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A COMPARISON OF THE PERCEPTIONS OF FARM WORKERS ON PERSONNEL MANAGEMENT EFFICIENCY IN NINE FARM BUSINESS TYPES IN THE RSA

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'n Vergelyking van plaaswerkers se persepsies oor personeelbestuurs-doeltreffendheid in nege boerderyondernemings tipes in die RSA

Die doel was eerstens om die mate van verskil te bepaal tussen die plaaswerkers se werkervarings en -voorkeure ten opsigte van leierskap, motivering, kommunikasie, menseverhoudings, beheer en werkprestasie in nege boerderytipes oor 'n wye gebied in die RSA. Tweedens is die toepaslikheid en uitvoerbaarheid van die personeelbestuursaudit (PBO) in verskillende ondernemings tipes geëvalueer. Nege PBO's is die afgelope vyf jaar by 239 plaaswerkers in Transvaal, Natal en die Vrystaat uitgevoer. Oor die algemeen ervaar die werkers konsulerende personeelbestuurstelsels, maar verkies deelnemende stelsels sodat personeelbestuursdoeltreffendheid kan verbeter indien die personeel groter deelname kan verkry in die praktyke ten opsigte van leierskap, motivering, kommunikasie, menseverhoudings, personeelbeheer en werkprestasie. Met die nodige aanpassings kan die PBO in enige boerderyondernemings tipe uitgevoer word en kan toepaslike resultate behaal word.

The aim is, firstly, to establish the degree of discrepancy in the work experience and work preferences of the farm workers as regards leadership, motivation, communication, human relations, control and work performance in nine types of farm businesses over a wide area in the RSA. Second, the applicability and feasibility of the personnel management audit (PMA) in various types of businesses were evaluated. Nine PMAs were conducted with 239 farm workers in the Transvaal, Natal and the Orange Free State over the past five years. In general the workers are subject to consultative personnel management systems, but they prefer participative systems, which means that greater personnel management efficiency can be obtained in practice if the staff can attain more participation as regards leadership, motivation, communication, human relations, staff control and work performance. With the required adjustments, the PMA can be implemented in any farm business and applicable results can be obtained.

1. Introduction

One of the most challenging entrepreneurial tasks is to develop personnel management strategies in times of rapid economical, social and political change, which will not only lead to higher worker productivity, but also to increased worker satisfaction. This implies, first of all, that the perceptions of staff in the business - to the lowest level of literacy - on personnel management (PM) should be quantified in a practical and reliable way. Second, the perceptions of the employer on PM should also be measured, in order to make him aware of the strengths and weaknesses of the personnel management system (PMS) in an efficient way. Third, the diagnosis of the PMS must take place within the framework of a holistic management model, that does not only make provision for the analysis of the structure and functioning of the business, but also for the analysis of the behaviour of the people and groups within the business, whilst the impact of environmental limitations on management performance is also taken into consideration. With the help of a diagnostic instrument like the Likert-type personnel management audit (PMA), that was adapted by Oosthuizen (1990) for use on staff with a low level of literacy, personnel management efficiency (PME) and personnel management effectiveness (PMEt) can be quantified and analysed in context, with the aid of an inclusive questionnaire on the biographical information of the manager and his type of business, the biographical information of each of the staff members, the required job descriptions, as well as the personnel practices regarding manpower planning and control, recruitment and selection, training and development, compensation, staff evaluation and disciplinary measures, organizational structures, supervising, leadership, motivation and communication. The feasibility and applicability of this

Likert-type personnel management measuring instrument have been assessed by Oosthuizen and Radley (1991) on the basis of a case study in terms of twelve criteria. On the grounds of the above-mentioned assessment, Oosthuizen and Coetzee (1991a) adapted the PMA to measure not only work experiences, but also work preferences, and because of the extended audit, decreased the eight characteristic personnel attributes to six: Leadership, motivation, communication, human relations, staff control and work performance. What was still lacking, was that the PMA that had been developed to measure PME and PMEt in a business, should be tested in various types of farm businesses over a wide area in the RSA.

The aim of this study was, first, to determine the degree of discrepancy between the work experience and work preferences of the staff, as regards leadership, motivation, communication, human relations, staff control and work performance in nine farm types in the RSA. Second, the applicability of the PMA was evaluated in farm businesses with a large/small number of personnel, flat/hierarchical organizational structures, and permanent/temporary staff, in multilingual situations. The emphasis thus is on a comparison of the farm workers' perceptions of PME in various types of businesses. Without a look at PMEt, where the perceptions of both the employer and the employee are compared (Oosthuizen & Coetzee 1991b), however, the personnel management audit analysis is not complete, but this aspect falls outside the scope of this article.

2. Material and methods

The PMA is a technique that is employed with the aid of the case study method. In collaboration with the Rural Foundation persons were trained to implement the audit

with eight farmers and 192 farm workers in the Transvaal, Natal and the Orange Free State during 1991. The participating farmers were selected on the basis of the following norms: First, the employer had to be interested in developing his staff; and secondly, the farmer/business cycle had to be in the growth phase, in order to ensure that the business was not only firmly established, but also that the farmer had a fair degree of farming experience. External factors, for example the location of the farm in relation to large cities and the mines were also taken cognizance of. The case study as well as the methods of analysis will now be discussed briefly. For a complete comparison, the audit data of Oosthuizen and Coetzee (1991a) are included in the analyses in Case Study I.

2.1 Description of the case studies

The case studies are described in Table 1 in terms of the attributes of the farm business and the farmer himself, the organizational structure, personnel composition, total number of personnel (temporary, permanent, male and female), age distribution, scholastic qualifications, in-service training and staff turnover. The acronyms depicting the case studies are based on the main enterprise of the business (that contributes more than 60 percent of the gross farm income), a letter of the name of the province concerned, and a letter of the district (Ficksburg and Paul Roux) to make a further distinction, if the same main enterprise occurs more than once in one province.

The selected cases represent different farm types which cover a wide area in the RSA, excluding the Cape Province. The farm types include: maize (Tvl.), bananas (Northern Tvl.), tobacco (Western Tvl.), forestry (Natal), sugar cane (Natal), wheat (Central OFS), livestock (Eastern OFS) and dairy (Northern OFS).

The organizational structures are relatively flat and vary from two to five hierarchical levels. Apart from WHEAT/F, LIVESTOCK/FPR and DAIRY/F all the other businesses had a manager on the staff register, while SUGAR/N had an assistant farm manager. Except for WHEAT/F and DAIRY/F all had supervisors in service, the numbers of whom vary from one to seven, and who constituted about 10 percent of the total work force. The higher level workers, that include all semi-technical workers such as drivers (tractor/lorry), bricklayers and milking machine operators, constitute about one third of the number of employees. Female workers (59) appear on the permanent staff registers of four businesses: BANANAS/N, TOBACCO/T, FORESTRY/N and SUGAR/N. Temporary staff numbers vary from 120 in TOBACCO/T to about 12 in SUGAR/N, WHEAT/F and LIVESTOCK/FF.

The total permanent number of staff varies from 47 in MAIZE/T, 38 for both BANANAS/T and TOBACCO/T, 36 for SUGAR/N, 19 for LIVESTOCK/FF, 14 for WHEAT/F and LIVESTOCK/FPR to 5 for DAIRY/F. The workers' ages vary from 16 to 67 years of age, with an average of approximately 36 years of age. In general the workers had a low level of literacy, with about half having no scholastic qualifications, approximately 45 percent had a primary school level education and about 5 percent had some degree of secondary school level education. The degree to which workers had received in-service training varied among the businesses from 10 to 90 percent of the staff members, but generally speaking fewer than half of them had received in-service training.

Except for SUGAR/N, all the businesses had a formal job grading system. Throughout, compensation was given in natura and cash, with monthly cash salaries

varying from R60 to R550. In general, the workers fell in the two lowest job grades. Staff turnover was low and varied from 5 to 12,7 percent per year for the last five-year period.

The information that was most difficult to obtain, was that on the organizational structure, because a formal organizational chart was not available in the majority of cases. The authority lines, in most cases had to be cleared out several times with the employers. Often the job descriptions of the workers on the audit form did not agree with the worker's version. Thus, in all the PMAs the workers audited the employer or the manager.

In the following section the audit procedure and the methods of analysis will be elucidated.

2.2 Audit procedures and methods of analysis

The procedures of executing the PMA and the methods of analysis have been improved over the past ten years. Since the first PMA of 1985, the techniques have been adapted to measure, in the second audit (MAIZE/T) at the same business, in 1988, not only the work experience of staff, but also their work preferences. The amendments to the PMA were described fully by Oosthuizen and Coetzee (1991a:62). Basically the amendments entail that the questions on decision-making and goal formulation were eliminated to bring the total number of questions on the audit form down to less than 40.

The PMA is a technique used to diagnose the PME and PMET in a business by measuring both the employers' and the employees' perceptions on the work situation. The audit procedure involves six steps which inter alia, make provision for the workers, by using a block-and-peg apparatus, to respond to the questions on PM put to them in their own language by the instructor, while the employer has to complete three questionnaires (Oosthuizen & Coetzee 1991b:20). The first questionnaire for the employer is the audit form; the second questionnaire is the forms on which the job records of each individual employee must be recorded; and the third questionnaire is a comprehensive checklist on the staff practices and policies in the business, based on the Farmer-Richman model.

In order to make provision for the multicultural situation on farms, and to minimize semantic problems during the structured interviews with the workers, the audit form was prepared in Sotho, Xhosa, Zulu, English and Afrikaans. The staff in seven of the case studies was audited by black instructors, while the instructor in DAIRY/F was white, and the farm manager in BANANAS/T used a black interpreter.

For practical purposes the audit data of the businesses with a large number of staff members were analysed statistically, while a subjective assessment method was developed for businesses with a small number of staff members (fewer than 20). In the statistical analyses the Chi-square goodness of fit test was used at a 95 percent significance level to determine the proportionality of the frequency distributions among Likert's four PMS. The degree of discrepancy between the work experiences and work preferences of the staff was tested with the aid of the median test at a 95 percent significance level. When the number of staff members exceeded 40, a correction for continuity, known as the correction of Yates, was required. On the other hand, a small number of staff members (fewer than 20), resulted in an inability to comply with the statistical conditions, namely that the expected frequency of any cell will not be smaller than five, because of a test for independence in the four

systems of Likert as far as the work experiences and work preferences of workers (4x2 contingency tables) are concerned. If the expected frequency is smaller than five, Fischer's exact probability test (two-sided) must be used with the aid of a 2x2 contingency table (Siegel 1956:96). In order to employ Fischer's test, it was necessary with WHEAT/F and LIVESTOCK/FF to group, on the one hand, Likert's two authoritative systems as McGregor's theory X or authoritative system, and, on the other hand, to classify Likert's two participative systems as McGregor's theory Y or participative management system.

In the case of DAIRY/F (n=5) a subjective assessment method was developed for the diagnostic process, while LIVESTOCK/FPR (n=14) was analysed statistically as well as subjectively. The first scale of the subjective assessment method is used to determine whether a representative Likert PMS is, experienced/preferred. The interquartile range (Q3-Q1) is used to determine whether the median is representative of a particular PMS.

With the aid of Q3-Q1, the number of Likert systems included in the range of perceptions can be determined with a 50 percent significance. The workers do not experience a representative PMS, but all four the Likert systems to an equal degree, if Q3-Q1 in conjunction with the median is distributed in a fair (two systems) to great extent (three systems) across the four class intervals. If there is a great degree of agreement (within the same system) or a slight difference (one system) in the degree of distribution of the staff's perceptions, it implies that a representative PMS is experienced or preferred.

The second scale of the subjective assessment method is used to measure the degree of discrepancy between staff's work experiences and work preferences. If the median experience and median preference fall within the same Likert system, there is strong agreement and the factor is regarded as a potential strength. If the medians differ by one, two or three systems, the factor indicates a potential weakness.

2.3 Applicability and feasibility of the PMA

The applicability and feasibility of the PMA can be evaluated first by criticizing the theoretical underlying principles, and secondly by determining the extent to which the set goal of the PMA has been achieved, and third, by the degree to which the set criteria are met.

The applicability and feasibility of the PMA were evaluated by Oosthuizen and Radley (1991:20-22) in MAIZE/T on the basis of twelve criteria, and it was found that the questions were compiled in such a way, grouped into six categories, and employed with the aid of the block-and-peg apparatus, that workers with a low level of literacy were able to register their perceptions on personnel management. The following criteria were employed by them: registerability of the unschooled workers' perceptions; relevancy of the PM factors in the audit form; penetration of the total staff hierarchy in the business; evaluation of the intermediary management levels; determination of the causes and results of PM problems in the business; reliability of the audit data; comparability of the audit data; cost of the PMA; analysis and interpretation of the audit data; staff attitudes not influenced negatively; surveys done during slack times in the work programme; and manager's understanding of the results.

Apart from the above-mentioned criteria, the expediency of whether or not to use statistical tests for practical purposes was evaluated in four of the case studies

(DAIRY/F; LIVESTOCK/FPR; LIVESTOCK/FF; and WHEAT/F), and in the case of LIVESTOCK/FPR statistical testing, as well as a subjective assessment method, was used.

3. Results and discussion of results

3.1 Personnel management efficiency (PME)

Table 2 depicts a comparison of the staff's work experience and work preferences as regards leadership, motivation, communications, human relations, staff control and work performance in each of the nine case studies, as well as the total PMS, as experienced and preferred.

In eight of the businesses the staff experienced a consultative PMS, but preferred, with the exception of one, a participative system. The exceptions were, first, DAIRY/F with a small number of staff members (n=5) and a flat organizational structure (2 levels), who preferred a benevolent authoritative system; and second, WHEAT/F with fourteen persons on the staff and also a flat organizational structure, where a consultative system was experienced (Me=10) and preferred (Me=15).

Of the selected case studies, that extend over various types of farming and a wide geographical area, it can be said that the staff (n=239) in general experienced a consultative PMS, on the one hand, but, on the other hand, they preferred a participative PMS. This implies that eight of the nine employers had been employing a consultative PMS in their businesses for quite some time. Although the purpose of the PMS is to measure PME and PMET in a single business, and not between businesses, and case studies were selected that did not involve the average business, signs of a uniform PM approach were obvious, and one ought to determine how commonly consultative PMS occurs on farms, while the staff prefer participative management systems. If this trend occurs universally, it would mean that PME on farms in the RSA in general can be improved a lot by implementing more participative systems. In other sectors outside agriculture there is a greater awareness among managers of the fact that employees want a larger degree of participation in problem-solving, and management has developed from an autocratic and authoritative approach from the start of this century, to an approach in which it is generally accepted that a team management effort is more efficient than the authoritative approach of an individual (Oosthuizen 1990:113).

In each case study the significant differences between the staff's work experiences and work preferences indicates that the PME of even selected businesses can be improved meaningfully if the workers are allowed more participation in the practices as regards leadership, motivation, communications, human relations, staff control and work performance.

The PMS of all nine businesses contains weaknesses as well as strengths, thus situational PM development strategies can be formulated to improve the productivity and work satisfaction of staff within each one of the businesses. The proportional ratios of strengths and weaknesses in the PMS differed among the businesses. In four of the businesses there were more weaknesses than strengths in the PMS (SUGAR/N=16; BANANAS/N=15; MAIZE/T=13; DAIRY/F=13 respectively); in four other cases there were more strengths than weaknesses (WHEAT/F=15; FORESTRY/N=14; LIVESTOCK/FPR=12; LIVESTOCK/FF=11); while in one business (TOBACCO/T) the strengths and weaknesses in the PMS balanced each other to a great extent.

Table 1: Location, type, organizational features, personnel composition and age, scholastic training, in-service training, and personnel turn-over in nine farm business types in Natal, the Orange Free State and the Transvaal, 1991.

Case study	I Maize/t	II Banana/t	III Tobacco/t	IV Forestry/n	V Sugar/n	VI Wheat/f	VII Livestock/ff	VIII Livestock/fpr	IX Dairy/f
Business/farmer									
District/province	Middelburg (Tvl)	L. Trichardt (Tvl)	Skuidsdrif (W.Tvl)	Commondale (Natal)	Umhlali (Natal)	Bfn. (OFS)	Ficksburg (OFS)	Paul Roux (OFS)	Lindley (OFS)
Distance from nearest mine/city (km)	40	150	125	30	50	30	250	150	120
Size of farm (ha)	2760	496	215	1200	330	6000	3490	800	400
Main enterprise	Maize	Bananas	Tobacco	Forestry	Sugar cane	Wheat	Livestock	Livestock	Milk
Farmer's age (years)	49	48	37	39	?	38	?	?	?
Farmer's farming experience (years)	25	27	10	15	?	14	18	21	17
Organizational structure									
Number of hierarchical levels	5	4	4	3	4	2	4	3	2
Personnel composition									
Manager	1	1	1	1	2	0	1	0	0
Supervisors	5	4	7	3	1	0	4	4	0
High-level workers	24	8	3	7	9	6	1	1	4
Lower-level workers	18	26	28	20	26	8	14	9	1
Total number of permanent farm workers (n)	47	38	38	30	36	14	19	14	5
Number of permanent female workers	0	19	22	11	7	0	0	0	0
Number of temporary workers	0	0	80-120	0	15	10	12	0	0
Age of personnel									
Youngest/oldest (years)	20/56	18/63	20/54	16/65	18/62	22/65	22/67	18/55	24/45
Average age (years)	35	35	34	33	35	43	41	36	34
Scholastic training									
None	29	22	18	12	17	7	11	3	2
Primary School	15	14	19	15	18	7	6	9	3
High school	2	2	1	1	2	0	2	2	0
Had formal in-service training	8	3	18	7	7	12	17	13	1
Personnel turn-over									
Average annual turn-over (%)	7	6	?	12.7	?	5.3	7.5	5	?

Table 2: The degree of discrepancy in the work experience and preferences of the personnel as regards leadership, motivation, communications, human relations, personnel control and work performance in nine farm business types in Natal, the OFS and the Transvaal, 1991.

Personnel factor/system	Type*	maize/t** = 47	banana/t** n = 38	tobacco/t** n = 38	forestry/n** n = 28	sugar/n** n = 36	wheat/f*** n = 14	livestock/ff** n = 19	livestock/fpr*** n = 14	dairy/f*** n = 5
LEADERSHIP										
1. Interested in their family problems	O	13,7	25,5	7,7	8,7	11,2	1,0	-	0,007	0,49
2. Understanding for their work-related problems	O	11,7	26,5	4,3	-	8,2	0,12	-	0,0003	-
3. Fair treatment	O	10,0	3,7	5,3	-	12,9	0,68	-	0,006	0,43
4. Clear work instructions	O	0,0	15,2	-	-	8,0	0,12	3,8	-	0,14
MOTIVATION										
5. Overly strenuous work	T	1,6	1,7	0,1	1,8	9,7	1,0	0,0	0,26	1,0
6. Work detrimental to health	T	13,5	0,9	0,1	5,9	14,6	1,0	6,7	0,26	1,0
7. Interesting work	T	10,2	41,7	1,9	-	5,8	1,0	1,7	-	0,49
8. Appreciation for work performance	O	0,0	47,7	-	8,6	9,9	1,0	3,8	0,26	1,0
COMMUNICATION										
9. Informed on goals and planning	O	19,5	50,6	2,6	1,8	5,7	0,02	1,0	0,24	0,14
10. Amount of useful information received	O	11,7	37,7	7,6	-	9,9	0,43	0,1	0,06	0,03
11. Complaints receive attention	O	9,5	21,1	3,4	14,2	4,8	0,43	6,7	0,02	0,03
HUMAN RELATIONS										
12. Approachability of employer	O	17,0	6,6	3,8	2,6	5,7	0,43	1,8	-	0,03
13. Amount of assistance and support	O	13,8	28,8	3,4	-	11,6	0,68	1,0	0,45	0,03
14. Treatment when a mistake has been made	O	0,2	24,9	6,4	1,2	7,4	0,43	-	0,02	1,0
PERSONNEL CONTROL										
15. Freedom to adjust work speed	O	0,5	32,9	-	-	4,7	1,0	0,43	-	0,49
16. Incidence of conflicting instructions	O	7,4	0,0	0,5	0,1	5,7	-	26,9	-	1,0
17. Influence on other workers	T	18,4	13,7	12,4	0,6	0,9	1,0	1,0	0,25	1,0
WORK PERFORMANCE										
18. Improved methods facilitate work	E	13,6	7,9	15,6	3,5	0	0,05	5,2	0,13	0,49
19. Training facilitates work	E	0,0	15,3	2,0	1,4	0	0,69	4,0	0,21	0,49
Total system experienced (Median out of 20)		14	14	13	14	11	14	15	14,5	10
Total system preferred (Median out of 20)		19	18	17	20	18	15	18	20	20

* Type personnel management factor: O = causal; T = intermediate variable; and E = end result variable

** Chi² 0,05;2-1 = 3,8

*** P = significance level : 0,0566

The majority of the PM factors (13) are causally within control of the employer, as well as to the results thereof.

If the nine case studies are considered together, it may be said, in general, that the systems for communication and leadership leave most to be desired as regards improvement, while the staff control systems mostly satisfy the expectations. In the systems concerning motivation, human relations, and work performance a mixed pattern can be observed, varying among the businesses. As regards motivation and work performance, it seems, from the comments of the staff, that the compensation system does not come up to expectations, and the staff also expects more formal in-service training.

3.2 Applicability and feasibility of the PMA

Assessed in terms of the twelve set criteria, it has been found to a satisfactory degree, that the PMA can be employed in all businesses and that it can render reliable results. Since the first implementation of the PMA, the technique has been improved and the most important factors in the implementation of the technique are highlighted.

The practical use of the PMA has been increased by the finding that a simpler approach to the PM diagnosis renders acceptable results. When the subjective assessment method, as well as statistical testing is used, it has been found, first, that as regards the identification of a representative Likert system (first scale), the use of the interquartile range in coherence with the median, renders the same results as the Chi-square goodness of fit test; and on the other hand, that the diagnosis of strengths and weaknesses in the PMS by means of the second subjective assessment scale, results in the so-called type-I error (the null hypothesis (H_0) is rejected while H_0 is true), which means that the diagnosis, with the aid of the subjective assessment method, identifies more weaknesses than would have been identified by means of statistical testing. With the arbitrary assessment method, 12 weaknesses and 7 strengths in the PMS of LIVESTOCK-FPR were diagnosed, while the median test resulted in the diagnosis of 6 weaknesses, 12 strengths and one neutral aspect. The agreeing results in DAIRY/F are 17 weaknesses and 2 strengths, as compared to 13 weaknesses, 4 strengths and two neutral aspects respectively in the use of the arbitrary assessment method and the median test. The above results are acceptable, as both weaknesses and strengths are diagnosed by means of the arbitrary assessment method for strategy formulation; the diagnosis of more weaknesses than strengths involves a stricter measuring that may help to catch up on backlogs in PM, and that the arbitrary assessment method is less strict than the use of PMA profiles, where the gap between the work experience graph and the work preference graph of the staff is an indication of the areas where improvement is expedient (Lloyd 1981:13).

An amendment that must be made in the analysis of the audit data when the number of staff is less than 20, regardless of whether statistical tests are used or not, is that the frequency distributions of the staff's perceptions have to be decreased from four to two.

Usually the PMA is for permanent staff members, but temporary workers can also be audited if the situation demands. In a large agribusiness with an enormous workers corps a random sample of the workers can be used.

As regards the set criteria specifically, the following factors may be emphasized:

Except for one worker (TOBACCO/T) the rest of the workers (239) were capable of registering their perceptions of the work situation with the aid of the block-and-pen apparatus under the guidance of an instructor, although the greater majority (about 95 percent) of the workers had a low level of schooling and about half were almost illiterate.

The decreased number of PM factors on the audit form, from 37 to 19 since the first audit, in all nine case studies identified the relevant staff needs and aspirations, but the comments section on the audit form should be retained in order to be able to relate the listed remarks to the existing six PM aspects of leadership, motivation,

communication, human relations, control and work performance. If the staff identify additional needs in connection with, for example, decision making and goal formulation these aspects ought to be included, as was the case with the first audit of Oosthuizen and Radley (1991).

Except for two cases (FORESTRY/T and DAIRY/F), about forty percent of the staff in the other case studies made work-related comments, which constituted useful learning matter. The greater majority of the comments can be related to the motivation aspect and mostly bear a relation to insufficient remuneration in cash and in natura and other Herzberg hygiene factors, such as housing and work conditions, that were not satisfactory. There were also general complaints as to the communication between the supervisors and the workers, as well as about leadership factors that were not as desired.

The number of hierarchical levels of the organizational structure determines the number of staff groups that must be audited, because the employer has to evaluate his/her line superior. Just like in the first audit, problems were experienced in the businesses with supervisors (that is, excluding WHEAT/F and DAIRY/F) to have the middle-level manager audited by the workers, and the farmer or manager was audited by the workers in all these cases. The reason for this may be that the supervisors at present do not fulfil line functions with the necessary decision-making authority, a conclusion which can also be made on the basis of the lack of formal organizational charts in all the businesses with a hierarchical organizational structure.

As regards the determination of the causes and the results of PM problems in the business, the audit has to be analysed in context with the accompanying questionnaires, and the classification scheme of the PM factors in the audit form in causal (13), intermediate (4) and end result variables (2) serves the purpose of making the employer aware of the fact that most factors can be controlled by him, as well as of the interaction among the factors. The inclusive questionnaire on the PM practices and policies in the business, supplemented by the staff record of each worker, may be used separately for a pilot study without a PMA. On the other hand, a PMA in which the staff and the employer complete a similar audit as well as an audit where the employer typifies efficient versus inefficient staff practices, cannot be executed without completing the inclusive questionnaire on staff practices and staff records. Thus a systems approach has to be followed with the PMA, which makes provision for the analysis of the structure and the functioning of the business, the analysis of the behaviour of the staff and groups within the business, as well as the influence of environmental limitations on management performance (Oosthuizen 1987).

As the reliability of the data depends to a great extent on the instructor implementing the audit, the instructors have to be trained to complete the audit correctly, taking into consideration the following four guidelines: First, things that are not clear regarding words or phrases in the audit forms can be eliminated to a great extent by using the standard audit form in the desired language. Nonetheless, the instructor has to be trained in clarifying issues that might not be clear in the questions, during the interviews. In general the instructor does not experience problems with the questions and the audit process can be completed within half an hour to three quarters of an hour. Second, note must be taken of signs of inhibitions in the staff. Factors such as the credibility of the instructor in the eyes of the staff, the degree to which they have been informed beforehand on PMA, as well as the confidential handling of the audit, play an important role in obtaining reliable information. The fact that independent black and white instructors as well as an interpreter were used together with a manager to audit the employer in the case studies did not influence the results negatively. The same preconditions will be required if more hierarchical levels in the business are monitored. Third, one has to watch out for biased assessment of the PM factors when friends and family members audit the middle level managers. This norm cannot as yet be tested in a case study. Fourth, the instructor must make sure that the worker answers the questions in a responsible manner and that he/she does not handle the block-and-pen apparatus in a stereotyped

way without any meaningful variation of the block and the peg.

As regards the analysis of the audit data and the diagnosis of the strengths and weaknesses of the PMA, the wording of the end result variables on the audit form (questions 18 and 19) regarding the staff's experiences and preferences with reference to the role of improved methods and training in their productivity, led to confusion and ought to be reformulated.

Questions 5, 6, 16, 18, and 19 on the sub-scales of the audit form must be reversed when coded, as a result of the limitation of the use of the block-and-peg apparatus, where the first block represents Likert's System 1 and the fourth block represents Likert's fourth system. The way in which these questions are asked, demands that the sub-scales on the audit form be reversed.

The analysis and interpretation of the audit data must on the one hand make provision for the anonymity of each employee and on the other hand for the correct diagnosis with the aid of expert advice or a trained instructor. The manner of reporting is important and the report must include an executive summary for the employer. The use of the arbitrary assessment method ought to facilitate the practical use of the PMA and also should keep the costs lower.

Satisfactory measures must be taken to ensure that the work attitudes of the employees are not influenced negatively and that expectations are not created. The reason why questions on salaries and related matters do not appear in the audit, but information on this is obtained from the employer and from staff records, is to comply with this criterion. Some of the remarks made by the staff were directly related to the absence of this type of question on the audit form.

In the last instance the employer ought to be involved in the PMA directly in order to provide both the employer and the employees with a better understanding of their roles in PM.

4. Conclusion

The most important conclusion is that more participative management systems in each of the nine businesses would lead to greater worker productivity and worker satisfaction. The systems of communication and leadership are most in need of improvement, while the employees were also of the opinion that the compensation systems did not satisfy their expectations.

The PMA consisting of the block-and-peg apparatus and the accompanying questionnaires, with or without statistical analyses, is applicable and feasible in all businesses with a great/small number of staff, flat/hierarchical organizational structure, permanent/temporary staff members and in multilingual situations to measure and regulate PMS efficiency. The PMA has been assessed to be applicable and feasible, first in terms of the twelve set criteria, and second, in terms of the purpose of the audit, namely to evaluate and communicate to the employer significant issues in the PMS of any farm business.

Criticism that may be brought in against the theoretical foundation of the PMA is that the universal solutions to PM problems, based on Herzberg's hygiene/motivational theory, are eliminated by the systems approach to the PMA. Further, the systems approach to the PMA also leaves room for the influence of external environmental influences, as against the supposition that all behavioural determinants are located exclusively within the work environment.

The implications of the results are that the PMA should be used as part of the PM development strategy to improve PME and PMET within every case study. Next, it ought to be determined how successfully the formulated PM strategies can be implemented.

Notes

The financial assistance of the UOFS for this research is acknowledged, but the opinions are those of the author and are not of necessity supported by the UOFS.

The author wishes to thank the following persons for their contributions to the research and the analysis of the audits: Mmes.T.Kühne and M.Labuschagne, as well as Messrs.B.Ndaba, M.K.Bodenstein, T.Qwabe, A.Faul, J.Morwane, P.J.Strydom, S.Baloyi, C.J.du Plessis, D.Mashinini, M.A.Radebe, and D.Olivier. Thanks also go to Mr.P.Thulo and Mmes.P.G.Mfusi and K.Podile for translating the audit forms into Sotho, Zulu and Xhosa.

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