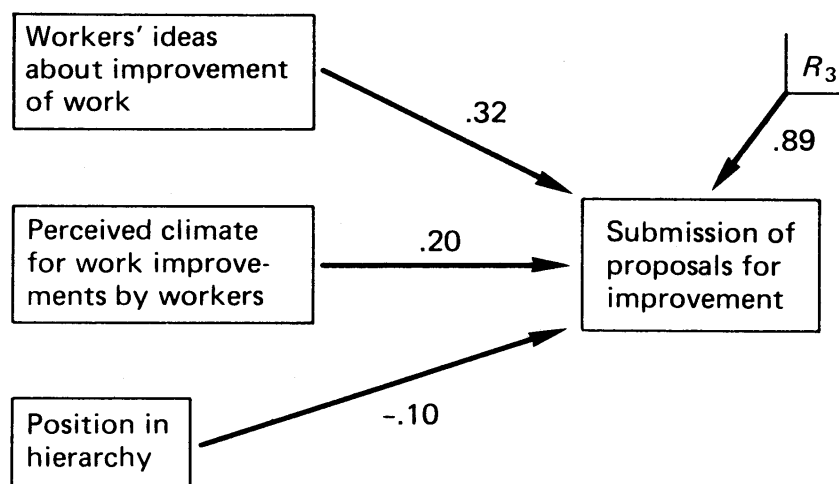


TABLE 3.9 Rewards of suggestions for improvement

<i>Reward</i>	<i>%</i>
No reward	42.4
Accepted without reward	9.4
Praise, commendation only	12.9
Yes, rewarded	18.0
Additional pay	2.4
Promotion	5.9
Reward promised	7.1
Miscellaneous	2.0
Total	100.1

N = 255

The likelihood of receiving a reward for a suggestion of improvement is unrelated to education and training of the workers - only continuing education seems to have some impact: 32.3 per cent of those who do and 21.9 per cent of those who do not take evening or correspondence courses received a reward. The influence of position in the company is more pronounced: 17.0 per cent of the unskilled, 20.0 per cent of the semiskilled, 31.0 per cent of the skilled and 40 per cent of the supervisors and foremen received a reward. Rewards for suggestions are also related to company size: 34.0 per cent of the workers in small companies but only 17.8 per cent of the workers in big ones received a reward.

#### PERCEIVED CLIMATE FOR WORK IMPROVEMENTS BY WORKERS

The perceived climate for work improvements by workers was tapped by the question whether they think that workers in this company could do anything to improve their work. Only 14 per cent consider the climate for work improvement as negative (Table 3.10).

TABLE 3.10 *Perceived climate for work improvements*

<i>Perceived climate</i>	<i>%</i>
Positive	55.0
Neutral	30.6
Negative	14.3
Total	99.9

N = 496

The perceived climate for work improvements by workers is related to factors such as education (below standard VI: 33.9 per cent; standard VI: 46.8 per cent; some secondary completed: 64.7 per cent;  $\chi^2= 30.0$ ;  $df=6$ ;  $s=.0000$ ;  $r=.23$ ), training (none or little: 51.7 per cent; local master apprenticeship: 44.1 per cent; modern master apprenticeship: 59.2 per cent; RSA or City & Guilds: 77.3 per cent;  $\chi^2= 36.4$ ;  $df=6$ ;  $s=.0000$ ;  $r=.18$ ), occupational position (unskilled: 37.1 per cent; semiskilled: 52.1 per cent; skilled: 69.6 per cent; foreman or supervisor: 66.7 per cent;  $\chi^2= 43.2$ ;  $df=6$ ;  $s=.0000$ ;  $r=.27$ ), and continuing education (correspondence or evening courses: 62.9 per cent; no courses: 51.8 per cent;  $\chi^2= 6.6$ ;  $df=2$ ;  $s=.0372$ ;  $r=.12$ ). Additional significant factors are company size (big: 46.6 per cent; small: 67.2 per cent;  $\chi^2= 49.2$ ;  $df=2$ ;  $s=.0000$ ;  $r=.29$ ) and company technology (continuous production: 47.1 per cent; high-batch: 63.2 per cent; low-batch: 60.0 per cent;  $\chi^2=20.3$ ;  $df=4$ ;  $s=.0004$ ;  $r=.15$ ).

In Path Model 4, six predictor variables emerge with significant paths to perceived climate for work improvement by workers, explaining a total of 13.7 per cent of the variance.

Asked to give details, 56 per cent gave procedural answers, through management or through the union, and 38 per cent gave substantive answers (see Table 3.11).

TABLE 3.11 *Suggestions for improvement*

<i>Suggestion</i>	<i>%</i>
Discuss with management, boss	30.0
Act through union	26.0
Improve methods of production, organisation	12.8
Individual improvement, training facilities	11.0
Miscellaneous	13.8
Do not know	6.4
Total	100.0

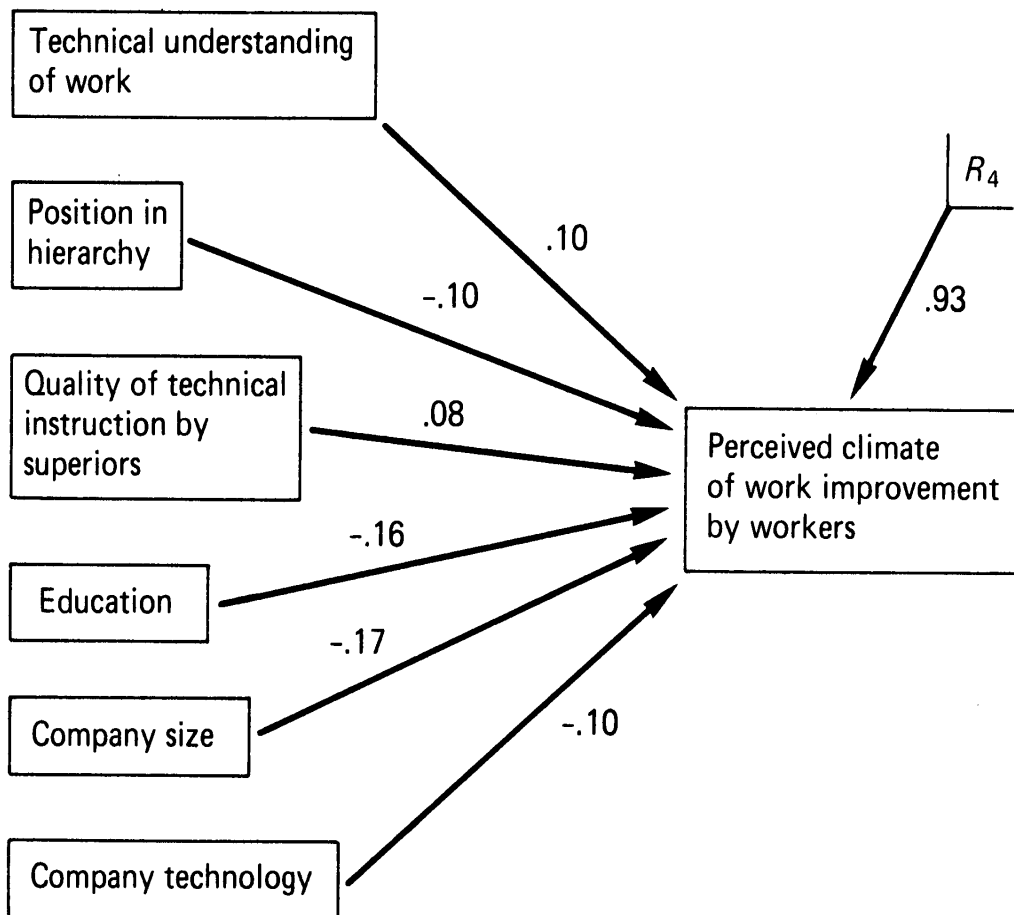
N = 327

#### PARAMETERS IN A SUGGESTION PROGRAMME

Path Model 5 gives a comprehensive view of the parameters in a suggestion programme as far as such parameters can be quantified with data from an interview study with workers.

The determinants of *submission of proposals for improvement by workers* fall into two broad classes: personality variables, which are under the control or in the responsibility of the individual concerned, and company variables, which are under the control or in the responsibility of the company. The most important influence stems from personality variables, mainly - *ideas about improvement of work* ( $\beta = .32$ ); the impact of *occupational status* ( $\beta = -.10$ ) is rather moderate. The crucial company variable, mediated by subjective perception, is *perceived climate for work improvement* ( $\beta = .20$ ). Together, the three variables explain 20.3 per cent of total variance, which is a rather good result, compared to other social science studies.

**PATH MODEL 4** *Determinants of perceived climate of work improvement by workers*



The personality variable *ideas about improvement of work* is in turn influenced by a host of other personality-related variables: *occupational status* ( $\beta = -.23$ ), *further education* ( $\beta = .17$ ), *technical understanding of work* ( $\beta = .13$ ), and *occupational training* ( $\beta = -.11$ )

There is also one company variable with a significant impact: *company size* ( $\beta = .12$ ).

We can now calculate the total impact of *occupational status* on

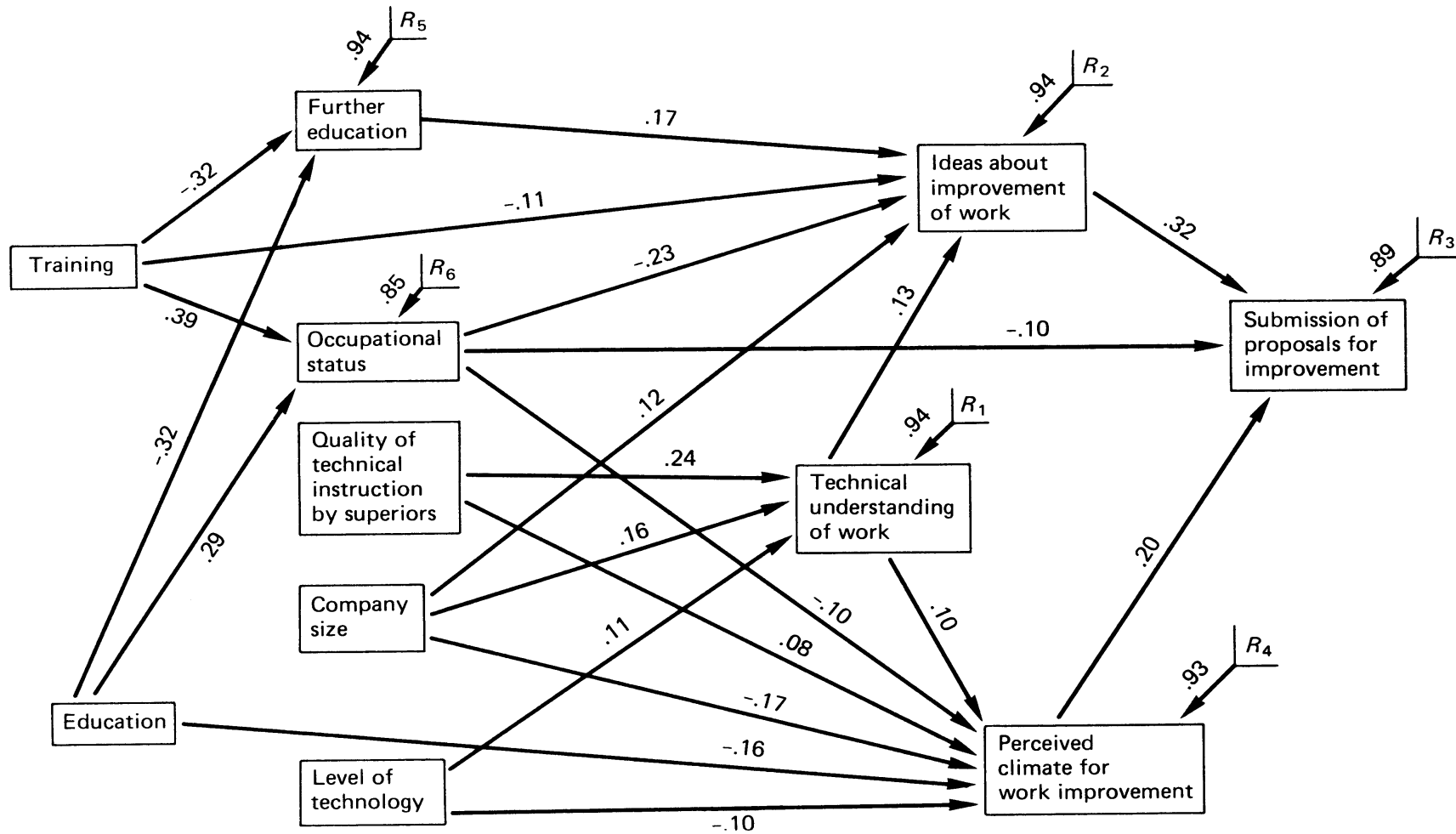
*submission of proposals for improvement*: the direct impact is  $\beta = -.10$ .  
the indirect impact, via *ideas about improvement of work* is  $\beta = -.23 \times .32 = -.074$ ,  
total impact is thus  $\beta = -.10 - .07 = -.17$ .

*Perceived climate for work improvements* is determined about equally by personality and company variables. The company variables are *company size* ( $\beta = -.17$ ), *level of technology* ( $\beta = -.10$ ), and *quality of technical instruction by superiors*, with a direct impact of  $\beta = .08$  and an indirect impact, via *technical understanding of work*, of  $\beta = .24 \times .10 = .02$ , totalling  $\beta = .10$ . The personality variables are *education* ( $\beta = -.16$ ), *occupational status* ( $\beta = -.10$ ) and *technical understanding of work* ( $\beta = .10$ )

*Technical understanding of work*, a variable in a central position in the model, is determined by company variables only: *quality of technical instruction by superiors* ( $\beta = .24$ ), *company size* ( $\beta = .16$ ) and *company technology* ( $\beta = .11$ ).

Finally, *occupational status* is related to *occupational training* ( $\beta = .39$ ) and *education* ( $\beta = .29$ ) as predictor variables. *Further education* is similarly related to *occupational training* ( $\beta = -.32$ ) and to *education* ( $\beta = -.32$ ).

PATH MODEL 5 *Comprehensive path model for a suggestion programme*



## CONCLUSION

The conclusions to be drawn from this study are,

1. worker motivation for a suggestion programme is pronounced and can be tapped;
2. suggestions for improvement can be promoted by
  - (2.1) introducing a reward system, which, at present, seems to be very inadequate in the companies studied;
  - (2.2) ,improving the general climate for work improvement, especially by measures related to the quality of technical instruction by superiors.

It is to be noted that bigger companies and companies with continuous technology are more successful in eliciting workers' suggestions for improvement, which means that smaller companies, and, surprisingly, companies with batch technology, are less inclined to utilise the technological potential of their workers. This is certainly to be attributed to management whose role in a suggestion programme is to be examined in a further study.