

**Ref.# 209**



**A MODEL FOR EXPLAINING DIFFERENCES IN THE  
HR STAFF RATIO**

**Guido Strunk\***  
**Christiane Erten-Buch\*\***  
Wirtschaftsuniversität Wien

\*Interdisciplinary Department of Management and Organisational Behaviour  
Wirtschaftsuniversität Wien (WU-Wien)  
Augasse 2-6, A-1090 Wien, Austria  
Tel. +43-1-31336-4553 or 4010  
Fax +43-1-31336-724  
e-mail [guido.strunk@wu-wien.ac.at](mailto:guido.strunk@wu-wien.ac.at)

\*\*Interdisciplinary Department of Management and Organisational Behaviour  
Wirtschaftsuniversität Wien  
Augasse 2-6, A-1090 Wien, Austria  
Tel. +43-1-31336-4553 or 4009  
Fax +43-1-31336-724  
e-mail [christiane.erten-buch@wu-wien.ac.at](mailto:christiane.erten-buch@wu-wien.ac.at)



## **A MODEL FOR EXPLAINING DIFFERENCES IN THE HR STAFF RATIO**

Based on theoretical reasoning as well as on empirical results the current paper develops a hypothetic model containing eleven determinants of the human resources staff ratio in organisations. Empirical tests using the survey data from Cranet-G lead to a final model with six predictors and an explanation in variation of R-squared equal to .21. This shows that our model is a useful predictor for different sizes of HR departments. A cultural comparative analysis using Hofstede's survey data shows differences in the importance of the predictors along the cultural dimensions, but altogether also confirms our model.



## 1 Introduction

The human factor is more and more recognized as a key factor for the efficiency and the success of companies. Going in line with this development the importance of HRM „as an institutionalized way of handling the central issues of selecting, appraising, rewarding, and developing people“ has grown significantly over the past decade (Brewster et al., 1997; cf. Brewster and Hegewisch, 1994). Nevertheless, general discussions about cost cutting, downsizing, lean management, the reduction of personnel, etc also lead to the question whether HR departments are overstaffed or not. Furthermore there are two other sets of reasons making this question to an important one: very often it is part of the HR responsibilities to supervise the leaness of the organisation and therefore it is necessary not to be overstaffed oneself. On the other hand the HR function itself is considered to be part of the “overhead” costs, and feels under pressure.

Furthermore questions like “Do we need so many specialists?”, “Can HR-functions be taken over more efficiently by line managers?”, “Should we think about outsourcing parts of our activities to external specialists?” arise. Rules of thumb from the USA recommend for the size of HR departments values around 1% of the overall headcount, so that to every one member in the personnel department there are one hundred employees. Empirical evidence from the Cranfield Network on Human Resource Management (Cranet-G) show however, that e.g. for the year 1999, existing personnel departments are on average larger (approx. 1.6% of the overall headcount) than predicted by this rule. Furthermore we can observe substantial differences among the organisations. The data point out that on one hand 5% of the organisations have rather large personnel departments with more than 4% of the employees. On the other hand 5% of the organisations have ten times smaller HR departments with less than 0.4% of the overall number of employees in HR functions. In view of such big differences among the examined organisations and of values far away from the cited rule of thumb we



have to question either if the rule is misleading or if there are good reasons for the organisation not to follow such rules.

According to Ommeren and Brewster (2000) normative rules for the size of HR departments are often too simple, misleading or simply misunderstood. The authors point out that there is a lot of internal and external factors influencing the requirements for different sized HR departments.

This paper is going to examine various determinants of the size of the HR departments. Starting from a list of possible factors of influence compiled by other scholars, we try to formulate a theoretical model, which enables us to describe the size of HR departments in relationship to specific characteristics of the organisations. The model will be proven empirically by using the Cranet-G data from 1999 which contain 5,614 private owned organisations in 26 countries.

## **2 Determinants of the Size of HR Departments**

Ommeren and Brewster (2000) show that the size of the HR-staff ratio, i.e. the ratio between the total staff of the company and those that work in the human resources department, should not be interpreted as a value in itself, but rather in connection with a larger number of different characteristics of the company and also according to its legal and cultural environment. Therefore, according to the above mentioned rule of thumb, companies with approximately 100 employees are recommended to have one employee in the human resources department, whereas companies with 10,000 employees should have 100 in their personnel department. Furthermore the rule suggests a constant HR-staff ratio, independent from the size of the company. But this cannot be empirically proven. On the contrary, it has been shown in numerous studies (e.g. Schuler and Huber, 1993) that the bigger the company the lower the HR-staff ratio. This is quite plausible if we consider that in large enterprises a more efficient use of the human resources department prevails. Moreover it pays to have costly HR programmes, e.g. training courses, etc. if many employees can be reached at the same time.



These are reasons why personnel departments in large corporations can be more efficient than in smaller ones.

Apart from the fact that larger organisations can work more efficiently in the HR field, there are other, specific determinants influencing directly the activities of the HR departments. We think that the size of a personnel department is determined by two independent factors:

- The number of responsibilities of the HR department as well as their complexity.
- The effectiveness and efficiency in handling their activities.

As already outlined the second factor may be influenced by the size of the organisation. For the first factor we hypothesize other mechanisms and determinants of influence. These will be discussed in view of three different spheres of influence:

- 1) **Field of activity:** Summarizes characteristics like the sector of the economy, the export orientation, the degree of internationalisation as well as the position of an enterprise in a group of companies/division.
- 2) **Organisational details:** Information on the structure of the workforce like e.g. staff turnover and age structure, percentage of management and percentage of employees under 25 years from the overall headcount as well as the overall number of employees will be examined.
- 3) **Outsourcing of HR activities:** Summarizes the outsourcing of HR activities to external providers or the assignment of responsibilities to line managers.

Before we are going to take a closer look at these three spheres of influence we want to stress that in our opinion all of them exert some sort of influence on the number of responsibilities of the HR department as well as on their complexity.



Nevertheless it has to be stated that there are also cultural differences being relevant for the size of the HR department. We assume that the cultural framework of countries does not lead to quite different sets of determinants influencing the HR department, but there are differences in the intensity of the influence.

The following sections firstly will describe the above mentioned spheres of influence in greater detail and secondly integrate them into our theoretical model. Because of the very complex phenomenon of culture we will deal a bit more extensively with the theoretical basis on which we are going to build our arguments concerning the influence of culture on HRM.

## *2.1 Field of activity*

Summarizing characteristics like industry, export orientation, degree of internationalisation as well as position of an enterprise in a group of companies/division, we want to show that HR activities as well as their complexity definitely are affected by structural variables of the company. It is important whether an organisation produces for local or international markets, in which industry they are operating, if they are a subsidiary of a multinational company, or the headquarters itself.

### **2.1.1 Sector of the economy**

Depending on the industry a company is part of, we can see a very different structure of the workforce. The service sector, for example, is characterized by a high percentage of highly qualified employees. As the direct contact between employees and customers is crucial for the success of service sector companies, it is very important to have satisfied employees willing to help customers. Apart from high wages there are means of a substantial HR service offering special benefits. This needs rather high HR staff ratios. On the other hand there is e.g. the manufacturing sector competing



more on costs than by the skills of its employees. This different structure of the workforce will also be reflected in the necessary HR activities.

We therefore hypothesize that the complexity of the needed HR activities will be higher in the service sector than in other industries, and thereby also leads to higher HR staff ratios.

### **2.1.2 Export orientation**

It is evident that the transnational offering of goods and services demands a lot more of specific qualifications from the workforce than from employees of companies only operating in local, regional or national markets (see e.g. Gaugler, 1994; Scholz, 1996; Trotha, 1997; Weber et al., 1998). The international orientation of an organisation requires adequate measures in HR activities like recruitment, staffing, personnel training and development as well as in matters of compensation and benefits (see e.g. Scherm, 1995). Furthermore we can assume that the complexity of these activities will be higher.

Concerning the influence of an export orientation on the size of the HR department we suppose direct and indirect effects. Indirect effects are hypothesized from the structure of the workforce, i.e. more qualified employees. Furthermore export orientation leads to a higher complexity in the activities of the HR department which directly influences the size of the HR department.

### **2.1.3 International/Transnational orientation**

Following the above outlined arguments, we furthermore assume that the next step in internationalisation increases the complexity of HR activities once again. The establishment of subsidiaries and later on the multi-national operating of a company leads to a variety of issues resulting in different cultural, legal and political factors affecting the every day work of the organisation as well as their employees. According to Torrington (1994) international HRM has the same basic dimensions as HRM in a national context but with added features:

- It operates on a greater scale.



- Strategic considerations are more complex.
- Operational units vary more widely and require coordination across more barriers.

Going international means therefore an increased complexity of the organisations' internal and external processes, accompanied by a higher complexity in HR matters (see e.g. Kammel and Teichelmann, 1994; Scherm, 1995; Perlitz, 1995; Borg and Harzing, 1996; Weber, Festing, Dowling and Schuler, 1998). This leads to the hypothesis that internationally operating companies that have to care about employees in many countries have a tendency to increase the size of their HR departments (Ommeren and Brewster 2000).

#### **2.1.4 Position of a company within a group**

Companies being part of a larger group of companies with many subsidiaries will be influenced by the position that the company in question holds within such a group. Corporate headquarters of a national or international group normally have a bigger variety of tasks than subsidiaries or single site companies.

Following this argument we hypothesize that national companies belonging to larger corporations will show a bigger HR-staff ratio than do single site organisations.

### *2.2 Organisational details*

Within our descriptive model the following organisational details will be considered as determinants on the size of the HR department: structure of the workforce like e.g. staff turnover and age structure, the percentage of management and percentage of employees under 25 years from the overall headcount as well as the overall number of employees.





### **2.2.1 Structure of the workforce**

Companies with a high staff turnover rate as well as a rather high percentage of management from the overall headcount will require a lot of HR activities. Recruitment, training and development or calculations of compensation models for highly qualified staff is more time consuming and expensive than for low skill employees. The same is true for older people of the workforce.

This leads us to the hypothesis that the size of the HR department will be larger in companies with a high staff turnover rate as well as in companies with a high percentage of management and older employees.

### **2.2.2 The overall headcount**

The overall headcount is another important determinant of the HR staff ratio. Thus we hypothesize that large organisations generally enjoy economies of scale (Ommeren and Brewster 2000). For example wage administration, recruitment and training can be organised more efficiently if more employees are involved. But there is also another factor relevant in this context. Larger organisations may have a bigger variety and a greater complexity in the range of their HR activities.

## ***2.3 Outsourcing of HR activities***

One of the key factors determining the shape of a company's HR department is the kind of task distribution between central HR specialists and line managers on HR issues. In the classical HR model, a central unit emerges that is staffed with specialists for the various HR issues like recruitment and selection, training and development, or compensation. Driven by new developments this classic notion seems to be changed gradually. Concepts like lean management and business process reengineering advocate among others a re-delegation of HR issues to the place where the problems arise and where solutions often can be found. Thus, line managers are increasingly regarded as important element for the fulfilling of HR tasks. The issue of assigning HR responsibilities is



increasingly discussed in the literature (e.g. Brewster, Larson and W. Mayrhofer, 1997; Mayrhofer, 1998). Furthermore there are tendencies to foster the outsourcing of HR activities to external providers.

Following such developments we hypothesize a decrease in the number of HR staff in companies outsourcing HR activities.

The above outlined determinants of the HR staff ratio are considered as predictors within our theoretical model. We expect them to explain different sizes of HR departments across all 26 countries our data comes from. Apart from these predictors there are cultural factors influencing the size of HR departments. We assume that these do not lead to quite different sets of determinants, but that there are differences in the intensity of the influence. Because of the very complex phenomenon of culture the following sections will describe the theoretical basis on which we are going to build our arguments concerning the influence of culture on HRM.

## *2.4 Cultural influences on HRM*

We are quickly moving towards a global economy, many companies engage in international business and have facilities and personnel in various countries of the world. The effectiveness of HRM depends therefore also on realizing that cultural, social, and legal differences of different countries have an important impact on HR activities. The first part of this chapter presents a brief introduction to one of the concepts of culture. The second part deals with HRM and national culture.

### **2.4.1 Hofstede's Concept of Culture**

For the study of management it is important to examine the relationship between culture and organisations. Research within cross-cultural management therefore attempts to identify how culture influences organisations as well as managerial functions and actions. Culture seems to have an impact



on the micro-variables, such as people's behaviour, and also on the macro-level for example on technology or organizational structure. But the abstract and complex nature of culture makes it difficult to identify and analyse this phenomenon.

In order to assess cultural similarities and differences, a framework for further study is necessary. A variety of helpful models have been proposed that examine groupings of cultural values. (e.g. Hofstede, 1980; Keller, 1982; Trompenaars, 1994). Each approach provides somewhat different insights; thus each can be useful on its own or in combination with other models. In essence, however, it has to be stressed that cultural models can only provide a simplified way to examine cultures. All cultures are far more complex than these models suggest, and it is important that this complexity is taken into account.

As we will use Hofstede's survey and his results as a reference point of our hypotheses we are going to address his definition of culture although we do not completely agree with his perspective.

Hofstede, the very well known, positivist, empirical researcher in the field of cross-cultural studies, stresses the mental conditions that cultural experiences impose. For him culture is „the collective programming of the mind which distinguishes the members of one human group from another. Culture, in this sense, includes systems of values; and values are among the building blocks of culture. Culture determines the identity of a human group in the same way as personality determines the identity of an individual“ (Hofstede, 1980). Referring to an extensive review of literature Hofstede states that there are certain basic human problems arising similarly within all societies but the ways of dealing with them are different. The stated basic problems are (1) the relation to authority, (2) the conception of self, including the individual's concept of masculinity and femininity as well as the relationship between individuals and groups, and (3) primary dilemmas or conflicts (Hofstede, 1980). The fact that Hofstede's empirically found cultural dimensions are similar to these basic human problems seems to support his findings.



Although Hofstede's initial objective was to identify work-related values, the results of his study are used to analyse cultures' influence on management in general, and researchers discuss the implications of the studied countries' positions along the following dimensions.

### Individualism versus Collectivism

These terms describe the relationship between the individual and the group to which a person belongs. Individualism implies loosely knit social frameworks in which people are supposed to take care only of themselves and their immediate families. They stress individuals' achievements and rights and expect individuals to focus on satisfying their own needs. Collectivism is characterized by tight social frameworks in which people distinguish between their own groups („in-groups“, such as relatives, clans, and organisations) and other groups. Within their „in-group“ they are expected to look after the group's members and give them security in exchange for loyalty.

### Power Distance

Power distance measures the extent to which less powerful members of organisations accept the unequal distribution of power. Titles, status, and formality command less in low power distance countries. In high power distance cultures, employees manage their work according to what their managers want. They are more cooperative in dealings with superiors, but reluctant to cooperate with peers.

### Uncertainty Avoidance

Uncertainty about the nearer and far future is a fact of human life which we try to cope with through the help of technology, law, religion, rules and rituals. Accordingly, this dimension measures the extent to which people in a society feel threatened by ambiguous situations and the extent to which they try to avoid these situations by providing for example greater career stability, establishing more formal rules, and accepting the possibility of absolute truth and the attainment of expertise.



### Masculinity versus Femininity

As defined by Hofstede (1980), the national cultural dimension of masculinity refers to the extent to which gender differences in a society are defined in terms of competition and the pursuit of material objectives (masculine), or in terms of relationships, the achievement of social goals, concern for others, and the overall quality of life (feminine). In high masculinity cultures members accept greater job stress and the company's interference in private life. In high femininity cultures, on the other hand, members prefer to tolerate others rather than to compete with them and the social roles of men and women are less sharply distinguished. Organisations have to cope with the issue of achieving their goals on the one hand and on the other hand they should offer equal career opportunities for both sexes. According to Hofstede's study there is evidence that in more feminine countries more women are working and furthermore they are also in the qualified jobs.

Hofstede's work has been extensively reviewed, discussed and criticized from different points of view. Definitely his model has its weaknesses, but nevertheless, it can be judged to be useful heuristically as a starting point for the further investigation of cultural influences on management, and particularly for more qualitative research and analysis (Adler, 1991)

### **2.4.2 HRM and national culture**

In different countries basic activities are regarded with different degrees of importance and are carried out differently. Therefore the practice of HRM is – more than other business functions – closely linked to national culture (Gaugler, 1988) and developments in cross-national HRM show a strong influence of national factors on HRM practices, like e.g. the HR staff ratio.

The increased level of globalisation and hence of competition amongst companies, has also resulted in an increased need of knowledge in the field of HRM issues (Brewster et al. 1996, Dowling et al. 1994, etc.). Modern people managers often have the responsibility for developing staff for subsidiaries in several countries. Therefore it would be valuable to understand HRM of different national and



regional settings and to develop predictors in order to best choose and work on HRM practices. This has resulted in an increased number of academic studies comparing HRM from a cross-national view point. HRM research has also demonstrated the impact of the dynamic business environment, partly unique to each nation (e.g. competitive pressures on certain HRM instruments or policies), partly applying for most of the countries (e.g. growth of business alliances, downsizing of organisations and their workforce, impacts of new information technologies, quality and social costs of employment, etc).

Figure 1 summarizes the above described factors of influence, including cultural dimensions as defined by Hofstede, on the size of the HR department within a hypothetical model:

Although we assume to have considered important determinants on the size of the HR department within this model, we also want to stress that the above mentioned factors do not present a complete list of all possible factors of influence on the HR-staff ratio (cf. Ommeren and Brewster, 2000).

Furthermore we presume that the above outlined determinants do not only have an influence on the HR staff ratio but also influence themselves. Complex interactions between these factors may make it difficult to differentiate the effects of single factors. To give an example we may assume that on one hand internationally operating companies will on average be larger than locally, regionally or nationally operating enterprises. Larger organisations often have smaller HR-staff-ratios. On the other hand internationally operating companies are confronted with more complex HR activities which should lead to higher HR staff ratios. Therefore the proposed effects may be expected to single out each other.

As outlined above we think that all of the determinants described within the model exert some sort of influence on the HR staff ratio. Empirical studies such as Hofstede (1980) or Trompenaars (1994) emphasize great cultural differences between workforces among countries. Nevertheless we assume



that the cultural variable only enforces or weakens the different sorts of influences of the described determinants but does not change them. This means that the basic tendency of an HR department being larger or smaller will not be affected by the cultural framework of the country in question.

Firstly the model will be proven empirically by using the Cranet-G data from 1999 which contain 5,614 private owned organisations in 26 countries. Secondly further empirical testing will differentiate between the countries along the cultural dimensions as formulated by Hofstede (1980).

### **3 The empirical analysis**

In this section we are going to discuss the data as well as the construction of the dependent and the independent variables.

#### *3.1 The data*

The basic source of data used for this study comes from the Cranet-G Survey 1999, collected within the Cranfield Network on European Human Resource Management. Cranet-G is a research network trying to analyse developments in the area of HRM in public and private organisations in a national, cross-national and (quasi-)longitudinal way. It consists of research institutions in 20 European and 5 non-European countries, coordinated by the Cranfield School of Management, UK. On a regular basis, a national sample of organisations with more than 200 employees was asked about various aspects of HRM via questionnaire. The core questions of this questionnaire were identical for each country in the sense that, taking the British questionnaire as a starting point, through a translation-retranslation technique it is ensured that one gets as much comparability of the questions as is possible in a cross-national and cross-cultural context. In addition to that, the questionnaire is adapted to the specific national situation. Furthermore there are regular panel meetings with HR practitioners in each



country where the results of the questionnaire and its implications are discussed. After four major survey rounds Cranet-G has more than 20.000 respondents in its database and is currently preparing its fifth major survey round (for a more detailed discussion of Cranet-G see Brewster and Hegewisch, 1994; Brewster et al., 1996).

This paper is based on the data collected in 1999 in public and private organisations. From this sample we draw the private sector companies in 26 countries. This gives us a total of 5,614 responding companies in our sample. Table 1 shows the distribution of the data between the individual countries.

### *3.2 HR staff ratio*

To establish the index of the HR-staff ratio, the number of staff in the human resources department has been divided by the total number of headcount in the company. Because of missing values in the questionnaires it was not possible to calculate the HR staff ratio for all observations. Furthermore we excluded extrem values of HR staff ratios above 9% from the analysis. They might be due to mistakes in completion of the questionnaires or reflect very specific situations of only single companies. This led to a total exclusion of 700 observations, i.e. 12% of the whole data set.

### *3.3 Definition of the model predictors*

The following table 2 presents the list of the predictors as well as their coding scheme according to the theoretical model. To give an example for concrete HR activities we added the variable “training and development” as an additional predictor.





### **Training and development as additional predictor**

As already mentioned the number of HR staff also may depend on the characteristics of the organisation's workforce. To organise development and training for a large percentage of employees is time consuming and requires certain skills of the HR staff. In our hypothetic model training and development is part of the variety of tasks of the HR departments.

### *3.4 Methodological procedure*

In a first step we wanted to get an overview of such predictor variables that can explain variations of the HR-staff-ratio. At this level possible predictor variables are all Cranet-G predictors based on the theoretical model (see table 2) except cultural or national differences. We calculated simple bivariate correlations as well as partial correlations. Bivariate correlations show a relationship between the predictor and the characteristic feature in question, without taking interactions between the predictors into account. The advantage of partial correlations is that all sorts of other inter-active patterns between other variables are eliminated.

The goal of this first step was to eliminate all variables that did not contribute to explain the HR staff ratio. After this selection process a multiple regression model, including all potential predictor variables that were left in the model was calculated.

In a second step the countries were grouped according to Hofstede's dimensions of cultural differences and the fit of the final regression model was calculated for each cultural group separately (explanation of variance for each cultural group). In order to get a deeper understanding of the cultural differences the regression models for each cultural group were compared with each other in detail.



## 4 Results

In contrast to our hypotheses five out of the eleven above described predictors could not contribute to the explanation of differences in the HR staff ratio. None of these five variables showed a statistically significant partial correlations with the HR staff ratio.

### *4.1 Not significant predictors in the field of activity*

We have hypothesized that „export orientation“ and „internationalisation“ are predictors for a tendency to large HR staff ratios and we have to reject this hypothesis. We have to observe that export oriented and internationally operating enterprises – without taking interactions into account – lead to a smaller HR staff ratio. In reality this is probably due to the fact that such companies are in general larger and therefore have smaller HR departments. The analysis of the partial correlations shows that both predictors have no impact on the size of the HR department within the model.

More in-depth-analysis of the two variables shows that they are very much intertwined. Their correlation with each other is strong and there is also a strong relationship with other variables of the model. Positive correlations can be identified for both of them with the number of employees trained during the year of the survey, the use of external providers for HR activities, and the assignment of HR responsibilities to line managers. Furthermore we could observe that both aspects are more important in the industrial sector than in the service sector.

Summarizing the above outlined results it can be stated that on one hand the number as well as the complexity of the HR activities is greater in internationally operating companies. On the other hand our results show that this situation is compensated by a more extensive use of external providers and the allocation of more activities to line managers. Furthermore the effects of both of the variables are



rather indirect. This means that there are other variables within the model (e.g. industry or percentage in training and development etc) better suited to explain the size of the HR department.

#### *4.2 Not significant predictors within the organisational details*

In contrast to our hypothesis the analysis reveals that there is no statistically significant relationship between the turnover rate of the workforce and the size of the HR department. In particular it turns out that the turnover rate of the workforce is higher in enterprises with a large proportion of employees under 25 years. We therefore assume that the other variables of the model have better explanatory values.

#### *4.3 Outsourcing of HR activities*

In contrast to our hypothesis none of the variables that could have eased the workload of the HR department shows a relationship with the size of the HR department. Interestingly enough, these findings are not only true for the whole model, but also for simple bivariate relationships.

We can observe that both sets of outsourcing activities, the use of external providers as well as the assignment of HR responsibilities to line managers, are more common in larger companies or in companies with a rather small proportion of manual workers but this cannot explain the results of the bivariate analysis showing no relationships between these predictors and the HR staff ratio. We may therefore assume that these factors act as pressure relief, helping the HR departments in times of heavy workload at the place of decreasing the size of the HR staff.

Nevertheless, our results offer more sets of explanations: as already mentioned we know that larger companies have a tendency to smaller HR staff ratios. The more extensive use of external providers as well as a tendency to decentralise HR activities in larger companies may be two examples to



demonstrate how HR departments of such enterprises succeed in working more efficiently. This would mean that the underlying relevant factor would be the size of a company and not the outsourcing of activities.

#### *4.4 The final model*

After having excluded the five statistically not significant variables there are six predictors left within the model (see figure 2). None of these predictors shows deviations from the above described hypotheses. This means that our model goes in line with the mechanisms outlined in the reviewed literature. In view of our data, being rather heterogeneous because of its origin from 26 countries, we can state that the explanation in of variance of the dependent variable, the HR staff ratio, with an R-squared of .21 is surprisingly high. Thus, our model explains the variation in the sizes of HR departments rather well even without taking into consideration cultural determinants. Nevertheless we think that looking at cultural traits of different countries will lead to differences within the model. Such differences will be analysed further on.

### **5 Cultural differences**

There is a wide range of possibilities how and how intensive the influence of cultural factors may be on the size of the HR department. Considering our theoretical basis as well as the already tested determinants that have an impact on the HR staff ratio, the following paragraphs will deal with the influence of the four cultural dimensions, as defined by Hofstede on these determinants.



## *5.1 Assumptions*

### **Uncertainty Avoidance**

The situation of managers in the 1990s is one of increasing environmental and internal uncertainty. The way in which organisations deal with this problem also depends on the way in which uncertainties are perceived within the organisation and this is closely linked to cultural variables. We think that in countries high in uncertainty avoidance a higher formalisation prevails leading to a greater HR-staff ratio. This higher formalisation can have an impact on different areas of HR activities. In view of our influential factors we may assume that e.g. headquarters will show a higher HR staff than subsidiaries or single sites. Furthermore the organisation of trainings might require a lot more of involvement to make them perfect. The effort to avoid ambiguous situations may lead to put more emphasis on the management personnel than on young and not so important employees.

### **Masculinity/Femininity**

We hypothesize that high femininity is reflected in an equal treatment of management personnel and younger employees, that there is no big difference in the HR staff ratio of headquarters and subsidiaries or single sites and that we will not find a lot of differences between the HR staff ratios of different industries. High masculinity might be demonstrated in higher HR staff ratios in headquarters than in subsidiaries or single sites.

### **Individualism/Collectivism**

High individualist countries reflect their cultural traits in less differences between workers and management as well as between younger and older employees or headquarters and subsidiaries or single sites. In such countries the approach should be very democratic offering decision making possibilities to everyone. Furthermore it is more time consuming to care about individualist needs than to organise and check for groups. We therefore hypothesize that the HR staff ratio should be higher in individualist than in more collectivist countries.



## **Power Distance**

The fact that management personnel will be privileged much more in comparison to other coworkers in countries high on power distance than on countries low on power distance leads to the assumption that the higher the power distance of a country the bigger will be the HR staff ratio in companies with a high proportion of management.

As the largeness of a department may also represent its importance and power within an enterprise we hypothesize that the HR ratio in countries being high in power distance is less influenced by the size but very much influenced by the position (headquarters vs subsidiary or single site) of the company.

### *5.2 Analysis and results*

20 countries of our study will be analysed along the above outlined dimensions of culture. Furthermore each group representing one of the dimensions has been divided into three categories according to a low – middle – high value in the survey results of Hofstede. Six of the countries of our study were not part of Hofstede's survey and must therefore be excluded from the cultural comparative analysis (see table 3).

To test our final model multiple regression models were calculated for each of the 12 cultural groups using the list of the six best predictors from the first step of our analysis. Altogether, we can state that our hypothesis concerning the overall validity (independ from the cultural factors) of the model is confirmed. The explanatory values of the cultural regression models range from .15 to .30.

The differences between the countries reflect the importance of the predictors within the different cultural groups (see table 4). The hypothesized relationships of the overall model are not statistically significant in all of the countries. The specific cultural influences on the predictors will be discussed in more detail in the following section.



### **Size of the company**

The results are all statistically significant and indicate that the larger a company is the smaller its HR staff ratio. This is true in all of the cases, goes in line with our hypothesis, and confirm other empirical studies. In the culture comparative model testing the Beta-weight appears to be the smallest in countries where masculinity is low. One possible explanation might be the quality orientation of these countries as well as their emphasis on equality and solidarity.

### **Industry**

As outlined in the theoretical part of our paper we expect a higher HR staff ratio to be found in the service sector. As already proven in the model for all countries the results confirm this hypothesis. The culture comparative model testing shows one exception. Countries low in masculinity show no statistically significant increase in the HR staff ratio of the service sector (or decrease in the industrial sector) ( $p=0.16$ ). Differences between types of industries are nearly disappearing in these countries. In view of the characteristics of the cultural dimension of femininity where the achievement of social goals, concern for others, as well as equal career opportunities for everyone are important elements we can consider our result to be plausible and in line with one of our masculinity/femininity assumptions.

### **Percentage of manual workers in relationship to management**

We have hypothesized that a large proportion of manual workers in relationship to a small proportion of management leads to a smaller HR staff ratio. The culture comparative model testing reveals very interesting results. Our hypothesis is confirmed in countries high in uncertainty avoidance, low and middle in masculinity, low and middle in individualism as well as high in power distance. Considering again the characteristic features of the different cultural dimensions we can find a rather homogenous picture.



The fact that management personnel will be privileged much more in comparison to other coworkers in countries high in power distance led to the assumption that the higher the power distance of a country the bigger the HR staff ratio in companies with a high proportion of management. This is confirmed by our results.

In countries where people feel threatened by ambiguous situations, and search for greater career stability etc it also seems plausible to concentrate more on activities relevant for the management personnel. Especially from the point of view of the HR department we may suppose that they do not want to run any risk in their responsibilities concerning the managers.

Low and middle individualism goes in line with a higher importance of the group. It seems therefore not appropriate to take care about the single individual which leads to a reduction of HR activities and therefore to a smaller HR staff ratio.

### **Headquarters vs subsidiary or single site**

According to our theoretical reasoning companies being headquarters should have a higher HR staff ratio than single sites or subsidiaries. The hypothesis is confirmed in the model for all countries as well as in the culture comparative model testing. But the latter one shows only a few statistically significant results. High uncertainty avoidance, high masculinity, low individualism as well as high power distance are the best conditions to confirm our hypothesis.

High uncertainty avoidance may be one of the reasons to follow an ethnocentric approach in internationalisation processes. In such cases the headquarters and their HR departments are especially important as they are the centers of control. This broader range of activities leads to larger HR departments. As the largeness of a department may also represent its importance and power within an enterprise we think that the size of the HR departments in countries being high in masculinity and in power distance is less influenced by the size but very much influenced by the position (headquarters vs subsidiary or single site) of the company. This assumption is also confirmed by the results.





Low individualism often goes in line with a great importance of authorities. A lot of rather collectivist countries are also rather patriarchalistic. This may explain the greater importance attached to headquarters.

### **Proportion of employees in training**

We have argued that a high proportion of employees in training will be connected to a high HR staff ratio. The culture comparative model testing confirms this hypothesis in most of the cases. It is therefore interesting to take a look at such countries that show no statistically significant results: it concerns the areas low in uncertainty avoidance, high in masculinity, low in individualism as well as high in power distance. Considering again the characteristic features of these cultural dimensions leads to interesting explanations.

Concerning the countries high in power distance it may be assumed that too much training and development of employees may threaten the position of the management personnel which leads to neglecting training needs. A rather similar explanation might be true for countries high in masculinity. Low individualism may mean that training needs are not treated and cared about for the single individual but rather for groups which also eases the workload of the HR department.

Low uncertainty avoidance may be connected to having confidence in the future and lead to a neglect of planning. This might be reflected in our result.

### **Proportion of employees under 25**

We have hypothesized that a high proportion of a young workforce leads to small HR staff ratios. The idea behind our reasoning is that e.g. young companies of the new economy have not yet established large HR departments, or that many of such young employees are often not yet very qualified and thus need not such an extensive care. The culture comparative model testing confirms the hypothesis in the following cultural areas: middle and high uncertainty avoidance, low and middle masculinity, low and high individualism as well as high power distance. For the last two of these areas explanations according to the cultural characteristics are evident. Young rather collectivistic oriented employees



can be handled easily and do not need a lot of personnel in the HR department. Countries high in power distance do not care much about younger, perhaps not very qualified people. As we have seen countries being middle or high in uncertainty avoidance care much about their management personnel. It therefore seems plausible that the younger part of the workforce may be considered as less important. The HR staff ratio is therefore smaller. But we have no explanation why countries high or middle in femininity should not care about their younger workforce. According to the underlying idea of this cultural dimension the contrary should be true.

## 6 Conclusion

We have been testing a theoretical model containing a number of important structural as well as organisational factors of influence on the HR staff ratio. These determinants were chosen according to theoretical reasoning and empirical data (Brewster and Ommeren 2000). The empirical analysis used Cranet-G data from 1999 which contain 5,614 private owned organisations in 26 countries. The results of our first model testing across all 26 countries led to the elimination of the following predictors having no explanatory value for the size of the HR department: turnover rate, export orientation, international/transnational orientation, the use of external providers, and the assignment of HR responsibilities to line managers. Further testing of the so constructed final model confirmed all of our hypotheses. The next step was a cultural comparative analysis using Hofstede's dimensions of culture. According to our hypothesis that the cultural variable only enforces or weakens the different sorts of influences of the described determinants the results we got showed only differences in the importance of the predictors along the cultural dimensions, but altogether also confirmed our model. This means that the basic tendency of an HR department being larger or smaller will not be affected by the cultural framework of the country in question.

The evidence presented in this paper has theoretical and practical implications. Theoretically, a number of hypotheses on the HR staff ratio, going in line with current theoretical thinking, has been



tested. Some of the results of the empirical analysis are surprising. For example, higher turnover rates are not associated with higher HR staff ratios. Such unexpected results indicate new directions to address this issue in the future. Practically, our model provides a good framework to help organisations to compare the sizes of their HR departments. The culture comparative results can help to better understand the different handling of HR matters in different cultural areas.

But we also want to point towards some of the limitations of our study. The Cranet-G data is obtained through a translated questionnaire in various countries. Therefore, in a way it combines the problematic aspects of both postal and cross-cultural surveys, for example uncontrolled response situation, response bias, transcultural accuracy of translated questions, or limits of interpreting findings in another culture. The critical points with Hofstede's concept of culture are widely known and have shortly been addressed in this paper. More important, a well developed theoretical framework for the connection between national culture and HRM is missing. Therefore, our research could not use a common framework but had to build on pieces of research fitting to the areas of interest addressed in the paper.

Beyond the results of our model, there are several lines of arguments concerning the interplay between culture and HRM that appear when analysing our results.

First, it is obvious that culture seems to play an important role in the HR field. A number of cultural dimensions or - to be more precise - operational measures of the culture construct - could be related to the practice of HR in European companies. Furthermore, in most cases the relationship was in the direction that we expected. We used the well known research of Hofstede to operationalise the culture construct. The model of Hofstede is very widely used in various research settings. Our study is in line with those results where the application of the Hofstede typology yields useful results, despite the well known and mostly justified critique. In our opinion, this is one of the most fruitful ways of using the Hofstede typology, as it allows a relative order of countries along certain dimensions, thus



enabling researchers to discriminate between countries in an empirically and - to a certain degree - also theoretically based way.

Second, it is clear from the theoretical point of view that culture does not have a direct causal effect on HRM. This is very much like the well known discussion in organisation theory about the role the environment plays in the configuration of the organisation (see, e.g. Burns and Stalker, 1961; Kieser and Kubicek, 1992). Although contingency research empirically links environmental characteristics with specific organisational configurations, it is theoretically clear that it is not 'the environment' that 'directly influences' the organisational structure. Environmental characteristics are a frame within which certain configurations do have a higher chance to be realised, often because of efficiency advantages. In a similar way, we would suggest to describe the effect culture has on organisational practices in the area of HRM.

But third it is valuable - and hopefully our study has contributed to this - to describe and assess the variation of organisational practices - in our case: in the HR field - depending on various aspects of culture. What we do not know is the interplay between culture and these other factors, the role culture plays in this bundle of factors, and the mechanisms through which culture can influence concrete organisational practices. The data we have and the kind of data analysis that can be applied to that certainly limited our progress in this respect.

Though it is true that empirical work in this area is necessary, this is certainly not enough. We need more models based on good theoretical considerations that can help us focus on the relevant issues in order to make sound progress.

Our research therefore shows that it seems worthwhile to follow this track of research further on. The results that we have seem to indicate that despite all difficulties and problematic aspects culture seems to be a relevant variable that has to be taken into consideration when describing and explaining differences in the HR field of various countries.



## 7 Bibliography

- Adler, N.J. 1991. International Dimensions of Organizational Behavior. Boston, Mass.: PWS-Kent
- Borg, M. & Harzing, A.-W. 1996. Karrierepfade und Effektivität internationaler Führungskräfte. In Macharzina, K. & Oesterle, M.-J., editors, Handbuch Internationales Management. Wiesbaden
- Brewster, C. & Hegewisch, A., editors. 1994. Policy and Practice in European Human Resource Management. The Price Waterhouse Cranfield Survey. London, New York: Routledge
- Brewster, C., Tregaskis, O., Hegewisch, A. & Mayne, L. 1996. Comparative research in human resource management: a review and an example. The International Journal of Human Resource Management 7(3), pp. 585-604
- Brewster, C., Larson, H.H. & Wolfgang Mayrhofer 1997. Integration and Assignment: A Paradox in Human Resource Management. Journal of International Management 3(1), pp. 1-23
- Burns, T. & Stalker, G.M. 1961. The Management of Innovation. London
- Gaugler, E. 1988. HR Management. An International Comparison. Personnel Aug., pp. 24-30
- Gaugler, E. 1994. Konsequenzen aus der Globalisierung der Wirtschaft für die Aus- und Weiterbildung im Management. In Schiemenz, B. & Wurl, H.-J., editors, Internationales Management. Wiesbaden: Gabler
- Hofstede, G. 1980. Culture's consequences. Beverly Hills, CA: Sage
- Kammel, A. & Teichelmann, D. 1994. Internationaler Personaleinsatz. München, Wien: Vahlen
- Keller, E.v. 1982. Management in fremden Kulturen. Ziele, Ergebnisse und methodische Probleme der kulturvergleichenden Managementforschung. Bern: Haupt
- Kieser, A. & Kubicek, H. 1992. Organisation. Berlin, New York: de Gruyter
- Mayrhofer, W. 1998. Integration und Differenz. Personalarbeit zwischen Stabsabteilung und Linienmanagement in internationaler Perspektive. In Kutschker, M., editors, Integration in der internationalen Unternehmung. Wiesbaden: Gabler
- Ommeren, J.V. & Brewster, C. 2000. The Determinants of the Number of HR Staff in Organizations: Theory and Empirical Evidence. Academy of Management Journal forthcoming



- Perlitz, M. 1995. Internationales Management. Stuttgart, Jena: Fischer
- Scherm, E. 1995. Internationales Personalmanagement. München, Wien: Oldenbourg
- Scholz, C. 1996. Internationales Personalmanagement: Strategisch, stimmig, erfolgreich. Personalführung (DGFP) 10/1996, pp. 840-850
- Schuler, R.S. & Huber, V.L. 1993. Personnel and Human Resource Management. St.Paul: West
- Torrington, D. 1994. International Human Resource Management. Prentice-Hall
- Trompenaars, F. 1994. Riding the Waves of Culture. Understanding Diversity in Global Business. Chicago, Ill. et al.: Irwin
- Trotha, v.K. 1997. Internationalisierung als Gegenstand der Aus- und Weiterbildung an deutschen Hochschulen. In Krystek, U. & Zur, E., editors, Internationalisierung. Eine Herausforderung für die Unternehmensführung. Berlin, Heidelberg: Springer
- Weber, W., Festing, M., Dowling, P.J. & Schuler, R.S. 1998. Internationales Personalmanagement. Wiesbaden: Gabler



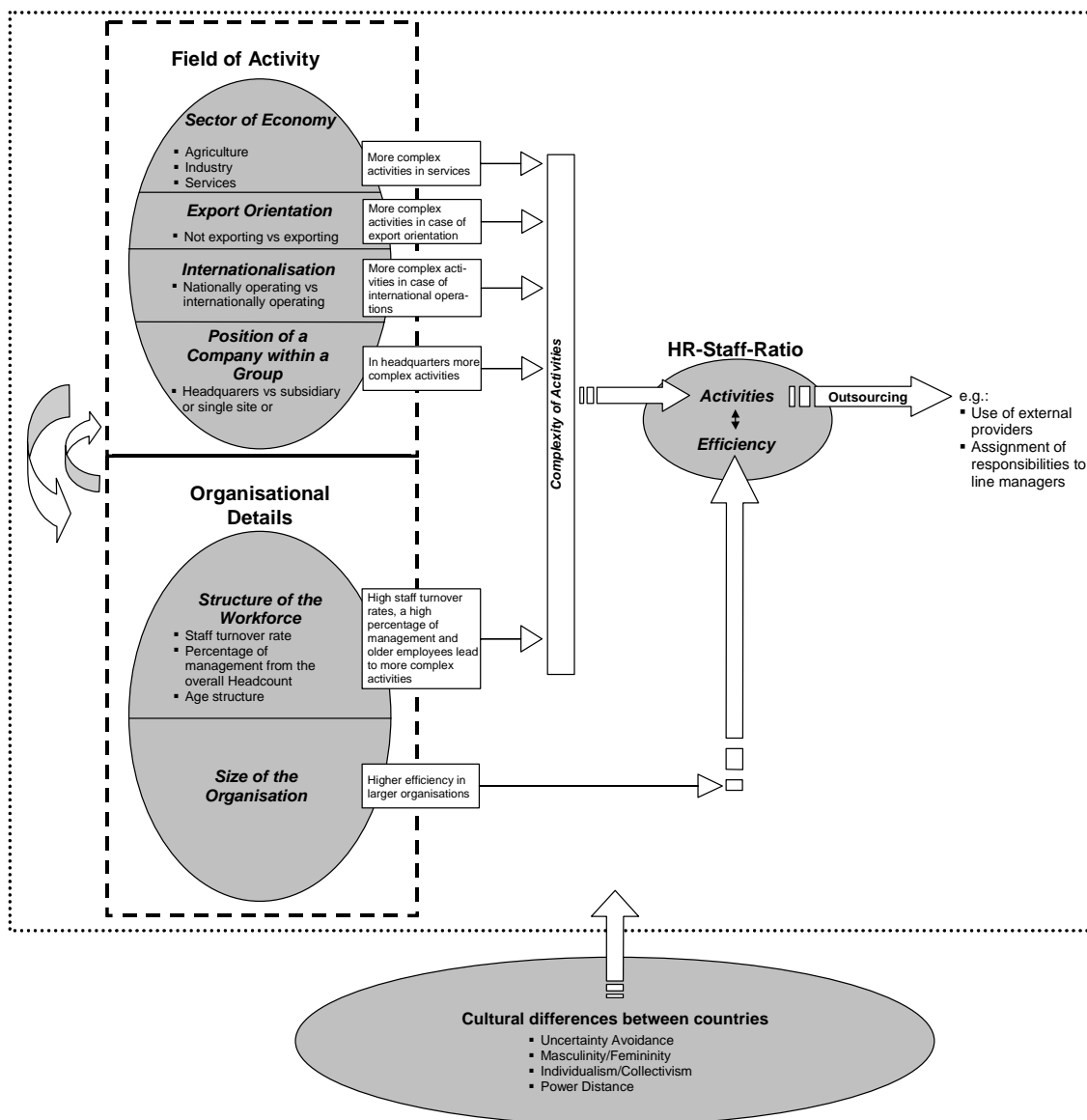
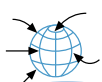


Figure 1: Theoretical model showing factors of influence on the size of HR departments



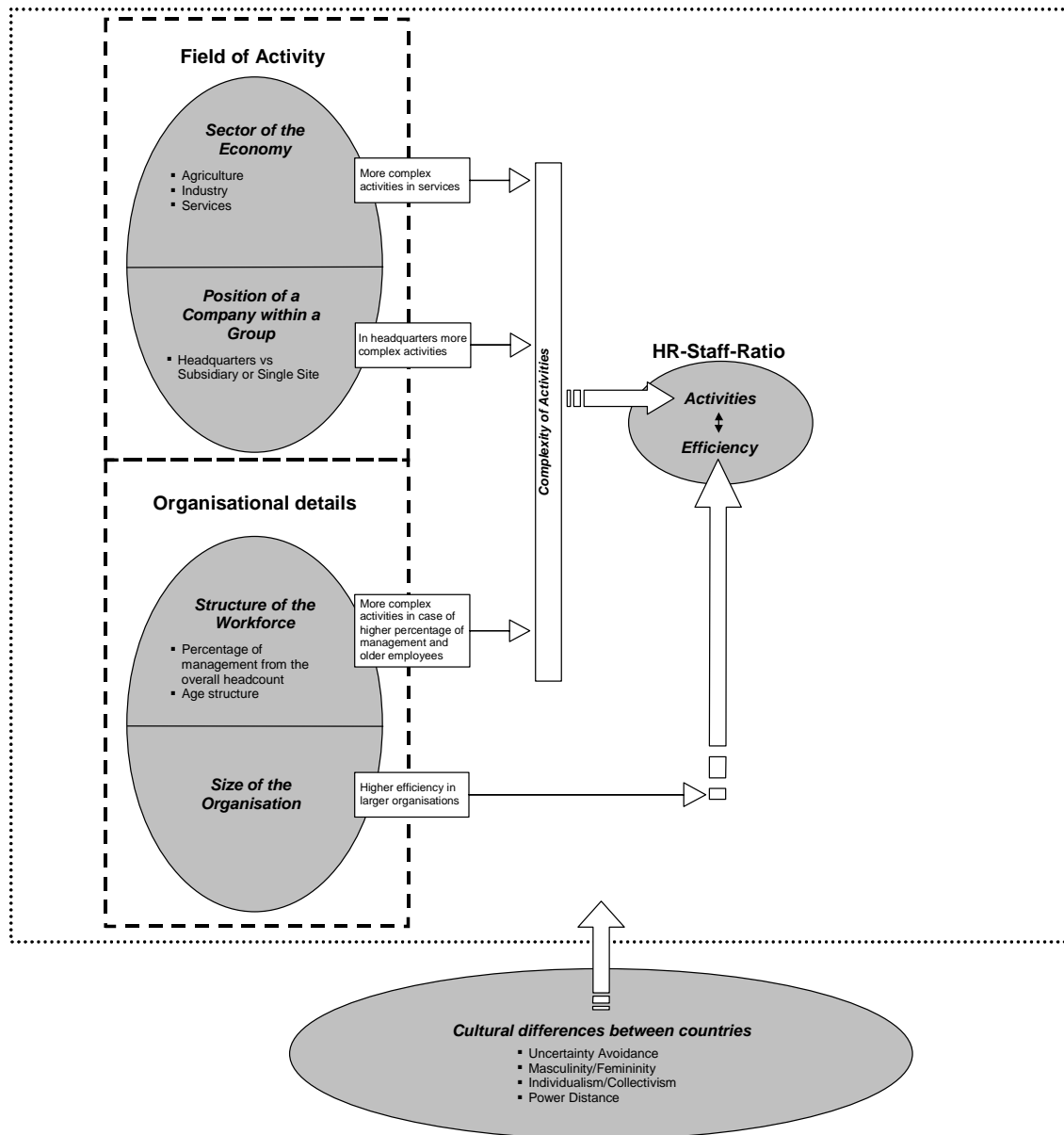


Figure 2: Empirical model showing factors of influence on the size of HR departments





Table 1: Distribution of the Data – Cranet-G Survey 1999

Country	N
Australia	169
Austria	156
Belgium	235
Bulgaria	43
Cyprus	48
Czech	126
Denmark	305
Finland	140
France	349
GDR	142
Germany	425
Greece	105
Ireland	294
Israel	137
Italy	72
Japan	814
Northern Ireland	143
Norway	179
Portugal	123
Spain	229
Sweden	188
Switzerland	123
The Netherlands	95
Tunisia	43
Turkey	230
UK	701
Total	5,614

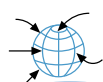


Table 2: List of predictors and their coding scheme

Variable	Representation	Value	Remarks
Field of activity			
Sector of economy	Primary sector (agriculture)	0	The Cranet-G survey contains 13 different categories concerning the industry of companies. For this study they have been categorized into three sectors of economy.
	Secondary sector (industry)	1	
	Tertiary sector (services)	-1	
Export orientation	The market of a company exceeds national borders.	1	
	The market of a company is limited to domestic needs.	0	
Internationalisation	The company operates internationally.	1	
	The company does not operate internationally.	0	
Position of a company within a group	The company is the headquarter of a group.	1	
	The company is a subsidiary or a single-site enterprise.	0	
Organisational details			
Staff turnover rate	Proportion of the annual change in the workforce		
Percentage of manual workers vs. Percentage of management	Percentage of manual workers of the overall headcount divided by the percentage of management from the overall headcount		
Age structure of the workforce	Percentage of employees under 25 years from the overall headcount		
Overall headcount	Logarithm of the overall headcount of the company		
Outsourcing of HR activities			
External providers for HR activities	The company uses external providers.	1	
	The company does not use external providers for HR activities.	0	
Assignment of HR responsibilities to line managers	The assignment of HR responsibilities to line managers is coded by an index ranging from 5 points to 20 points. 5 points indicate that the HR department is responsible, 20 points indicate that line managers are responsible.		In the Cranet-G survey respondents were asked to identify the position of their own organisation on the following five issues: pay and benefits, recruitment and selection, training and development, industrial relations and workforce expansion or reduction. In each case organisations were rated on a four point scale according to whether primary responsibility for major policy decisions rested with line management alone or with the HR department.
Example for HR activities			
Training development and	Percentage of an organisation's employees that have attended training events during the year of the survey.		As an example for HR activities we added the variable "training and development" as an additional predictor into the model.



Table 3: Grouping of countries according to Hofstede's dimensions of culture

Uncertainty Avoidance		Masculinity/ Femininity		Individualism/ Collectivism		Power Distance			
cannot be grouped	GDR								
	Czech								
	Bulgaria								
	Cyprus								
	Tunisia								
	Northern Ireland								
low	Denmark	low	Sweden	low	Portugal	low	Austria		
	Sweden		Norway		Greece		Israel		
	UK		The Netherlands		Turkey		Denmark		
	Ireland		Denmark		Japan		Ireland		
N 1,488			Finland		Spain		Sweden		
			Portugal		Israel		Norway		
middle	Norway		Spain		N 1,638				Finland
	Australia		France						Switzerland
	The Netherlands	Turkey	middle	Austria	N 1,522				
	Switzerland	N 1,838							
	Finland								
	Germany	middle		Israel	middle	UK			
	Austria			Belgium		Germany			
	Italy			Greece		Australia			
	Israel		Australia	Norway					
	Turkey		UK	Ireland					
N 1,726		Germany	N 1,854		N 1,462				
		N 1,772							
high	France	high	Ireland	high	Denmark	high	Japan		
	Spain		Italy		Belgium		Spain		
	Japan		Switzerland		Italy		Greece		
	Belgium		Austria		The Netherlands		Portugal		
	Portugal		Japan		UK		Belgium		
	Greece				Australia		Turkey		
							France		
N	1,855	N	1,459	N	1,577	N	2,085		



Table 4: Standardised Beta-Coefficients – Hofstede

Country		Size of the organisation	Industry	Percentage of manual workers in relation to management	Headquarters vs. subsidiary or single site company	Proportion of employees on training	Proportion of employees under 25	R <sup>2</sup>
Model for all countries		-.456 **	-.080 **	-.063 **	.062 **	.054 *	-.059 **	.210
Uncertainty Avoidance	low	-.518 **	-.139 **	-.032	.039	.053	.046	.266
	middle	-.390 **	-.057 **	-.046	.051	.069 *	-.079 **	.154
	high	-.502 **	-.071 **	-.093 **	.075 **	.064 *	-.117 **	.263
Masculinity / Femininity	low	-.375 **	-.038	-.063 *	.049	.093 **	-.146 **	.169
	middle	-.426 **	-.112 **	-.068 *	.049	.115 **	-.061 *	.192
	high	-.559 **	-.089 **	-.048	.067 *	.008	-.046	.303
Individualism / Collectivism	low	-.504 **	-.061 *	-.080 **	.091 *	-.011	-.085 **	.269
	middle	-.440 **	-.051 *	-.053 *	.024	.089 **	-.007	.190
	high	-.431 **	-.149 **	-.043	.053	.095 **	-.076 *	.209
Power Distance	low	-.512 **	-.086 **	-.017	.054	.058 *	.037	.257
	middle	-.385 **	-.148 **	-.041	.046	.110 **	-.060	.166
	high	-.459 **	-.054 *	-.089 **	.073**	.039	-.122 **	.259
In correspondence to the model		100%	91%	50%	33%	67%	58%	

\* p &lt; 0.05

\*\* p &lt; 0.01

