

*STRATEGIC HUMAN RESOURCE MANAGEMENT: AN  
EMPIRICAL INVESTIGATION INTO THE SOUTH  
AFRICAN MANUFACTURING INDUSTRY*

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Die omgewing waarin ondernemings in Suid-Afrika funksioneer word toenemend meer kompleks. Ten einde te oorleef, moet entrepreneurs hul hulpbronne optimaal aanwend. Die sleutelfaktor in hierdie proses is die meer doeltreffende aanwending van hul mannekraghulpbronne. Verskeie pogings deur mannekragbestuurders in hierdie verband het slegs tot beperkte sukses gelei. 'n Nuwe benadering, bekend as strategiese mannekragbestuur, is ontwikkel om die proses te bevorder. Hierdie benadering behels die koppeling van mannekragbestuurspraktyke, prosesse en beleid met die strategie van die onderneming. Op hierdie wyse sal die mannekragbestuursfunksie 'n belangrike en ondersteunende invloed op die ontwikkeling en benutting van die onderneming se vaardighede en vermoëns om sy doelwitte te bereik, uitoefen. Verskeie voordele soos verhoogde produktiwiteit en beter rendement op beleggings sal deur die aanwending van hierdie benadering gerealiseer word. Die doel van hierdie ondersoek was om te bepaal tot watter mate mannekragbestuurders, in die vervaardigingsbedryf in die PWV-gebied, hul mannekragbestuurspraktyke vanuit 'n strategiese hoek beskou. Die bevindinge dui aan dat hierdie benadering slegs tot 'n beperkte mate geïmplementeer is. 'n Dringende behoefte bestaan dus vir ondernemings om hul huidige mannekragbestuurspraktyke te evalueer met die oog op die aanbring van verbeterings, waar nodig.

## 1. INTRODUCTION

There is no doubt that dramatic changes in both the external and internal environment of companies during the past few decades have resulted in Human Resource (HR) managers being faced by new and important challenges. Externally the pace of economic change continues to accelerate, and inter-

nally there is a growing resistance by workers to the role of authority and a desire on their part for a more meaningful participation in the decision-making process.

In this situation, increasing pressure is being exerted on HR managers to make a more significant contribution to the success of their companies. As a result, a variety of attempts, to achieve this objective, have been made in recent times. For example, there has been a wave of interest in Japanese management, quality circles and quality of work life. Unfortunately, however, these efforts have not had more than marginal success and in order to improve the position, academics and practitioners have fairly recently identified effective new mechanisms with a view to coping with the environmental changes.

This new approach to enable HR managers to contribute significantly to the success of the company, is also known in the literature as strategic human resource management (SHRM). The aforementioned entails the deliberate linking of HRM practices, systems as well as policies with the strategic initiatives of the company and has gained significant support over the past few years. (Devanna, Fombrun & Tichy, 1981; Alpaender, 1982; Dyer, 1983; Miles & Snow, 1984; Tichy & Barnett, 1985; Hall & Goodale, 1986; Tsui 1987; Miller, 1987; Dyer & Holder, 1988; Rothwell & Kazanas, 1988; Stumpf, 1988 and Kydd & Oppenheim, 1990). This article investigates the extent to which companies in the manufacturing industry view their HRM issues strategically.

## 2. STRATEGIC HUMAN RESOURCE MANAGEMENT (SHRM) – AN OVERVIEW

The SHRM approach which is more holistic in nature, differs from the traditional Human Resource Management (HRM) approach, which treats personnel programmes or activities in relative isolation, separated from both their environments and one another. According to Wilhelm (1990:130) the strategic approach requires the HRM function to be able to:

- translate corporate strategy into an HR strategy
- design or redesign the organisational structure to serve the strategy

- recruit and select employees to fit both the strategy and the desired organisational culture
- design motivation and reward systems that energise the workforce
- design benefits to complement the strategy
- design systems for employee development and career management to fit the strategy; and
- teach and support line management in accomplishing desired organisational change.

This can either take place reactively, by focusing on those programmes and activities that contribute to the goals of the organisation, or proactively, where HR managers participate in the strategic planning process of the company.

It is clear that this new approach (whether implemented proactively or reactively) requires a more comprehensive view of the HRM function. It is also important to note that there are two prerequisites for the successful implementation of this approach within companies as Fombrun, Tichy & Devanna (1984:50) remark:

“If the organization has no process by which it engages in strategic planning at the corporate or business level, it will not be possible for the human resource function to develop a strategic thrust since the human resource strategy flows from the corporate or business strategy. A human resource system must have its operational house in order, before it can afford the luxury of concentrating on the formulation and implementation of a human resource strategy”.

Several models have been developed to indicate how the company strategy and the HRM function can be linked (Nininger, 1982; Dyer, 1983; Baird, Meshoulam & De Give, 1983; Nkomo, 1988; Dyer, et al., 1988; Rothwell, et al., 1988; Schuler, 1992 and Boxall, 1992).

The question that can be asked however is “What benefits can be derived from adopting this approach?” In this regard numerous studies have been undertaken and reported in the literature. Misa and Stein (1983:27-30) reported that in an investigation undertaken by the firm A T Kearney in the United States of America among companies that were leaders in productivity and non-leaders, the leaders managed their HR function strategically. They further found that seventy-five percent of those companies with a SHRM func-

tion, have a higher net profit margin, five year sales growth and a five year return on equity compared with those companies with a passive HRM function. Similar results were also found in an investigation undertaken by Nkomo (1988: 66). Nkomo found that the firms using fully integrated SHRM systems reported significant benefits in the areas of labour cost savings, employee satisfaction and employee productivity. Managers also felt that there had been a positive impact on the overall organisation performance. The literature has further suggested that the strategic use of the HRM function can also lead to greater competitiveness in the marketplace (Schuler & McMillan, 1984; Kydd & Oppenheim, 1990) as well as to an increase in organisational effectiveness (Nininger, 1982).

It is evident, therefore, that companies that adopt the strategic approach to the HRM function, can derive many positive benefits. With the downturn in the South African economy, the shortage of skilled manpower and the abolition of sanctions against this country, it is essential that companies should manage all their resources with optimal efficiency. This applies especially to those concerns in the manufacturing industry, in order to enable them to compete more effectively in the new markets becoming available to South Africa. The manufacturing industry is of vital importance to the South African economy as it provides employment to nearly one and a half million people (National Manpower Commission Report 1990: 60) and contributes more than twenty-four percent to the Gross National Product (GNP) of the country (Central Statistical Services, 1990: 14.3 - 14.4).

### 3. RESEARCH METHOD

The mode of procedure in this investigation was to focus on a broad spectrum of companies in the manufacturing sector and to complete an overall analysis of the strategic use of the formal HRM practices as viewed by the various HR executives.

The participant companies were selected from the Industrial Register developed by the Bureau for Market Research of the University of South Africa. This register is updated on a continuing basis. Of the 16 161 companies listed in the Register during 1990, 45 percent or 7272 were located in the Pretoria/-Witwatersrand/Vereeniging (PWV) area. It was therefore decided to concen-

trate on this important and intensively developed area for the collection of the data. Furthermore, it was reasonable to accept that the findings of the study would mostly also apply to manufacturing companies in the whole of South Africa.

All companies with less than 100 employees were excluded from the study, as these companies normally do not have a separate HRM function (Kotze, 1988). This also applied to companies indicated in the register as "branches" as they are normally supported by their head offices. The remaining 1035 companies were subsequently first categorised, according to the Standard Industrial Classification (SIC) and then regrouped within each classification into three main groups, according to the number of their employees. The three groups were 101-200 employees, 201-400 employees and 401+ employees. The organisations were then arranged alphabetically within each industrial classification within each staff group.

A stratified systematic random sample, using the Standard Industrial Classification, was then taken. Because of the large discrepancy between the strata sizes due to the number of companies available in each classification, it was further decided to make use of a non-proportional allocation. This was done to eliminate unnecessary large samples from the bigger strata and too small samples from the smaller strata. A 40% sample was taken which led to a sample of 18 companies from each group. Where there were less than 18 companies within a group, all the available companies were included. It is believed that the companies selected is a representative sample from the different Industrial Classifications, and also that a larger sample would not have made any difference to the results of the survey. In this regard Robinson (1969:138) remarks as follows:

"The fact that the mail survey is a sample of a homogeneous population may be a sufficient reason for the researcher to make the practical assumption that returns of 30 percent are at least representative for the information gathered, to be used". Table 1 details the respondents in the survey.

TABLE 1

S/C code	Type of Manufacturer	Total numbers of companies in the PWV area with 100+ employees			Companies receiving and responding to questionnaires					
					Received			Responded		
					101-200	201-400	401+	101-200	201-400	401+
31	Food, Beverages; Tobacco	38	23	33	18	18	18	3	7	13
32	Textiles; Clothing; Leather;	63	33	14	18	18	14	2	2	2
33	Wood; Cork products; Furniture	39	12	12	18	12	12	2	4	2
34	Paper; Paper products; Printing; Publishing	26	16	12	18	16	12	6	8	7
35	Chemicals; Coal; Petroleum; Rubber; Plastic products	69	41	28	18	18	18	6	5	4
36	Pottery; China; Glass and other non-metallic mineral products	36	16	21	18	16	18	3	6	3
37	Iron and steel basic industries; Non-ferrous metal basic industries	16	15	17	16	15	17	3	4	7
38	Fabricated metal products; Machinery; Electrical machinery; Motor vehicles and parts; Transport; Scientific equipment	212	136	107	18	18	18	2	6	9
39	Other manufacturing	Not used in survey								
Total		499	292	244	142	131	127	27	42	47
		1035			400			116		

A questionnaire consisting of two parts was sent by mail to the various HR executives. Part I consisted of demographic data like the number of employees, age of the company, annual turnover, total assets, stage of the company's development and organisational structure. This part had a total of fourteen questions. Part II which contained sixty questions focused on the HRM activities. For the purpose of this study the HR managers were regarded as having three broadly defined functions namely: (a) the provisioning of manpower (b) the maintenance of manpower and (c) the training and development of manpower.

The following eight meaningful HR activity dimensions covering the three broadly defined functions as identified by Tsui (1987: 43), were used for the development of the questions: (1) staffing/human resource planning (2) organisation/employee development (3) compensation (4) employee support (5) legal requirements/compliance (6) employee/industrial relations (7) policy/procedures and (8) administrative services. For these activities the participants were asked the following type of question "To what extent in your company (for example) is there a process to assess external environmental conditions pertaining to human resources?" Answers could range from, to no extent (0-20%), to a minor extent (21-50%) to some extent (51-80%) and, to a great extent (81-100%).

The main thrust of the questions dealt with the strategic concerns of the HR activities while a limited number of activities dealing with operational concerns and HR methods/techniques were also included. The questionnaires were coded to identify the type of manufacturer. A total of 400 questionnaires were posted and 116 were returned, which is a response rate of 29%. Although the response rate is low, this is not unique as Kerlinger (1988:30) remarks: "Responses to mail questionnaires are generally poor. Returns of less than 40 or 50 per cent are common. Higher percentages are rare".

#### 4. SAMPLE CHARACTERISTICS

The sample reflects a mature and relatively stable industry. This is evident by the fact that seventy-three percent of the companies had been in existence for more than twenty years and seventy-six percent have a yearly turnover of more than R25 million. Sixty-one percent of the respondents also indicated

that their companies had reached a mature stage of development. It is imperative that companies at this stage of development should have a well established HR function with proper policies and procedures to ensure optimal utilisation of their employees. This is essential if companies desire to retain or increase their market share.

As far as the structure of the companies is concerned, the majority, namely seventy-six percent, indicated that they have a flat organisational structure with few layers of management. Centralised decision-making power is to some extent evident in forty-four percent of the companies while thirty-nine percent have it to a greater extent. It can thus be said that centralisation of decision-making power is fairly common in the manufacturing industry.

Thirty-one percent of the respondents followed a cost-leadership strategy to some extent, while forty-two percent followed the strategy to a greater extent. This strategy, where companies aim to become the lowest cost producer in an industry, is thus fairly prevalent. The strategy usually involves a vigorous pursuit of cost reductions and determined efforts to control costs.

The markets in which the companies compete are highly competitive as is indicated by seventy-four percent of the respondents. This requires that managers must ensure that all the productive factors are properly integrated in order to be more competitive in the various markets. The pace of technological change within the companies is also fairly rapid. Eighty-three percent indicated that it varied from moderate to very rapid.

As far as formal strategic planning activities are concerned, forty-one percent of the respondents reported that this is used to a great extent in their companies, while thirty-seven percent saw strategic planning as only in use to some extent. It is obvious that the majority of the companies have a good deal of formal strategic planning in progress. Regarding the involvement of the HR manager as part of the team responsible for strategic decision-making in the company, eighty-four percent indicated that they are directly involved. This indicates the acceptance of the importance of the HR function within the companies. It is an important finding, as the success of a SHRM function requires the direct involvement of the HR executive in the planning process of the company.

Eighty-eight percent of the respondents indicated that they are highly unionised. However, in spite of this, seventy-two percent indicated that the persons responsible for the industrial relations function in their companies are only partially trained. This is a serious shortcoming in view of the important role that industrial relations play in the present day South African business environment.

The majority of the respondents who completed the questionnaire, namely sixty three percent were HR managers, while thirty-seven percent held other positions; the majority of these were financial managers.

## 5. PARAMETRIC VERSUS NONPARAMETRIC STATISTICS

One of the issues that is often raised in survey research is whether the statistical technique, used for the interpretation of the data, is the most suitable.

Two types of statistics, namely parametric and nonparametric, are available for research purposes. According to Kerlinger (1988:266), a parametric statistical test depends on a number of assumptions about the population from which the samples used in the test, are drawn. The best-known assumption is that the population scores are normally distributed. A nonparametric or distribution - free statistical test depends on no assumptions as to the form of the sample population or the values of the population parameters.

A big controversy regarding the use of the two types of statistics exists, Gardner (1975:43-57) has no objection to the use of parametric statistics whereas Bradley (1972) advocates nonparametric methods - both points of view are compelling and valid. However, in the light of Kerlinger's (1988:268) remarks that the best advice is to use parametric statistics as well as the analysis of variance routinely but to keep a sharp eye on the data for gross departures from normality; it was decided therefore to adapt this approach for the study.

## 6. DATA REDUCTION USING PRINCIPAL COMPONENTS FACTOR ANALYSIS

In order to reduce the amount of data in Part II of the questionnaire, a principal components factor analysis with accompanying varimax rotation was

applied to the basic HRM dimensions mentioned earlier. All analyses were performed with the aid of the mainframe computer software "Statistical Analysis System". The programme Proc Factor was used throughout. All 116 questionnaires were utilised. It is important to note that the manufacturing types were not used separately for this purpose.

Initially it was decided to extract one factor for each dimension. This method is followed where factor analysis is performed on a group of items developed to measure a single underlying dimension. Where it became evident that a second or third factor could be extracted, this was done. A factor loading of 0.30 is considered significant, loadings of 0.40 are considered important, and loadings of 0.50 and higher are generally regarded as very significant for interpretation purposes (Hair, Anderson & Tatham, 1984: 249). It was decided in this study to use evaluation criteria of 0.30 and higher to identify the factors. The following factors were identified by the preceding analysis.

The factor analysis performed to reduce the data on the staffing/human resource planning dimensions, revealed two underlying factors. The first was termed effective strategic human resource planning and staffing and included items such as: the development of manpower plans; the coordination of future manpower projections with the future budget projections; the use of various HR forecasting techniques; the involvement of the HR manager with the approval of the strategic business plans of the company; the assessment of external environmental conditions pertaining to HR; the study of critical internal HR issues such as productivity; management obsolescence; labour turnover; organisational climate; employee potential and absenteeism and the design of recruitment plans to contribute to the accomplishment of the future organisational goals. The second factor was termed human resource staffing sources. Items included here were: employee referrals; private agencies; job posting; promotion from within and transfers.

The analysis performed to reduce the data on the organisation/employee development dimension also revealed two underlying factors. The first was termed strategic human resource training and development and included items such as: the development of training/development programmes to contribute to the accomplishment of the future organisational goals; the monitoring of the effectiveness of training/development programmes; the development of diverse career paths tied to the long-term goals of the organisation; the improvement of an individual's skills in anticipation of future oppor-

tunities and the timeous training of employees to equip them with the necessary skills. The second factor was termed training and development programmes. Items included here were internship; management games; university non-degree programmes; sabbaticals; programmed instruction; behaviour modelling and team building.

The analysis performed to reduce the data on the compensation dimension also revealed two underlying factors. The first was termed strategic appraisal and compensation and included items such as: the alignment of performance appraisal systems to reflect future business needs; the review of job analysis information in view of changing organisational goals and the design of the compensation structure to meet future company goals. The second factor was termed appraisal and compensation techniques. Items included here were: factor comparison; paterson system; castellion method; forced distribution; performance tests; paired comparison and graphic rating scales.

The analysis performed to reduce the data on the legal requirements/compliance dimension revealed three underlying factors. The first was termed legal requirements and included items such as: Basic Conditions of Employment Act; Workmen's Compensation Act; Labour Relations Act and Manpower Training Act. The second factor was termed employee health and included items such as: stress; burnout; drug abuse and alcoholism. The third factor was termed employee safety and included items such as: unsafe acts and unsafe working conditions.

The factor analysis performed to reduce the data on the employee/industrial relations dimension, revealed two underlying factors. The first was termed employee relations and included items such as: communication skills; negotiation skills; diplomacy; interpersonal skills and persuasive ability. The second factor was termed strategic industrial relations. Items included here were the forecast of future labour relation trends; the development of a written strategy for negotiation with labour unions; the workers knowledge of a grievance system and disciplinary procedure.

The factor analysis performed on the dimensions: administrative services; policy procedures and employee support confirmed that these factors only measured a single underlying dimension, since only one factor was extracted in each case.

## 7. IMPORTANCE OF THE VARIOUS STRATEGIC HUMAN RESOURCE MANAGEMENT DIMENSIONS

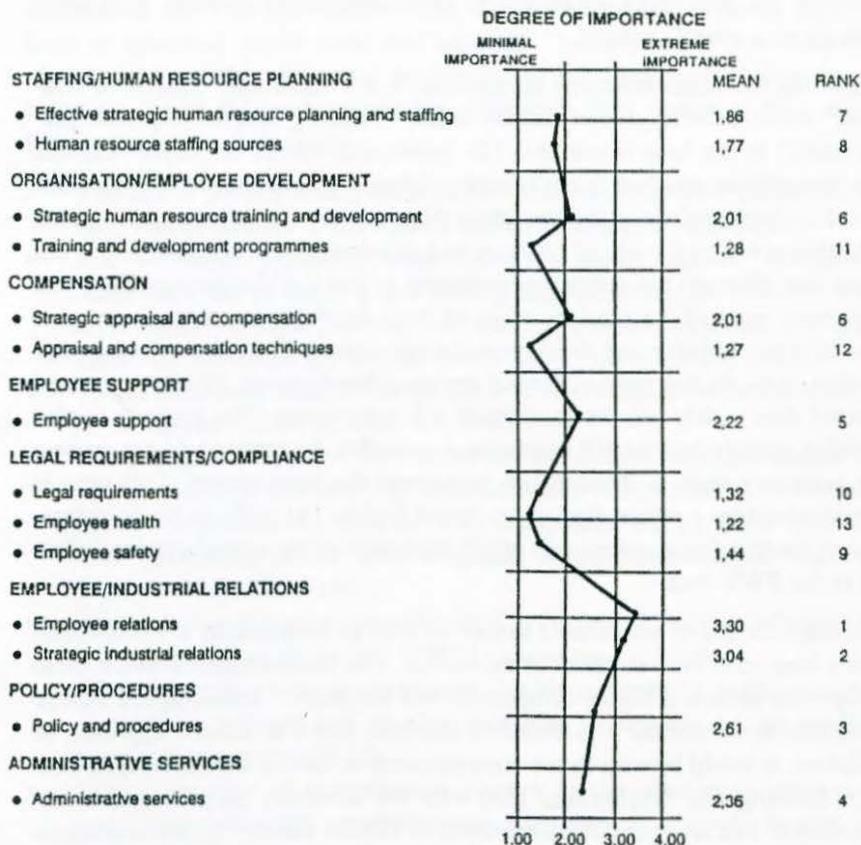
From the factor analyses a number of SHRM dimensions became evident. These dimensions were accordingly classified into two groups, namely formulation dimensions and implementation dimensions. The formulation dimensions consisted of: effective strategic human resource planning and staffing; strategic human resource training and development; strategic appraisal and compensation and strategic industrial relations. The implementation dimensions consisted of: policy and procedures; administrative services; employee relations; employee support; legal requirements; employee health; employee safety; appraisal and compensation techniques; training and development programmes and HR staffing sources.

The average or mean "importance" rating of the various activity dimensions for HR managers are shown in Figure I. The rank of each rating is also indicated.

From the figure it appears that as far as the formulation dimensions of SHRM are concerned the manufacturing industry sees "Strategic industrial relations" as the most important activity, while "Effective strategic human resource planning and staffing" is seen as the most unimportant dimension. It thus appears that, although the respondents indicated in Part I of the questionnaire that they form part of the team responsible for strategic decision-making in the company, their involvement at this level is mainly focused on the industrial relations function. This situation can probably be ascribed to the fact that the respondents are highly unionised as indicated in the survey and due to the high rate of labour unrest that companies are experiencing in South Africa at present. The respondents, however, indicated that the persons responsible for the industrial relations function are not fully trained and that a need for further training existed. This aspect will have to be addressed by companies without delay as worker/employer relations play an important role in the stability of a company.

FIGURE 1

THE IMPORTANCE OF THE VARIOUS STRATEGIC HUMAN RESOURCE MANAGEMENT DIMENSIONS TO COMPANIES IN THE PRETORIA/WITWATERSRAND/VERENIGING REGION



The other critical components of SHRM namely: effective strategic human resource planning and staffing; strategic human resource training and de-

velopment and strategic appraisal and compensation are at present not receiving the attention they deserve in view of the highly competitive markets in which the companies compete, and the fact that most of the companies have already reached a mature stage of development. This state of affairs can only be described as disturbing. Urgent attention will therefore have to be given by the companies concerned to these dimensions in order to achieve synergy on a proactive basis.

Regarding the implementation dimensions, it is evident that "Employee relations" is the most important activity while "Training and development programmes" is the least important. The prominent role of employee relations can probably be ascribed to the intensive labour component of the companies which is characteristic of the manufacturing industry. Concerning the limited attention given to the use of training and development programmes it is obvious that although the companies indicated in Part I of the questionnaire that they have reached the maturity stage of their development, they do not possess effective training and development programmes. The reason for this may be that they do not possess formal training/development divisions, instead thereof they widely use the services of HR consultants. The contrary is also possible namely that the HR managers responsible for training do not possess the necessary skills to develop and implement the programmes. This view is strengthened by a recent finding by Kotzé (1988: 181-199) in his investigation of the training requirements of HR managers of the manufacturing industry in the PWV-area.

Although the use of consultants cannot be seen as undesirable, it is important that a long-term view be taken of the matter. The environment in which these companies operate is highly competitive and the pace of technological change continues to accelerate. It is therefore essential that a structured approach be followed. It would be wise in the circumstances to have a well developed strategic training and development plan with the necessary programmes to implement it. The other critical dimensions of SHRM namely: policy and procedures; administrative services; employee support; legal requirements; employee health; employee safety; appraisal and compensation techniques as well as HR staffing sources, are also not receiving sufficient attention at present. In order to retain and increase market share it is important that these basic dimensions be well-integrated with one another and properly managed.

## 8. CORRELATION ANALYSIS FINDINGS

In this section the findings regarding the correlation analyses between some of the important demographic variables and the SHRM dimensions are reported. (See Tables in the Appendix). Use was made of the analysis of variance (ANOVA) procedure, Pearson product-moment correlation coefficients and Post-hoc Duncan tests. For interpretation purposes the 0.01 level of statistical significance was adopted. This approach is in line with various authors who agree that the results are not significant if they do not make the .05 or .01 grade (Kerlinger, 1988:157). The results of the various tests indicated the following:-

- The size of the companies according to their staff numbers, did not influence the application of the various SHRM dimensions (Table 2).
- The "chemicals, petroleum, coal, rubber and plastic products" companies made more use of training and development programmes, effective strategic human resource planning and staffing, strategic appraisal and compensation and employee support than the other companies (Table 3).
- The development stage of companies had no influence on the application of the various SHRM dimensions (Table 4).
- The younger companies made more use of effective strategic human resource planning and staffing, appraisal and compensation techniques, policy and procedures, than the older companies. On the other hand the older companies placed more emphasis on employee support than the younger companies (Table 5).
- The type of organisation structure used by companies had no influence on the application of the various SHRM dimensions (Table 6).
- The companies whose markets were highly competitive made more use of strategic training and development than companies whose markets were less competitive (Table 7).
- Where the pace of technological change in the production process of companies was rapid, more attention was given to strategic human resource training and development than where the reverse was the case (Table 8).

## 9. CONCLUSION

The aim of this investigation was to determine to what extent the companies in the manufacturing industry viewed their HRM activities strategically. As pointed out the adoption of this approach holds many advantages for companies, such as higher productivity, bigger profits and greater competitiveness in the market place.

The results of the investigation indicate that the strategic approach to HRM has only been adopted to a limited extent by companies in the manufacturing industry, as proved by the fact that an important dimension of SHRM namely "Effective strategic human resource planning and staffing" was ranked only seventh on the list of critical SHRM dimensions. This dimension contains important activities, like the interaction with line management during the formulation of company plans, external and internal environmental scanning relating to HR, the drawing up of HRM plans and the monitoring and evaluation of the attainment of the HRM goals. It is also evident that there is a lack of use of the basic HRM techniques, while executing certain HRM activities like recruitment, training, development, compensation and performance appraisal.

In view of the important role that companies play in the manufacturing industry, for example the provisioning of job opportunities and the contribution to the Gross National Product, an urgent need exists in this sector for companies to critically view their present HR practices with a view to rectifying their shortcomings in order to make themselves more competitive in the market place in the future.

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## APPENDIX

TABLE 2

A COMPARISON OF LARGE, MEDIUM AND SMALL COMPANIES  
REGARDING THE APPLICATION OF STRATEGIC HUMAN RESOURCE  
MANAGEMENT FUNCTIONS - ONE-WAY ANALYSIS OF VARIANCE  
F-TESTS

Dependent variable (function)	Size of company			F	P-value*
	Large (N=47) $\bar{X}$	Medium (N=42) $\bar{X}$	Small (N=27) $\bar{X}$		
Strategic human resource training and development	2,075	1,872	2,117	2,32	0,103
Training and development programmes	1,273	1,292	1,278	0,06	0,945
Legal requirements	1,290	1,341	1,364	0,13	0,875
Employee Health	1,244	1,202	1,240	0,19	0,824
Employee safety	1,507	1,476	1,290	1,79	0,172
Effective strategic human resource planning and staffing	1,891	1,839	1,867	0,12	0,887
Human resource staffing sources	1,817	1,739	1,737	0,74	0,477
Strategic appraisal and compensation	2,066	1,937	2,023	0,54	0,583
Appraisal and compensation techniques	1,259	1,256	1,333	0,79	0,454
Employee relations	3,361	3,233	3,325	0,45	0,637
Strategic industrial relations	3,191	2,904	2,990	1,64	0,198
Employee support	2,400	2,123	2,088	3,22	0,045
Policy and procedures	2,652	2,531	2,666	0,49	0,611
Administrative services	2,375	2,333	2,386	0,07	0,931

\*Probability under the null hypothesis.

TABLE 3

A COMPARISON OF COMPANIES WITH DIFFERENT PRIMARY ACTIVITIES REGARDING THE APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS - ONE-WAY ANALYSIS OF VARIANCE F-TESTS

Dependent variable (function)	Manufacturing activity								F	P-value*
	A3** $\bar{X}$ N=23	A32 $\bar{X}$ N=6	A33 $\bar{X}$ N=8	A34 $\bar{X}$ N=21	A35 $\bar{X}$ N=15	A36 $\bar{X}$ N=12	A37 $\bar{X}$ N=14	A38 $\bar{X}$ N=17		
Strategic human resource training and development	2,137	1,847	1,687	1,976	2,254	1,814	1,968	1,970	1,43	0,201
Training and development programmes	1,354	1,067	1,093	1,217	1,472	1,358	1,232	1,213	3,33	0,003
Legal requirements	1,384	1,027	1,452	1,441	1,302	1,227	1,202	1,362	0,46	0,862
Employee Health	1,326	1,041	1,392	1,237	1,312	1,204	1,125	1,117	1,38	0,221
Employee safety	1,362	1,694	1,285	1,291	1,333	1,303	1,666	1,705	2,18	0,041
Effective strategic human resource planning and staffing	1,952	1,704	1,481	1,872	2,096	1,703	1,859	1,856	1,52	0,166
Human resource staffing sources	1,865	1,683	1,500	1,740	1,835	1,779	1,790	1,700	1,19	0,312
Strategic appraisal and compensation	2,031	1,642	1,530	2,050	2,412	1,948	1,949	1,945	2,36	0,027
Appraisal and compensation techniques	1,289	1,196	1,109	1,385	1,231	1,235	1,302	1,256	1,03	0,415
Employee relations	3,373	3,300	3,457	3,370	3,237	2,963	3,314	3,317	0,57	0,778
Strategic industrial relations	3,173	2,958	2,642	3,000	3,000	3,068	3,125	3,088	0,42	0,885
Employee support	2,382	1,766	1,914	2,170	2,575	2,090	2,242	2,117	1,96	0,067
Policy and procedures	2,362	2,555	2,285	2,716	2,895	2,606	2,666	2,666	1,28	0,265
Administrative services	2,362	2,277	2,095	2,333	2,520	2,363	2,357	2,411	0,35	0,930

\* Probability under the null hypothesis.

\*\* These manufacturing activities correspond with the SIC codes in Figure I.

\*\*\* A Post-hoc Duncan test was also used to interpret the results further.

TABLE 4

A COMPARISON OF COMPANIES WITH DIFFERENT STAGES OF DEVELOPMENT REGARDING THE APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS – ONE-WAY ANALYSIS OF VARIANCE F-TESTS

Dependent variable (function)	Stage of development			F	*P- value
	Growth $\bar{X}$ (N=18)	Maturity $\bar{X}$ (N=71)	Divers. $\bar{X}$ (N=24)		
Strategic human resource training and development	2,122	1,926	2,249	3,82	0,024
Training and development programmes	1,400	1,227	1,365	4,62	0,012
Legal requirements	1,500	1,251	1,333	1,20	0,304
Employee Health	1,152	1,243	1,260	0,60	0,551
Employee safety	1,425	1,413	1,472	0,13	0,874
Effective strategic human resource planning and staffing	1,835	1,823	2,072	2,45	0,091
Human resource staffing sources	1,761	1,751	1,850	0,76	0,469
Strategic appraisal and compensation	1,989	1,958	2,211	1,71	0,186
Appraisal and compensation techniques	1,402	1,215	1,357	5,03	0,008
Employee relations	3,155	3,281	3,458	1,20	0,304
Strategic industrial relations	2,722	3,098	3,177	2,24	0,111
Employee support	1,966	2,253	2,375	2,37	0,097
Policy and procedures	2,490	2,610	2,680	0,43	0,648
Administrative services	2,274	2,347	2,513	0,87	0,421

\*Probability under the null hypothesis

TABLE 5

PRODUCT-MOMENT CORRELATIONS BETWEEN THE AGE OF THE COMPANY AND THE DEGREE OF APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS ( $115 \leq N \leq 116$ )

Strategic human resource management function	Coefficient of correlation (r)	p-value*
Strategic human resource training and development	-0,19	0,32
Training and development programmes	-0,05	0,545
Legal requirements	0,03	0,740
Employee Health	0,01	0,270
Employee safety	-0,02	0,828
Effective strategic human resource planning and staffing	-0,23	0,010**
Human resource staffing sources	0,01	0,949
Strategic appraisal and compensation	-0,19	0,040
Appraisal and compensation techniques	0,24	0,008**
Employee relations	0,11	0,029
Strategic industrial relations	-0,14	0,118
Employee support	0,60	0,000**
Policy and procedures	-0,27	0,002**
Administrative services	-0,23	0,012

\* Probability under the null hypothesis.

\*\* Statistically significant at the .01 level.

TABLE 6

A COMPARISON OF COMPANIES WITH DIFFERENT TYPES OF ORGANISATIONAL STRUCTURES IN REGARD TO THE APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS – ONE-WAY ANALYSIS OF VARIANCE F-TESTS

Dependent variable (function)	Type of structure			F	P- value*
	Flat with few layers of manage- ment (N=88) $\bar{X}$	Tall with many lay- ers of ma- nagement (N=88) $\bar{X}$	Uncon- ventional for example matrix (N=6)** $\bar{X}$		
Strategic human resource training and development	2,075	1,872	2,117	2,32	0,103
Training and development programmes	1,273	1,292	1,278	0,06	0,945
Legal requirements	1,290	1,341	1,364	0,13	0,875
Employee Health	1,244	1,202	1,240	0,19	0,824
Employee safety	1,507	1,476	1,290	1,79	0,172
Effective strategic human resource planning and staffing	1,891	1,839	1,867	0,12	0,887
Human resource staffing sources	1,817	1,739	1,737	0,74	0,477
Strategic appraisal and compensation	2,066	1,937	2,023	0,54	0,583
Appraisal and compensation techniques	1,259	1,256	1,333	0,79	0,454
Employee relations	3,361	3,233	3,325	0,45	0,637
Strategic industrial relations	3,191	2,904	2,990	1,64	0,198
Employee support	2,400	2,123	2,088	3,22	0,045
Policy and procedures	2,652	2,531	2,666	0,49	0,611
Administrative services	2,375	2,333	2,386	0,07	0,931

\* Probability under the null hypothesis.

\*\* It must be mentioned that the number of companies are on the small side and that the averages for the group might be unstable.

TABLE 7

PRODUCT-MOMENT CORRELATIONS BETWEEN THE NATURE OF COMPETITION IN THE MARKET IN WHICH INVOLVED AND THE MEASURE OF APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS ( $115 \leq N \leq 116$ )

Strategic human resource management function	Coefficient of correlation (r)	p-value*
Strategic human resource training and development	-0,25	0,004**
Training and development programmes	-0,18	0,043
Legal requirements	-0,00	0,984
Employee Health	0,01	0,896
Employee safety	0,17	0,060
Effective strategic human resource planning and staffing	-0,20	0,025
Human resource staffing sources	-0,16	0,078
Strategic appraisal and compensation	-0,19	0,037
Appraisal and compensation techniques	-0,05	0,546
Employee relations	0,05	0,593
Strategic industrial relations	-0,11	0,233
Employee support	-0,15	0,097
Policy and procedures	-0,18	0,048
Administrative services	-0,16	0,086

\* Probability under the null hypothesis.

\*\* Statistically significant at the .01 level.

TABLE 8

PRODUCT-MOMENT CORRELATIONS BETWEEN THE PACE OF CHANGE IN TECHNOLOGICAL FACTORS AND THE MEASURE OF APPLICATION OF STRATEGIC HUMAN RESOURCE MANAGEMENT FUNCTIONS ( $115 \leq N \leq 116$ )

Strategic human resource management function	Coefficient of correlation (r)	p-value*
Strategic human resource training and development	-0,23	0,010**
Training and development programmes	-0,08	0,387
Legal requirements	0,03	0,700
Employee Health	0,01	0,840
Employee safety	0,10	0,267
Effective strategic human resource planning and staffing	-0,20	0,024
Human resource staffing sources	0,10	0,025
Strategic appraisal and compensation	-0,13	0,158
Appraisal and compensation techniques	-0,04	0,615
Employee relations	-0,08	0,363
Strategic industrial relations	0,00	0,961
Employee support	-0,09	0,326
Policy and procedures	0,06	0,488
Administrative services	0,00	0,918

\* Probability under the null hypothesis.

\*\* Statistically significant at the .01 level.

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