

Master Thesis

HR Analytics in Practice

*An overview of the influence of contingency factors on the applicability of HR analytics in
Dutch organizations*

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Project period: January 2012 - August 2012

Project theme: HR analytics

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Chapter 1: Introduction

1.1 Problem Indication

In current scientific literature the call for Evidence-Based Management (EBM) is rising. Authors like Pfeffer and Sutton (2006) and Briner, Denyer and Rousseau (2009) dedicate their research to the impact of EBM on management practices, and subsequently the business performance. According to their work, decisions should be based on data. “It is the evidence that helps us to make the right choices” (Pfeffer & Sutton, 2006, p. 1).

When we hold this view in light of the current functioning of Human Resource (HR) departments and their management of the human capital in many organizations, it can be argued that HR is doing a poor job with respect to EBM. Though HR interventions like training and payment can lead to outcomes such as an increased satisfaction and commitment, that subsequently influence the organizational performance, decisions are mostly not supported by a sophisticated data analysis. In spite of all the progress that has been made in academic research (Paauwe, 2009) and the increasing recognition of the importance and value of HR (Boudreau & Ramstad, 2006), only a very few organizations are nowadays able to measure the real value that people bring to their business (Mayo, 2008). As mentioned by Mayo: “very few organizations have a fully integrated approach to Human Capital Measurement (HCM)” (p. 27).

The majority of the organizations is thus not able to measure the contribution of their intangible assets objectively, or based on the right measures. Instead, methods used are fairly standard analytical tools, such as regression, and most organizations only focus on data that is easy to understand and/or consume (Fink, 2010). In general, the main focus of HR is on collecting and reporting data about activities instead of outcomes, while the analyses are mostly very simplistic (e.g., limited analyses of drivers of outcomes). As a result, there is a need for HR to develop itself from descriptive metrics to predictive analytics (Ulrich, 2010).

In order to achieve an EBM approach for HR within organizations, this study is aimed at highlighting the methods and instruments used in the field of HR analytics. The concept of HR analytics can be defined as: a methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit), and for providing legitimate and reliable foundations for human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact (Lawler, Levenson & Boudreau, 2004; Boudreau & Ramstad, 2006). It will help to predict workforce developments within the organization and assess workforce performance drivers (FCTB, personal communication, January 31, 2012).

However, as mentioned by Baron (2011), HR analytics is context-specific. Moreover the relevance of workforce information varies between sectors and companies (e.g., in knowledge intensive industries human capital presents a greater proportion of total value) (King, 2010). Best practices in one context might therefore not be best practices in another context. As a consequence, the focus of this study will be on the applicability of HR analytics in relation to the contextual factors. Based on contingency factors provided by Mintzberg (1980) and Paauwe (2004), an assessment of their influence on the applicability of HR analytics will be made. This results in the following problem statement:

1.2 Problem Statement

Which contingency factors are affecting the applicability of HR analytics, and if so, to what degree and in which way?

In order to be able to provide an answer for the problem statement this study will make use of two components: a quantitative part for testing hypotheses by means of a questionnaire, and a qualitative part for exploring propositions by means of interviewing. As the concept of HR analytics can be considered as a relatively new approach, theory might not always be available to develop theoretically supported hypotheses. For this reason, interviews will be conducted as well to explore the relationship between the application of HR analytics and its related contingency factors. In the end these propositions possibly can be reformulated into hypotheses which can be tested further by means of follow-up research.

1.3 Structure of the Thesis

The thesis will consist of seven chapters. In this first chapter an introduction of the topic under investigation, together with the problem statement, has been given. Subsequently in the chapters two and three the concept of HR analytics and its contingency factors of influence will be discussed. Furthermore chapter three provides hypotheses and propositions which will be of help for testing and exploring the relationship between HR analytics and its context. It are those chapters which form the theoretical framework of this thesis. In order to subsequently conduct the required data collections and statistical analyses, chapter four will give an overview of the methodologies applied. Followed by the chapters five and six in which respectively the findings of the research, related to the influence of the contingency factors and the degree of application of HR analytics in practice, will be addressed based on the data gathered. In conclusion, chapter seven will summarize the results and will provide recommendations and conclusions based on these findings. It is this part of the thesis which gives the answer to the problem statement.

Chapter 2: HR Analytics

In current scientific literature the approach of HR analytics is a relatively young and popular area of investigation. Though, despite of the tremendous popularity of HR analytics, no proper scientific definition seems to be available. Authors like Boudreau and Ramstad are inextricably linked to the research conducted in the field of HR analytics. Therefore in this thesis a definition will be created and applied based amongst others on their notions.

2.1 Purpose and Applications

In general HR analytics is considered as being useful for understanding and evaluating the impact of HR activities and for influencing the business strategy and performance. It can give insights in the way HR practices and policies impact organizational performance and is therefore a powerful tool for HR functions to add value to their organization (Lawler, Levenson & Boudreau, 2004). This influence is caused by its impact on the decisions and behaviors of those in the organization (Boudreau & Ramstad, 2006).

Furthermore analytics provide “legitimate and reliable foundations for human capital decisions” (Boudreau & Ramstad, 2006, p. 29). According to Harris, Craig and Light (2010) there are five different categories of human capital analytical applications. Those are: “identify and manage critical talent (e.g., high performers, high potentials, pivotal workers); manage critical workforce segments accordingly (e.g., underperforming units are identified and helped to improve); predict employee preferences and behaviors and tailor HR practices to attract and retain talent; forecast business requirements and staffing requirements (e.g., workforce skills needed in different business scenarios); and adapt rapidly and scale recruiting supply channels and targets [to make use of best talent sources available] to meet changing business conditions, objectives, and competitive threats” (p. 3).

2.2 Data Collected

In order to achieve those analytical applications, HR analytics is based on statistics from within and outside the HR function (Boudreau & Ramstad, 2006). Lawler et al. (2004) identify three different kinds of metrics applied: *efficiency metrics*, *effectiveness metrics* and *impact metrics*. The *metrics of efficiency* are focused on the performance of the HR function in terms of efficiency in fulfilling its basic administrative tasks. As an example can be given the administrative cost per employee. The *effectiveness metrics* are concerned with the extent to which the HR programs and practices affect the people or talent pools, toward which they are directed, in a way that was expected. Measuring the skills that are built up due to training, instead of training participation rate, is an example. For the

metrics of impact a link between what HR does and the tangible effects on the organization's ability to gain and sustain competitive advantage will be provided. The reduction in defects as a result of training might be an example.

To be more specific Mayo (2006) identifies seven types of collected data used for carrying out HR analytics: *workforce statistics* (various breakdowns of human capital by gender, age, absenteeism, job type, ethnic origin); *financial ratios relating to people and productivity* (data that relates business results to the people producing them, e.g., sales/head or revenues-costs); *measures of people's values* (index of key qualities such as experience, knowledge and skills, competencies and attitudes, values, potential); *measures of people's engagement* (measures about the level of engagement and influential factors); *measures of efficiency of the HR function* (measures about the quality and cost ratio's in providing HR processes); *measures of effectiveness of people processes* (e.g., rates of participation, efficiency and effectiveness of processes such as appraisal, recruitment, succession planning, training); and *measures of investment in one-off initiatives and programs* (measures of benefits, costs and outcomes of specific initiatives, e.g., a cultural change program).

2.3 Methodologies Applied

In order to derive meaning from these data, statistical techniques and experimental approaches are used in order to show causal relationships between particular HR practices and performance metrics such as customer satisfaction, sales per employee and the profitability of particular business activities (Lawler et al., 2004). Levenson, Boudreau and Lawler (2005) make a distinction between tools such as root cause analysis (identifying causal paths), basic univariate statistics (e.g., mean, median, mode, percentiles, standard deviation), advanced univariate statistics (e.g., correlation, skewness, differences in means, distribution of a variable), basic multivariate statistics (e.g., ANOVA, factor analysis, regression, logit/probit, survival/hazard analysis), and advanced multivariate statistics (e.g., structural equations, fixed-effects models, maximum likelihood models). Each of them will help to gain insights from HR related data.

2.4 Definition

Having identified the purpose and applications, the data collected, and the methodologies applied for the concept of HR analytics, the following definition can be developed. HR analytics is:

a methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit), and for providing legitimate and reliable foundations for human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact.

2.5 Barriers for Implementation

As a critical requirement for the successful execution of HR analytics it is important that the company is able to gather data that is consistent, accessible and of high quality. Without having the right data it will be impossible to obtain reliable outcomes. Furthermore a disciplined and methodological approach to analyzing, forecasting, predicting and optimizing HR processes, capabilities and outcomes is required. Therefore it is also important that the organization has a culture of analytics, which is characterized by the executive support for evidence based decision making and the sufficient availability of talented analytical skills, in the HR department, as well as in the board of directors. Moreover the analytical opportunities need to be targeted right. Because it is impossible to chase after every possible analytical opportunity, analytical opportunities are best targeted according to their greatest pay-off options. Fulfilling these requirements is a critical prerequisite for a successful implementation of HR analytics, and often a barrier for many organizations (Harris et al., 2010).

Chapter 3: Contingency Factors

According to contingency theory there is no one optimal way of applying HR analytics. Instead, the optimal course of action, in this case the successful application of HR analytics, is dependent upon the internal and external context (Van de Ven & Drazin, 1985). Contextual factors such as size, age, competitiveness, industry and legislation might be of influence. In order to be able to identify all the relevant factors that might have an influence, the institutional theory will be applied. Based on this theory Paauwe (2004) developed his contextually based human resource theory to provide an idea of the internal and external factors that influence HR practices. As HR analytics can be considered as an HR practice this theory will be useful to map out the relevant contingency factors. Below an overview of the theories involved will be given.

3.1 Theory

Institutional theory explains the behavior of organizations as a response to market pressures as well as institutional pressures. With institutional pressures we refer to actions of regulatory agencies such as the state, general social expectations, and actions of leading organizations (Greenwood & Hinings, 1996). Based on this theory, DiMaggio and Powell (1983) developed the concept of isomorphism: the idea that organizations within the same organizational field become more similar with respect to practices and systems as a consequence of market and institutional mechanisms.

According to DiMaggio and Powell (1983) there exists two types of isomorphism: competitive and institutional. Competitive isomorphism assumes a system of rationality that emphasizes market competition, niche change, and 'fit'. However more relevant for understanding the organizational change is the concept of institutional isomorphism. This kind of isomorphism can be divided into three different institutional mechanisms: *coercive mechanisms*, which result from political influence and the problem of legitimacy; *mimetic mechanisms*, which stem from standard responses to uncertainty (imitation); and *normative mechanisms*, which are associated with professionalization.

Coercive mechanisms result from formal as well as informal pressures exerted on organizations by other organizations on which a firm is dependent, and by cultural expectations in the society. According to Paauwe and Boselie (2007) examples of coercive mechanisms in HRM are the influence of labor legislation, the government and the 'social partners' (including trade unions and works councils). Mimetic mechanisms include "imitations of the strategies and practices of competitors as a result of uncertainty or fashion in the field of management" (p. 174). As an example the current interest in implementing HR scorecards can be given. The normative mechanisms are related to "the impact of professional networks on management policies" (p. 174). The universities that nowadays emphasize the need of HRM to be business oriented and to have some added value fall

into this category, because they develop and reproduce organizational norms.

Figure 1 provides an overview of the impact of the three mechanisms on HRM.

It are these three mechanisms which encourage institutional isomorphism.

According to the theory of new institutionalism organizations are dependent upon two environmental forces.

On the one hand it are the isomorphic pressures, described above, which force organizations to become increasingly alike in order to achieve legitimacy in their organizational field. But on the other hand there are also competitive forces, based on economic rationality, which cause the need to differentiate from competitors in order to achieve or maintain sustained competitive advantage. By organizational field we mean “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products” (DiMaggio & Powell, 1983, p. 148). It can be considered as the totality of relevant actors related to an organization. Examples include hospitals, universities and art museums (Dingwerth & Pattberg, 2007).

According to the strategic balance theory of Deephouse (1999), successful organizations are the ones which achieve a balance between these two forces. Organizations need to strive for economic rationality with a focus on creating added value, but they also need to establish sustainable and trustworthy relationships with all relevant stakeholders. This relational or normative rationality is based on criteria of legitimacy and fairness as moral values (Paauwe, 2004). In sum, “the viability of an organization can only be secured by meeting contextual economic demands (e.g., for efficiency, flexibility, innovativeness) and institutional demands both at the societal level (reflected in the concept of organizational legitimacy) and at the individual employee level (reflected in the concept of organizational justice or fairness)” (Paauwe & Boselie, 2007, p. 180).

3.2 Framework

Based on the theories mentioned above, Paauwe (2004) creates his contextually based human resource theory. In this framework (see Figure 2) the concept of competitive isomorphism is referred to as *Product/Market/Technology dimension (PMT)*. PMT stands for the “demands arising from relevant product market combinations and the appropriate technology” (p. 90) that influence the crafting of HRM, and thus the application of HR analytics. This influence is recognizable by demands expressed in terms of efficiency, effectiveness, flexibility, quality, innovativeness and speed.

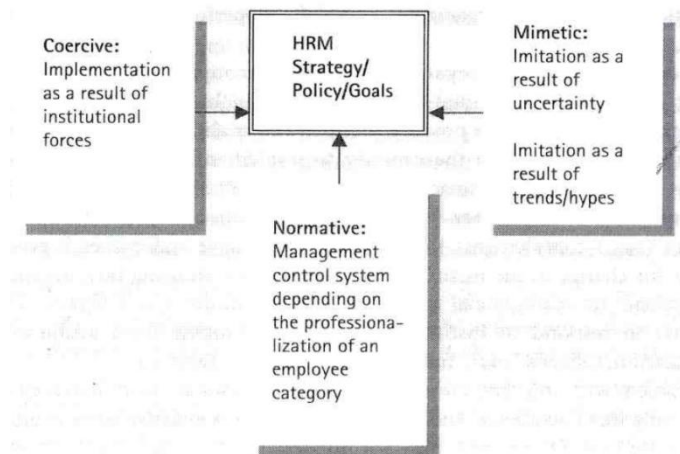


Figure 1. Impacts of DiMaggio and Powell's three mechanisms on HRM
(Paauwe & Boselie, 2007, p. 175)

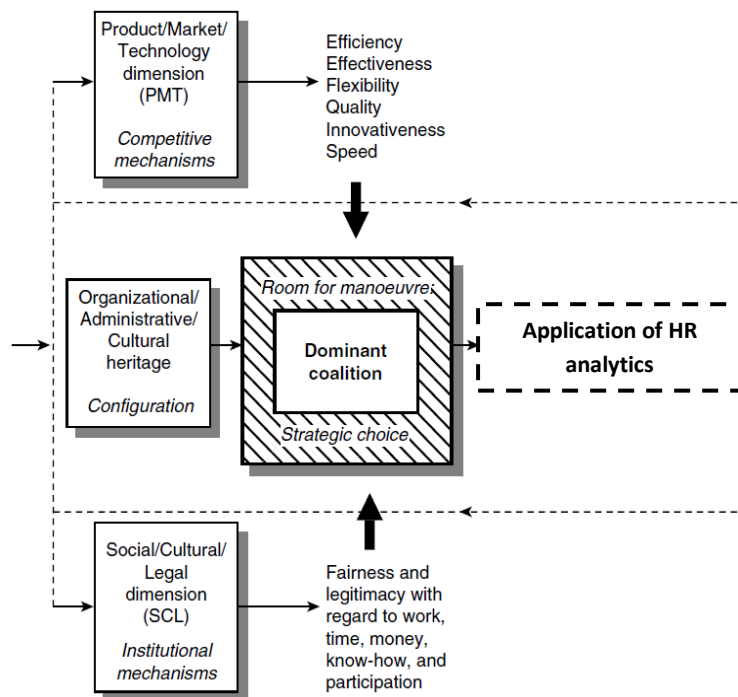


Figure 2. The contextually based human resource theory in relation with HR analytics (Based on Paauwe & Boselie, 2007, p. 91)

dimensions, Paauwe identifies a third contextual factor, based on a company's configuration: *Organizational/Administrative/Cultural heritage*. "The outcome of past choices of strategy in interaction with the way in which structuring issues were originally posed and the kind of organizational culture this has engendered" (Paauwe, 2004, p. 91), shape and structure HRM policies and practices such as HR analytics. Furthermore the administrative heritage, defined as the existing organizational structure, methods, competences, and norms and values that originated in the past, might also be of influence since it resists change (Bartlett & Ghoshal, 1989).

These market forces, institutional settings and administrative heritages that have an impact on the dominant coalition, which are the actors involved such as management, HR department, works councils, do not completely determine the actors' actions. Conditions such as the labor-capital ratio, the financial health of a company (solvability), and the market strategy determine the degree of leeway or room for manoeuvre that the dominant coalition has in making its own strategic choices (Paauwe, 2004). In conclusion it are thus the competitive mechanisms, the institutional mechanisms, the configuration and the room for manoeuvre that influence the actions of the dominant coalition, and thus the degree and nature of application of HR analytics.

3.3 Contingency Factors of Influence

Now the possible internal and external contextual factors have been determined, we can identify the relevant factors for the concept of HR analytics. A distinction will be made between the external factors, the competitive and institutional mechanisms, and the internal factors, the organization's configuration and room for manoeuvre. Below these will be discussed in more detail. Subsequently

The concept of institutional isomorphism is referred to as *Social/Cultural/Legal dimension (SCL)*. With respect to SCL widely shared societal values such as fairness (a fair exchange relationship between organization and individual) and legitimacy (the acceptance of organizations in the wider society) with regard to work, time, money, know-how, and participation, will also have an impact on the HRM policies and practices such as HR analytics.

In addition to these two

Figure 3a and Figure 3b will provide a conceptual model of these relationships related to the degree of application of HR analytics.

Competitive mechanisms

As mentioned before, Paauwe (2004) measures the competitive mechanisms by means of demands expressed in terms of efficiency, effectiveness, flexibility, quality, innovativeness and speed. He furthermore explains these demands as a consequence of *Product-Market combinations* and their appropriate *Technology*. With respect to these dimensions a distinction can be made between the product and service market on the one hand, and the labor market on the other hand. According to Boxall and Purcell (2011), besides the product and service market, companies also have to compete in the labor market to obtain and secure skilled staff. Since HR analytics increases efficiency and help to generate better business results (Harris et al., 2010), we assume a positive relationship between the demands of efficiency, effectiveness, flexibility, quality, innovativeness and speed, and the application of HR analytics. This results in the first hypothesis:

Hypothesis 1: The more competitive the environment, the greater the application of an HR analytical approach.

Institutional mechanisms

The institutional mechanisms, in the framework of Paauwe referred to as *Social*, *Cultural* and *Legal* dimensions, are concerned with the fairness and legitimacy with regard to work, time, money, know-how, and participation. A distinction has been made between *coercive*, *normative* and *mimetic* institutional mechanisms. With regard to the *normative* mechanisms no distinct influence on the applicability of HR analytics is expected. Professional networks such as universities might have an impact on the use and maturity level of HR analytics, still their impact is similar for all the companies under investigation since they are all located in the same country, the Netherlands. More or less the same holds for the *coercive* mechanisms. Labor legislation and ‘social partners’ such as trade unions and works councils will not differ for organizations located in the Netherlands. Though from an international point of view laws like data protection might restrict companies in their data collection and eventual transfer across borders, it is doubtful whether this will be a real barrier for the implementation of HR analytics in the Netherlands.

However, the influence of the *mimetic* mechanisms might be different. As a consequence of uncertainty or fashion in the field of management, companies might imitate the practice of HR analytics from their competitors, or feel compelled to introduce it in order to prevent being seen as outdated. The massive interest in implementing an HR scorecard in order to fulfill the need of being able to better account for the importance of human resources, forms an example (Paauwe, 2004). As the interest in HR analytics in the organizational field, defined as the totality of relevant actors related

to an organization (e.g., suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products), is difficult to define in a specific way, this justifies the development of the first proposition:

Proposition 1: The interest in HR analytics in the organizational field, in terms of the number of competitors that apply HR analytics, has an influence on the application of HR analytics within a specific organization in that field.

Configuration

The configuration of an organization has been defined as an organization's *Organizational*, *Administrative* and *Cultural* heritage. To be more specific, configuration is related to the organization's age, culture and structure (Paauwe, 2004). Since defining culture requires an extensive investigation that would be beyond the scope of this research, a further investigation of this concept will not be included in this study.

With respect to the factor age Mintzberg (1979) concludes that there is a positive relationship between an organization's age and its degree of formalized behavior. Since formalization with respect to HRM refers to "formal rules, programs, positions and procedures influencing personnel decision making" (Konrad & Linnehan, 1995, p. 788), HR analytics is expected to be more applied in those organizations as it can be considered as a formal approach for decision making. Therefore the following hypothesis will be tested:

Hypothesis 2: The older the organization, the greater the application of an HR analytical approach.

With respect to the third configuration factor, structure, the theory of Burns and Stalker will be applied in order to define this concept. According to Burns and Stalker (1961) a distinction can be made between two basic organizational structures: mechanistic and organic. A mechanistic structure is mainly characterized by a stable environment, low differentiation of tasks, low integration of departments and functional areas, centralized decision making, and standardized and formalized tasks. The characteristics of the organic structure can be seen as the opposite. While the organic form is appropriate to changing conditions which require flexibility, the mechanistic structure is well suited in a stable environment that entails predictable outcomes and behaviors. Relating these two types of structure to the application of HR analytics might suggest a higher need for HR analytics in case of an organic structure. The unpredictable dynamic environment, together with the differentiation in tasks and little standardization encourage the need of measurement and prediction of the organizations' performance and effectiveness. This can be provided amongst others by HR analytics which helps to gain insight into the workforce performance drivers and furthermore increases organizational effectiveness (Boudreau & Ramstad, 2006). Therefore the third hypothesis can be developed:

Hypothesis 3: Organizations characterized by a more organic structure have a greater application of an HR analytical approach.

Besides the internal factors of age, culture and structure, Mintzberg (1979) adds the additional factor of size as a possible internal factor of influence. He argues that the larger the organization is, the more sophisticated the planning and control systems will be. This can be explained by an increase in work differentiation and consequently a higher need for coordination. If planning and control systems become more sophisticated the chance of using sophisticated techniques such as HR analytics will probably be higher. Therefore hypothesis four argues:

Hypothesis 4: The larger the organization, the greater the application of an HR analytical approach.

Room for manoeuvre

The room for manoeuvre has been defined as the factors that influence the degree of leeway for the dominant coalition in making its own strategic choices, in this case whether to implement HR analytics or not. Besides market forces, institutional settings and administrative heritages, actors also adapt to conditions such as the labor-capital ratio, the financial health of a company and the strategy (Paauwe, 2004). With respect to the labor capital-ratio, King (2010) indicates a difference in the relevance of human capital information between firms and industries. According to her, in companies where people represent a greater proportion of total value, in this case companies with a high labor capital-ratio, it is more relevant to have workforce related information. This results in the fifth hypothesis:

Hypothesis 5: The higher the labor capital-ratio, the greater the application of an HR analytical approach.

In relation with the financial health of an organization, Lawler, Levenson and Boudreau (2004) argue for a positive link between the extent of use of HR analytics and the business performance. The application of HR analytics will increase the performance of the organization. In line of this knowledge one would expect an absence or low degree of application of HR analytics in organizations with a low financial health. However we must be careful with concluding this. Organizational performance is considered as being influenced by many different factors (Kennerley & Neely, 2002). Furthermore besides a positive causal relationship between the application of HR analytics and an organization's financial health, this relationship might also work the other way around. In healthy financial organizations more money might be available to start up an HR analytical approach. Therefore giving a prediction of the causal relationship between an organization's financial health and

the application of HR analytics is impossible. For this reason the following proposition will be explored:

Proposition 2: There is a positive relationship between the financial health of an organization and the application of HR analytics.

An influence can be predicted with regard to strategy. Miles and Snow (1984) make a distinction between defenders, analyzers and prospectors. While the defenders have a narrow focus and stay to their own practices, the analyzers and prospectors are much more focused on the continuous improvement and implementation of new ideas and practices. Based on research conducted by Delery and Doty (1996) it are the prospectors who are considered as highly innovative, while the analyzers and defenders are considered as moderately innovative and rarely innovative organizations respectively. In this case innovativeness focuses on the introduction of new products and/or services and can be measured in terms of the degree of introduction and novelty of new products and services. As the interest in measuring HR effectiveness has grown enormously since the 1990s (Paauwe, 2004), and the approaches of human capital measurement are still developing (Fink, 2010), we consider HR analytics as a relatively young approach. Therefore the prospectors and analyzers are assumed to be more involved in HR analytics since they are much more focused on the continuous improvement and implementation of new ideas and practices. This results in the sixth and last hypothesis:

Hypothesis 6: Prospectors and analyzers, considered as highly and moderately innovative organizations respectively, will have a greater application of an HR analytical approach than defenders.

From the above described relationships the following two models (Figure 3a and Figure 3b) can be developed to illustrate the influence of the internal and external contingency factors on the degree of application of HR analytics. The indicators *Function*, *Organizational embeddedness*, *Statistical methodologies* and *Data collection* have been chosen as measures of the degree of application of HR analytics. Since a high maturity level requires more (advanced) functionalities, greater organizational embeddedness, more sophisticated statistical methodologies, and larger varieties of data collection, it are mainly those dimensions who are considered as being decisive for assessing an organizations maturity level of HR analytics, by literature (Levenson et al., 2005; Mayo, 2006; Harris et al., 2010) and FCTB. A further elaboration of these indicators can be found in chapter 4.3.

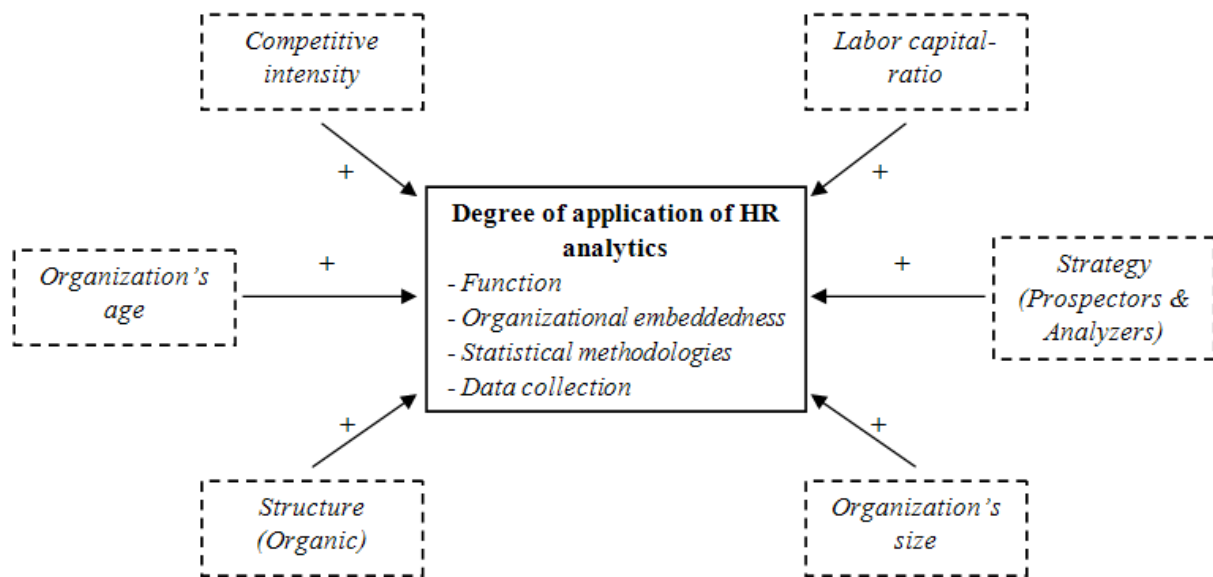


Figure 3a. Conceptual model of variables under investigation for testing the hypotheses

In Figure 3a the six variables under investigation for testing the hypotheses by means of a questionnaire are depicted. Each of those variables indicates a positive relationship with the degree of application of HR analytics. For this reason the model states that organizations characterized by a higher competitive intensity, an older age, a more organic structure, a larger workforce, and a higher labor capital-ratio, have a greater application of HR analytics in terms of more functionalities, greater organizational embeddedness, more sophisticated statistical methodologies and larger varieties of data collection. Furthermore organizations characterized as prospectors or analyzers will have this greater application as well.

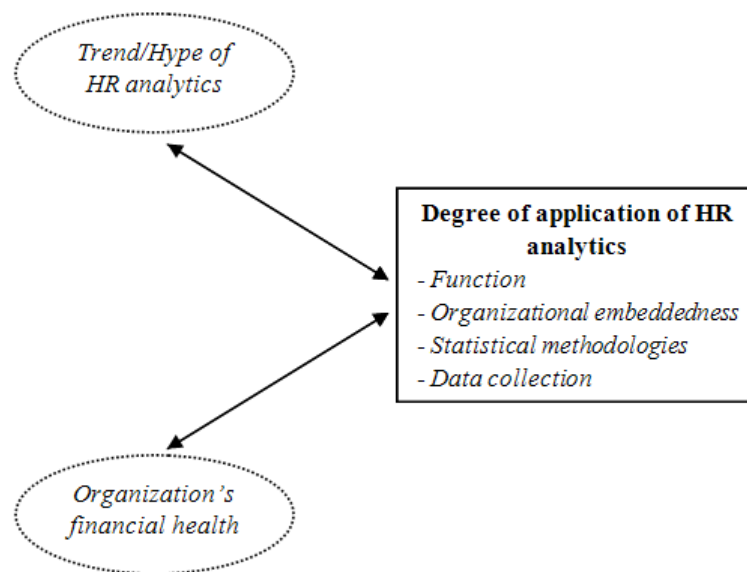


Figure 3b. Heuristic framework for exploring the propositions

For exploring the propositions under investigation Figure 3b links the two variables of ‘Trend/Hype of HR analytics’ and ‘Organization’s financial health’ to the degree of application of HR analytics. Though both variables seem to be related to the application of HR analytics, the underlying reasons and directions of these relationships are unclear or not specific enough and therefore need to be explored by means of interviewing.

Chapter 4: Methodology

In this chapter an overview of the required research for answering the problem statement will be given. The design and procedure, test subjects involved, instruments applied and (statistical) analyses conducted, will be discussed below.

4.1 Research Set-up

In order to identify the possible contingency factors and subsequently their influence on the applicability of HR analytics, this research will exist of two components: a quantitative part (questionnaire) for testing hypotheses which can be either rejected or confirmed, and a qualitative part (interviews) for exploring propositions which can be either rejected or converted into hypotheses which can be tested in follow-up research. The reason for making use of these two ways of data collection is caused by the fact that specific relationships between the degree of application of HR analytics and its related contingency factors cannot always be predicted in advance. Therefore interviews will be conducted as well to learn more about the causes and effects of these variables under investigation.

The research has been started with a literature study from which the concept of HR analytics has been defined, as well as all the possible internal and external contextual factors involved. Based on this information, hypotheses and propositions were derived that give an indication of the influence of the contingency factors on the degree of application of HR analytics in practice. Furthermore a theoretical framework of these relationships for testing the hypotheses, together with a heuristic framework for exploring the propositions, has been developed.

To subsequently test the formulated hypotheses, a questionnaire will be carried out. It will include questions about the characteristics of the organization and the organizational field in which they are operating, as well as about the application of HR analytics.

In addition interviews will be conducted to explore the formulated propositions and to discover how the contingency factors affect the application of HR analytics in practice. It will be focused amongst others on data, methodologies and (analytical) software applied, to get a better insight in the execution of HR analytics in practice.

Because data will be gathered only at one single point in time, this study can be characterized as cross-sectional.

4.2 Description of Test Subjects

The questionnaire will be sent out to 860 organizations. Respondents are expected to have an HR related function or to be at least familiar with the concept of HR analytics. The research population

will exist of clients of the consultancy firm FCTB, the organization that helps us in conducting this research. Organizations under investigation will all be located in the Netherlands, however they might be subsidiaries of non-Dutch international companies, and will be diverse in terms of age, size, industry, etc.

Interviews will be held with HR staff from approximately 20 organizations. Only one respondent will be interviewed in each organization. Those organizations will be selected based on their contextual factors as well as on their expected maturity with regard to the use of HR analytics. The goal is to create a sample as diverse as possible with respect to the contingency factors, in order to be able to identify the influence of the different contingency factors.

4.3 Instruments

Questionnaire

A questionnaire will be developed to gather the required data for testing the hypotheses. Items will be derived from existing questionnaires or based on them in order to ensure their reliability and validity. Furthermore Cronbach's alpha will be tested.

Competitive intensity

Competitive intensity in the environment will be measured by a scale consisting of four Likert items, obtained from a study of Menguc and Auh (2010) (e.g., "Competition in our industry is cut-throat"). No specific distinction between competition in product/service market and labor market will be made, as literature does not provide any separate measurements of these kinds of competition. 5-Point Likert items will be applied ranging from one ("Strongly disagree") until five ("Strongly agree"). The higher the score on this scale, the higher the competition. With a value of 0,84, reported by Menguc and Auh, Cronbach's alpha can be considered as satisfactory.

Organization's age

The age of an organization will be measured by a single question, "How long has the organization for which you are working existed to date (in years)?" Like in most existing questionnaires (e.g., Calantone, Cavusgil & Zhao, 2002), this study will also make use of an open-answer possibility for answering this question.

Organization's structure

Huang, Kristal and Schroeder (2010) define a mechanistic versus an organic structure by means of three factors: *flatness of organizational structure*, *decentralization of authority* and *employee multifunctionality*. Flatness of organizational structure will be measured by a scale consisting of two Likert items (e.g., "The organizational structure is relatively flat"), decentralization of authority by a scale consisting of two Likert items (e.g., "There can be little action taken until a supervisor approves

a decision”), and employee multifunctionality by a scale consisting of three Likert items (e.g., “Employees in this organization learn how to perform a variety of tasks”). A total of seven Likert items is thus used to define structure, again characterized as 5-point Likert items ranging from one (“Strongly disagree”) until five (“Strongly agree”). Cronbach’s alpha is according to the literature reliable with a value of above 0,70. The distinction between an organic and a mechanistic structure will be based on a linear relationship, the higher the score, the more organic an organization is structured. However for the analysis it must be taken into account that the items related to decentralization of authority are reversed coded.

Organization’s size

The size of the organization is determined by means of its numbers of employees employed in the Netherlands. Therefore the single open question “How many employees does your organization employ in The Netherlands?” will be asked.

Labor capital-ratio

The labor capital-ratio, the ratio between the costs of labor and the total operational costs, will be measured by a single open question: “The labor/capital ratio in percentages (ratio between costs of labor and total operational costs inclusive labor costs) in your organization is? (For example if your labor costs are 100 Euros and your operational costs inclusive labor costs are 500 Euros your labor/capital ratio is $100/500 = 20\%$)”.

Organization’s strategy

To determine the distinction between defenders, analyzers and prospectors, Delery and Doty (1996) measure the degree of innovativeness, in terms of introduction and novelty of new products and services, by means of a scale consisting of six Likert items (e.g., “My organization offers a wide variety of products/services”). Answer possibilities will be 5-point Likert items ranging from one (“Strongly disagree”) until five (“Strongly agree”). To define differences between organizational strategies, prospectors are characterized by a minimum mean value of 4,96 scored on this scale, analyzers by a minimum average score of 3,34 and defenders by a minimum of 1,2. Cronbach’s alpha can be considered as good with a value of 0,91 (Delery & Doty, 1996). However, since analysis requires a dichotomous independent variable, two categories of organization’s strategy will be created: defenders (category 1), and analyzers and prospectors (category 2). The mean value of 3,34 found by Delery and Doty will then be used as the distinctive boundary between those categories.

Degree of application of HR analytics

The degree of application of HR analytics will be measured in terms of its maturity level defined by four dimensions: *Function*, *Organizational embeddedness*, *Statistical methodologies* and *Data collection*.

To identify the maturity in terms of the function of HR analytics, the question “Please indicate. In my organization HR analytics fulfills the need of providing...”, will be asked. A number of four items, based on a maturity model developed by FCTB about functionalities of HR analytics, will be addressed (e.g., “Basic HR reporting (e.g., data from ERP and HCM systems such as turnover and employee satisfaction)”), for which respondents have to indicate “Yes” (coded 1) or “No” (coded 0) according to their current application of HR analytics. Maturity can then be assessed by summing the numbers of “Yes” selected. The higher the score the more functions are fulfilled by HR analytics, and also the more advanced the fulfilled functions are, the more mature an organization is with respect to HR analytics.

Second, the organizational embeddedness in terms of the frequency of presence of a team or function dedicated to HR analytics will be measured by the question, “Please indicate. In my organization there is a team or function dedicated to HR analytics...”. For this question respondents have to indicate, by ticking a single box, which answer is most applicable. The four answer possibilities ranging from “On an ad-hoc basis”, “Once per period (e.g., week, month, quarter, year)”, “Part-time”, and “Full-time”, will be coded with a score of one to four respectively. A higher score will then imply a greater organizational embeddedness and therefore a higher level of maturity with respect to HR analytics.

To find out how sophisticated the applied statistical methodologies are, the question “Please indicate which statistical methodologies are applied in order to carry out HR analytics.”, will be asked. Based on Levenson et al. (2005) four items will be addressed (e.g., “Basic multivariate statistics (ANOVA, factor analysis, regression, logit/probit, survival/hazard analysis, etc.)”), measured with the answer possibilities “Yes” (coded 1) and “No” (coded 0). Again the higher the score the more sophisticated the applied methodologies are, the higher the maturity of HR analytics.

The fourth and final question measures the kinds of data collected by asking, “Please indicate which data are collected by the HR department in your organization.”. Four items based on Mayo (2006) are included (e.g., “Workforce statistics (e.g., gender, age, absenteeism, job type, ethnic origin)”) and can be answered with the possibilities “Yes” (coded 1) or “No” (coded 0). Also for this question a sum score will be calculated for which a higher score identifies an organization as collecting more different kinds of data, and thus being more mature with respect to HR analytics.

To finally determine an organization’s overall degree of maturity, all sum scores will be added. The higher the total score of an organization, the more it will be considered as mature with regard to the application of HR analytics.

Furthermore questions as “Why has your organization started with applying HR analytics”, “Who is involved in HR analytics in your organization”, and “Please indicate what factors are barriers for taking the next step in HR analytics in your organization”, are included as well on request of the consultancy firm and research partner FCTB.

Interviews

An additional source of data will come from interviewing. In order to explore the formulated propositions and to find out how HR analytics is applied in practice with respect to the contingency factors of influence, face-to-face interviews will be conducted. The interview will consist of three parts. It will start with an introductory part (e.g., “Could you please tell me something about your current position in the organization?”), followed by a part about the HR analytical process in the organization (e.g., “How is your organization fulfilling the objectives of HR analytics?”), and will end with some evaluative questions (e.g., “Are the objectives of HR analytics achieved?”). In between questions about the contingency factors formulated in the propositions will be asked as well (e.g., “In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?”). Questions will be prepared in advance however might change during the interview as there will be a semi-fixed structure.

4.4 Procedure

The research has been started with a literature study from which general information about the concept of HR analytics and the involvement of contingency factors has been obtained. Based on this information a questionnaire will be developed and send out among a diverse range of organizations. In order to create the questionnaire the online survey tool ‘SurveyMonkey’ will be used. Respondents will be asked via email to fill in the online questionnaire which will take approximately 15 minutes. To ensure a sufficient response rate, reminder calls will be conducted a few days after the questionnaire has been sent out. An initial analysis of the results might establish linkages between the organizations and the contingency factors identified. Amongst others from this knowledge interviews will be scheduled and subsequently conducted with a diverse range of organizations. This enables us to get a better picture of the influence of context on the applicability of HR analytics in practice.

4.5 Statistical Analysis

Questionnaire

After the process of data collection the questionnaire data will be entered into the statistical data-software package SPSS, in order to be able to test the hypotheses formulated for possible correlations

between the contingency factors and the degree of application of HR analytics. First of all, data will be coded and checked for missing values. Unfilled questions will be replaced by the mean score related to that question. However, respondents with a large number of missing values will be excluded, as they will not be useful for the analysis.

Furthermore the goodness of data in terms of reliability and validity will be investigated by means of Cronbach's alpha and factor analysis, to see if data is consistent and if scales measure concepts as suggested (Sekaran, 2003). A principal component analysis will be used by selecting all scale items included (Pallant, 2007). Afterwards the independent variables will be created by summing the relevant items. Moreover the continuous dependent variable 'Degree of application of HR analytics' will be developed as well by summing the scores of the indicating items determined before.

Once the data are ready for analysis, the variables are first checked whether they are normally distributed across the dependent variable scores. Furthermore the direction, strength and significance of the bivariate relationships will be tested by means of Pearson's correlations (Pallant, 2007). Each of the questions related to the different types of contingency factors determined above will be linked to the dependent variable 'Degree of application of HR analytics', in order to identify a pattern of influence.

However to find out the degree of this influence, a simultaneous multiple regression analysis will be conducted as well. According to Keith (2006) a simultaneous multiple regression analysis can be used to determine the extent to which a set of independent variables, both continuous as well as categorical, predicts the variance of a continuous dependent variable, the degree of application of HR analytics. It will help to provide an overview of the relative importance of the various predictors. Therefore all the contingency factors will be added to the simultaneous multiple regression at once to see if there is a significant contribution to the analysis. Based on the obtained regression coefficients subsequently the direction and degree of influence can be derived, while the standardized regression coefficients are useful for determining the relative importance of each explanatory variable. The R square will give an indication of the statistical significance and importance of the overall regression. As a criteria for interpretation of the results, a significance level of 0,05 will be applied. Based on this information hypotheses can subsequently be confirmed or rejected.

Interviews

To minimize the risk of losing information gathered by means of interviewing, interviews will be recorded. Based on these recordings a content analysis will be conducted to analyze the data. According to Sekaran "a content analysis involves the quantification of the qualitative information obtained through a systematic analysis of the relevant information" (2003, p. 410). Therefore it is necessary to categorize the data according to some meaningful classification scheme. In order to do this, categories related to the application of HR analytics will be created. Those are: *Reasons to apply HR analytics; Data gathered/reported; Software applied; Analytics applied; Employee(s) involved;*

Employee(s) interested; Alignment with Finance; Influence on business performance; Satisfied with impact; Level of maturity; Future plans/needs to improve HR analytics; Barriers for improvement and Lessons learned (tips). Furthermore two additional categories related to the contingency factors under investigation in the interviews, will be created as well: *Influential factors to start applying HR analytics* and *Relation HR analytics ↔ Financial health*.

Subsequently subcategories will be developed for each of those categories based on the answers given. For example for the category of *Data gathered/reported*, subcategories will be created for each different kind of collected data answered. By making use of the data analysis program Excel, answers can then be assigned to each of those categories in order to provide an overview of both qualitative as well as quantitative knowledge about the answers given. To do this a number will be assigned to each subcategory. These numbers will then be entered in the corresponding category if applicable. Furthermore interviewees will be numbered as well to be able to link the answers given to the organization's contextual factors which have been determined before by means of a questionnaire.

In the end in this way an overview can be given of the frequencies of answers given, for example the most common data categories applied, and the differences in application between organizations with respect to the contingency factors determined.

Chapter 5: Questionnaire Analysis

Based on 69 completed questionnaires the following conclusions regarding the influence of the contingency factors on the applicability of HR analytics can be drawn. Below the results of the formulated hypotheses will be discussed.

5.1 Sample Characteristics

The questionnaire has been filled in by 69 Dutch based organizations. Looking at the application of HR analytics, 53 (76,8%) of those organizations have indicated to apply currently some form of HR analytics, including HR reporting. From the organizations that do not apply HR analytics at all (16), 68,8% pointed out to lack a disciplined and methodological approach to analyze HR data. Together with a low priority for applying HR analytics at the moment (50%), this is the most common reason mentioned for not applying HR analytics at all (see Table 1).

	Frequency*	Percentage
Data is inconsistent	1	6,2%
Data is inaccessible	1	6,2%
Data is of low quality	3	18,8%
A disciplined and methodological approach to analyze HR data is lacking	11	68,8%
Lack of executive support	5	31,2%
Lack of analytical knowledge & experience	4	25%
Lack of funding	3	18,8%
Analytical opportunities are not targeted right	1	6,2%
Rules and regulations	0	0%
We cannot decide where/how to start	3	18,8%
The timing is not right	8	50%

Table 1. Barriers for applying HR analytics

**N = 16, several options possible*

The 53 organizations that do apply HR analytics are mainly limited to the use of basic HR reporting (98,1%). Approximately half of them (47,2%) indicated to make use of HR value-added metrics, while only 22,6% and 15,1% of those organizations said to have integrated talent management metrics and HR business driver analytics in place, respectively (see Table 2).

	Frequency*	Percentage
Basic HR reporting	52	98,1%
HR value-added metrics	25	47,2%
Integrated talent management metrics	12	22,6%
HR business driver analytics	8	15,1%

Table 2. Function of HR analytics

**N = 53, several options possible*

However most of these organizations only make use of basic univariate statistics such as means and percentiles (73,6%). Basic and advanced multivariate statistics are not used at all (see Table 3), which makes it questionable if the eight organizations who have indicated to apply HR business driver analytics really make use of this advanced form of HR analytics.

	Frequency*	Percentage
Basic univariate statistics	39	73,6%
Advanced univariate statistics	5	9,4%
Basic multivariate statistics	0	0%
Advanced multivariate statistics	0	0%

Tabel 3. Statistical methodologies applied

**N = 53, several options possible*

Looking furthermore at Table 4 (see Appendix C) a high diversity with regard to organizational embeddedness seems to be the case, ranging from having a team or function dedicated to HR analytics on an ad-hoc basis (24,5%) up to full-time dedication (22,6%). For the data collected there seems to be a main focus on workforce statistics (100%) and measures of people's skills/values (56,6%). Only 19 out of the 53 organizations collect information about the financial ratios relating to people and productivity. For measures of efficiency and effectiveness of the HR function this holds for only eleven organizations (see Appendix C, Table 5).

5.2 Reliability & Validity

To be able to test the hypotheses formulated, the reliability and validity of the formed scales have to be investigated by means of Cronbach's alpha and factor analysis. Below the results will be given for each of the four scales applied.

Competitive intensity

Competitive intensity has been measured by a scale consisting of four items. With an obtained Cronbach's alpha coefficient of 0,79 this scale can be considered as acceptable. Principal component analysis reveals furthermore the presence of one component as was expected (see Appendix C, Table 8), explaining 60,8% of the total variance. With a Kaiser-Meyer-Olkin value of 0,69 and a significant Bartlett's Test of Sphericity, competitive intensity is measured in a reliable and valid way.

Organization's structure

According to theory the organization's structure can be defined by three components: *flatness of organizational structure* (two items), *employee multifunctionality* (three items) and *decentralization of authority* (two items). This can be confirmed by conducting a principal component analysis, resulting in three components explaining 80,3% of total variance (see Appendix C, Table 9). Although factor analysis might not be appropriate to conduct here as the Kaiser-Meyer-Olkin value is just below the required value of 0,60 (0,57), the theory of Huang, et al. (2010) suggests that the items form a valid scale. Moreover the Bartlett's Test of Sphericity is found to be significant. With a Cronbach's Alpha of 0,76 this scale can therefore be considered as useful as well.

Organization's strategy

The strategy of an organization has been measured with a scale consisting of six items. According to a Cronbach's Alpha of 0,75 these items are found to be internally consistent. By conducting a principal component analysis one component results, explaining 45,2% of the total variance (see Appendix C, Table 10). With a significant Bartlett's Test of Sphericity and a Kaiser-Meyer-Olkin value of 0,77, also this scale can be considered as both reliable and valid.

Degree of application of HR analytics

The dependent variable *Degree of application of HR analytics* has been measured by a scale consisting of 13 items, related to the four indicators *Function*, *Organizational embeddedness*, *Statistical methodologies* and *Data collection*. Conducting a principle component analysis on these items does not lead to any conclusions regarding this scale. With an insignificant Bartlett's Test of Sphericity (0,113) and a Kaiser-Meyer-Olkin value below 0,6 (0,53), factor analyses cannot be considered as appropriate. For this reason the original developed scale will be used in order to assess the maturity of the participating organizations regarding HR analytics. Table 11 will give an overview of the total maturity scores found in this study.

Degree of application of HR analytics	Frequency*	Percentage	Cumulative Percentage
0	16	23,2%	23,2%
3	2	2,9%	26,1%
4	2	2,9%	29%
5	8	11,6%	40,6%
6	10	14,5%	55,1%
7	9	13%	68,1%
8	6	8,7%	76,8%
9	7	10,1%	87%
10	5	7,2%	94,2%
11	2	2,9%	97,1%
12	2	2,9%	100%

Table 11. Total scores *Degree of application of HR analytics* (maximum score = 16)
*N = 69

5.3 Hypotheses Tested

Now all the scales applied can be considered as useful for conducting the analyses, their correlations with the dependent variable ‘Degree of application of HR analytics’ need to be tested as well, in order to be able to find a relationship between the contingency factors identified and the degree of application of HR analytics. The resulting correlations are presented in Table 12 below.

	1	2	3	4	5	6	7
1. Degree of application of HR analytics	1	0,045 (0,716)	-0,017 (0,889)	-0,131 (0,291)	0,272** (0,024)	0,370 (0,131)	-0,161 (0,204)
2. Competitive intensity	0,045 (0,716)	1	-0,010 (0,934)	0,040 (0,748)	0,089 (0,456)	-0,087 (0,731)	0,158 (0,214)
3. Organization’s age	-0,017 (0,889)	-0,010 (0,934)	1	-0,212* (0,085)	0,339*** (0,004)	0,059 (0,815)	-0,021 (0,868)
4. Organization’s structure (Organic)	-0,131 (0,291)	0,040 (0,748)	-0,212* (0,085)	1	-0,194 (0,116)	-0,695*** (0,001)	-0,096 (0,449)
5. Organization’s size	0,272** (0,024)	0,089 (0,456)	0,339*** (0,004)	-0,194 (0,116)	1	0,80 (0,753)	0,123 (0,331)
6. Labor capital-ratio	0,370 (0,131)	-0,087 (0,731)	0,059 (0,815)	-0,695*** (0,001)	0,080 (0,753)	1	-0,170 (0,514)
7. Organization’s strategy (Analyzers/Prospectors)	-0,161 (0,204)	0,158 (0,214)	-0,021 (0,868)	-0,096 (0,449)	0,123 (0,331)	-0,170 (0,514)	1

Table 12. Correlations between the contingency factors and *Degree of application of HR analytics* (= significance)
Correlation is significant at level: *** = 0,01 ** = 0,05 * = 0,1

Based on the depicted numbers, except for the contingency factors ‘Organization’s size’ and ‘Labor capital-ratio’, no real relationships with the ‘Degree of application of HR analytics’ are present. As furthermore noted by Pallant (2007), correlations with a value lower than 0,30 are considered as small and therefore insufficient for finding any significant relationship of influence. This can be confirmed by means of conducting a simultaneous multiple regression analysis (See Table 13).

	Unstandardized Coefficients		Standardized Coefficients		
<i>R Square</i> =0,266	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Significance</i>
Degree of application of HR analytics	-3,133	10,961		-0,286	0,781
Competitive intensity	0,067	0,282	0,065	0,237	0,818
Organization's age	-0,006	0,016	-0,104	-0,353	0,731
Organization's structure (Organic)	0,207	0,331	0,257	0,626	0,545
Organization's size	0,000	0,000	0,323	1,099	0,298
Labor capital-ratio	0,067	0,052	0,517	1,281	0,229
Organization's strategy (Analyzers/Prospectors)	-0,725	2,118	-0,101	-0,342	0,739

Table 13. Simultaneous multiple regression analysis of *Degree of application of HR analytics* on the contingency factors

None of the contingency factors show a significant influence on 'Degree of application of HR analytics'. The hypotheses 1, 2, 3, 4 and 6 are thus not supported by the data, resulting in the following conclusions:

Result 1: There is insufficient evidence to support the claim that the competitive intensity in the environment does influence the degree of application of HR analytics.

Result 2: There is insufficient evidence to support the claim that the organization's age does influence the degree of application of HR analytics.

Result 3: There is insufficient evidence to support the claim that the organization's structure does influence the degree of application of HR analytics.

Result 4: There is insufficient evidence to support the claim that the organization's size does influence the degree of application of HR analytics.

Result 5: There is insufficient evidence to support the claim that the organization's strategy does influence the degree of application of HR analytics.

Only for the contingency factor 'Labor capital-ratio' a sufficient correlation of 0,370 has been found, suggesting that organizations with a higher labor capital-ratio are making more use of an HR analytical approach. However the conducted regression analysis reveals no significant contribution of this factor as well. Therefore also hypothesis 5 is not supported by the data.

Result 6: There is insufficient evidence to support the claim that the labor capital-ratio does influence the degree of application of HR analytics.

Based on these data there is thus not enough evidence to say that the application of HR analytics is influenced by the contingency factors ‘Competitive intensity’, ‘Organization’s age’, Organization’s structure’, ‘Organization’s size’, Labor capital-ratio’ and ‘Organization’s strategy’. However as the results suggest no influence of the determined contingency factors on the application of HR analytics, it cannot be concluded that HR analytics is not influenced by context at all. Based on the data collected it is just impossible to reject the null hypotheses which claim there is no influence of the contingency factors on the application of HR analytics. Moreover the restricted sample size of 69 questionnaires limits the statistical power for drawing strong conclusions. Nevertheless the tentative findings point to an absence of contextual influence, which makes it worthwhile to investigate the null hypotheses.

Chapter 6: Interview Analysis

Due to scheduling reasons and the fact that some of the interviewed organizations were not involved in HR analytics at all, a list of only twelve useful organizations can be developed to identify the application of HR analytics in practice. Table 14 will provide an overview of the characteristics of these twelve organizations. Below the findings of the content analysis (see Appendix D) will be discussed.

Organization	Employees	Age	Industry	Degree of application of HR analytics
1	15000	125	Health Care	7
2	9000	>100	Insurance	6
3	6757	>115	Health Care	10
4	150	10	Television	
5	4000	100	Audit & Advisory	6
6	3000	>100	Health Care	6
7	8300		Health Care	
8	4000		Pension Administration	
9	30000		Ministries/Government	
10	1650	198	Ministries/Government	5
11	22000	188	Bank	10
12	3000	135	Industry/Production	5

Table 14. Interview list (organizational characteristics)

6.1 HR Analytics in Practice

Looking at the list of interviews conducted it can be concluded that none of the organizations make use of an advanced form of HR analytics. Looking at the level of maturity none of the twelve interviewed organizations have indicated to be in the fourth and highest level of maturity. While only two of them are currently in the third maturity phase: the integrated talent management metrics. In this phase data is combined in a statistical way to identify the impact of for example learning on performance. However as even none of the organizations make use of real analytics (e.g., correlations, regression analysis), instead of the basic analytics such as ratio analysis applied by only four of the interviewed organizations, this phase is far from being completed as well, as it requires more mature analytics such as regression analysis to identify the influential factors that drive performance.

In general Dutch organizations find themselves thus still in the basic phase of HR analytics, more characterized as HR reporting. Popular data reported are age, gender, absenteeism, function, etc., all related to headcount. Besides this half of the organizations report about performance of their employees. However mostly not in a formal way or even not registered in the systems. Furthermore five organizations report something about the efficiency of the HR function, related to metrics such as costs per hire or time to fill in a vacancy. Potential is measured by even less of the majority (four out

of twelve). A quotation of the Strategic HR Consultant of organization nine summarizes what holds for in general all of these interviewed organizations:

‘With regard to data we collect everything from age, education, experience, competencies, etc. Also performance and potential. With regard to combining information it does not go that far.’

The systems applied for storing data and making up the reports range from SAP (four), PeopleSoft (four), Cognos (three), Business Objects (two), Cura (one) and even Excel (one). Eight organizations have a team or department dedicated to perform HR analytics, although not on a full-time basis.

Taken all of this into account it will not be surprising that a large majority is not satisfied with the impact HR analytics currently has in their organization (eight). Only five respondents speak of some impact of HR analytics on the performance of their organization, but again limited to the use of basic metrics such as absenteeism and mobility, resulting in an increased efficiency regarding the HR function. For example the Manager HR Service Center of organization five stated:

‘We have exit analytics and illness analytics. Those are good analytics they are also discussed with the business. Those reports affect the business and also the HR strategy for example on illness and exit. The business is aware of exit reasons, but we don’t get feedback about if they really doing something with it.’

Therefore improvement is necessary. Especially as you notice that an important reason for most organizations to apply HR analytics is, to make decisions about issues that determine organizational performance, such as cost reductions and investments (five). Together with the goal of benchmarking costs and revenues (six) this is the most common reason for applying HR analytics. Other reasons mentioned are to support the Strategic Workforce Planning process (four), to follow how the HR policy is executed (four), and for the annual reports (two). As explained by the HR Manager of organization twelve:

‘It is important to have numbers, figures and facts to lead a discussion on a more objective level. Then you have evidence to discover real problems and to monitor the HR performance. Starting with this HR reporting process is the first step to move the HR position in this business unit from more operational to an HR business partner.’

Improvement is therefore also on the agendas of the organizations. As can be derived from their future plans, this improvement is mainly focused on getting the systems and data collection right. Six organizations have said to be working on optimizing the system landscape, mainly with the aim of unifying the systems and thus centralizing the data. A number of seven organizations tries to broaden

the data collected. They want to be able to extend their metrics, for example with regards to HR efficiency, potential measurement, etc. Other common next steps are improving the data quality (three), combining data (three), and indentifying factors that drive business decisions (two).

'We want to get the basics right: improve data quality. Furthermore we want to optimize the current landscape. We also we want to broaden our workforce productivity assessment (e.g., what is the investment you do to for example get or train your people, and what do you get out of it). Therefore we look at how do you define your investment (which components do you take into account) and outcomes (e.g., revenue, profit, growth). We are looking at factors that drive business decisions' (Head of Center of Expertise Talent Acquisition, organization one).

'In the future we want to link the data, e.g., how many females make it to top management. Measuring human drivers behind business performance requires success factors which are different and difficult to integrate in one system, but we want to improve it. We want to go to a situation wherein HR analytics is a business driver' (HR Specialized Staff Employee, organization two).

Although organizations are intended to work on their shortcomings, it does not result in improvements easily. For almost half of the organizations data quality keeps an issue (five). System errors and diverse data ownership are indicated as common reasons for it. Furthermore four of the twelve organizations have pointed out to be hindered by a lack of interested business leaders in their ambition for more advanced HR analytics. The Manager HR Service Center of organization five explains:

'HR analytics is not sufficiently used in the boardrooms. They look at figures such as how many people are joining/leaving the organization and illness, but figures such as what does it cost if 1% of the high potentials leaves the organization really matter. We sometimes show the percentage of high potential turnover to the board, but then nothing happens. The benefits are not clear enough.'

Other important barriers noted are money (three), lack of business need (two), and lack of analytical capabilities within HR (two).

6.2 Contingency Factors of Influence

As already concluded the interviewed organizations are without real exceptions all limited to basic HR reporting, at least none of them combines data in a statistical way. Even when taking maturity factors such as alignment with finance into consideration, having this alignment is important in order to give meaning to the data collected in a financial way, no real distinction between the organizations can be identified. Two organizations (organization one and two) have mentioned to have no alignment with finance, while eight do. But relating it to the contingency factors does not lead to a clear distinction.

The two organizations without the alignment do not seem to differ significantly from the rest of the population to draw any relevant conclusions about it (see Table 14 & 15).

Organization (Degree of application of HR analytics)	Competitive intensity	Organization's structure (Organic)	Labor capital-ratio	Organization's strategy (Analyzers/Prospector)*
1 (7)	13	28		1
2 (6)	18	16		1
3 (10)	8	20	60%	1
5 (6)	17	24		0
6 (6)	10	20	55%	1
10 (5)	12	28		1
11 (10)	16	22		0
12 (5)	8	16		1

Table 15. Contingency scores interviewed organizations (if known)

** Defenders = 0 Analyzers/Prospectors = 1*

Furthermore the kind of employees interested in the data could also be a measurement for the level of maturity. Especially interested business leaders can be seen as a requirement in order to have an influence on the business with respect to HR analytics. However although all of the interviewed organizations indicated to notice some interest by the business leaders, this interest is in general very limited and not sufficiently present. It is mostly restricted to some metrics about headcount and therefore it is not distinctive as well. So also on this factor no conclusions can be drawn upon.

6.3 Propositions Explored

Besides identifying how HR analytics are applied in practice with regards to the contingency factors, the aim of interviewing was also to explore two propositions: the relationship between the interest in HR analytics in the organizational field and the application of HR analytics within a specific organization in that field; and the relationship between the financial health of an organization and the application of HR analytics.

Due to the increasing interest from consultancy firms and organizations, as well as the rapid appearance of recent literature about the topic of HR analytics, it can be concluded that there is a trend/hype of HR analytics going on. With regards to the first proposition interviewees have been asked the question if this general trend/hype of HR analytics nowadays, or the application by competitors, was a reason for the organization to start applying it. From the eleven respondents that answered this question only one organization admitted to be influenced by these two forces. Though partly in the sense that it is a trend in HR that it should be much more fact and number based and that information is received from collegial firms about the improvement in business decisions due to the application of it. All the other interviewed organizations pointed out to have been started because of own interest. Therefore based on these results the following can be concluded:

Result 7: The interest in HR analytics in the organizational field does not have an influence on the application of HR analytics within a specific organization in that field.

In case of the second proposition respondents were asked to think about the relationship between the financial health of their organization and the application of HR analytics: does the application of HR analytics increase the financial health, or does the financial health increase the application of HR analytics? In four of the seven cases respondents indicated to have experienced an increase in the financial health of their organization as a result of applying HR analytics. According to them this can be explained especially by a rise in efficiency and reduction in the number of wrong investments done. On the opposite only one respondent experienced the financial health as the factor that causes the application of HR analytics. Having the money makes it easier to startup an HR analytical approach. Although five organizations did not respond to this question, the majority of the ones who did seem to notice an increase in financial health due to the application of HR analytics. Therefore the following could be concluded:

Result 8: The application of HR analytics might have a positive influence on the financial health of an organization.

However, in order to have a more solid conclusion this statement needs to be formulated into a hypothesis which can be tested further in future research, for example:

The greater the application of an HR analytical approach, the higher the financial health.

6.4 Lessons Learned

As a final question organizations have been asked to share some lessons learned during their phases of design, implementation and use of HR analytics. Based on the answers given the following four ‘tips’ are found to be important (the number in brackets indicates the frequency of the given answer):

- Data quality is important (five): garbage in is garbage out.
- Link HR with Finance (four): to give meaning to the data.
- Top Management interest is important (three): to make sure reports are read.
- Start small (three): develop step by step.
- Use unified definitions (three): to avoid biased outcomes

Furthermore lessons learned such as “understand how the system works”, “use only one system”, “do not provide management with too much information”, “involve the organization in the whole process” and “explain what you are doing”, are all mentioned twice.

Besides those commonly mentioned answers some of the organizations came up with interesting tips that are worth mentioning here. As people in HR are in general lacking the analytical skills required for doing the analyses, HR is in need of hiring those capabilities. Furthermore in line with this, one organization suggested to hire a marketer within HR to be able to better sell the product/idea of HR analytics. Based on the presumption that people within HR are lacking these skills as well. Moreover even one organization explained to make use of an ambassador to transfer messages and set standards throughout the organization. It made one of their division managers responsible for communicating within the organization how HR analytics is applied, to make sure the basics such as definitions and formats used are all the same.

Although there is still a long way to go for Dutch organizations in general, these recommendations could be useful to take into account when striving for a sophisticated HR analytical approach, one that is able to drive business decisions in a systematic way.

Chapter 7: Conclusions and Recommendations

7.1 Conclusion

This study has been focused on the applicability of HR analytics in relation to the contextual factors *competitive intensity, organization's age, organization's structure, organization's size, labor capital-ratio, organization's strategy, organization's financial health and trend/hype of HR analytics*. To assess the influence of those contingency factors on the applicability of HR analytics, the following problem statement has been investigated:

Which contingency factors are affecting the applicability of HR analytics, and if so, to what degree and in which way?

Based on 69 completed questionnaires and twelve useful interviews conducted, it appears that none of the determined contingency factors seems to have a significant influence on the degree of application of HR analytics in practice. As was expected that a more competitive environment, an older organization, a more organically structured organization, a larger organization, a higher labor capital-ratio and a more innovative strategy would increase the degree of application of HR analytics, no statistical evidence has been found to support these hypotheses. Furthermore interviews showed that there is no reason to expect an increase in the application of HR analytics because of a high interest in it in the organizational field, or a better financial health. Only some signs for an increase in the financial health as a result of the application of HR analytics are visible, as was mentioned by four organizations during the interviews. But drawing any reliable conclusions about this relationship requires further investigation on a larger scale.

In addition the questionnaire and interview data reveal both a very basic level of maturity of HR analytics currently applied by organizations located in the Netherlands. According to the 69 respondents that filled in the questionnaire, 53 organizations currently apply some form of HR analytics (including HR reporting), however only 15,1% of those organizations does this in a sophisticated way, in terms of HR business driver analytics. Although without the required advanced statistical methodologies such as regression analysis, which are not applied by a single organization in the Netherlands at all. Based on the interview results the same picture appears, most of the organizations are currently only involved in HR reporting. Popular data reported are age, gender, absenteeism, function, etc., all related to headcount.

In sum, HR analytics, in this study defined as *a methodology for understanding and evaluating the causal relationship between HR practices and organizational performance outcomes (such as customer satisfaction, sales or profit), and for providing legitimate and reliable foundations for*

human capital decisions for the purpose of influencing the business strategy and performance, by applying statistical techniques and experimental approaches based on metrics of efficiency, effectiveness and impact, is thus not applied by any Dutch based organization participating in this study. Probably this is a finding that can be generalized for all the organizations located in the Netherlands, exceptions not taken into account.

7.2 Discussion

Best fit versus Best practice

According to Paauwe (2004) and Baron (2011) HR analytics is context-specific. Moreover King (2010) argued for a difference in the relevance of workforce information between sectors and companies. Therefore this study was opting for a best fit approach regarding HR analytics. It was expected to found differences in the application between organizations characterized by diverse internal and external contextual factors. However though literature suggests thus a context specific approach for HR analytics, in this study no influence of the determined contingency factors on the applicability of it has been found. This might question the legitimacy of the suggested best fit approach. HR analytics might be seen as a more universalistic approach, without contextual differences.

As far as can be concluded based on the low maturity of organizations regarding HR analytics, this study indeed supports the existence of a best practice approach. The application of HR analytics regarding data collected and statistical methodologies applied, looks quite the same for almost every organization that participated in this research. Furthermore best practices such as the importance of good data quality, the linkage with finance and the involvement of top management, suggested by organizations during the interviews, do not differ for the contingency factors determined. Therefore there seem to exist best practices that can be applied by every organization.

However as the highly mature form of HR analytics (not found in this research) requires the identification of factors that drive business performance, the influence of context is there for sure. So on top of the similar basics such as the alignment with finance, context must play a role with respect to the application of HR analytics. The theory of Boxall and Purcell (2011) could be useful regarding this distinction. According to them there exist two levels of analysis: the surface layer and the underpinning layer. The surface layer is characterized by HR practices that are heavily influenced by contextual factors and are therefore firm specific, for example the development of a specific set of key performance indicators. On the opposite the underpinning layer contains the more general practices which are relevant for every organization regardless of context, the alignment with finance forms an example. There exist thus universalistic as well as context specific best practices.

This dichotomy can be considered as appropriate regarding the application of HR analytics. However because none of the organizations currently apply HR analytics in a really advanced way, the influential contingency factors regarding the surface layer cannot be determined yet.

Leaders, followers and laggards

Looking from a different point of view at the data one can argue as well that it is just too early to draw any conclusions about the distinction between best fit versus best practice. While none of the organizations make use of a mature HR analytical approach that influences the business performance in a systematic way, by means of applying advanced statistics, it is doubtful if such an organization currently does exist in the Netherlands at all. Furthermore as even 16 of the 69 respondents to the questionnaire do not apply HR analytics or HR reporting at all, and literature does moreover not provide a proper scientific definition for it, this points to the assumption that HR analytics is currently still in its early phase of development, it is a rather new concept. But is this true? The theory of Mirvis about the adoption of HR practices might be of help in finding this out.

According to Mirvis (1997) the adoption of human resource practices follows a diffusion curve from leaders to fast followers to slow followers to laggards. HR leaders can be characterized as those organizations that are consistently more innovative than the followers and laggards. They are usually first in implementing HR innovations. The fast followers adopt new practices to stay ahead of competitors, while slow followers are characterized to do this when a consensus has been reached in the industry. The laggards adopt innovations only when they were proven to be effective in other organizations.

Furthermore Mirvis noticed that leaders see customers, changes in workforce demographics, and new technologies, as having a major impact on the application of HR practices such as HR analytics. For the fast followers these external factors are not that much of an influence and they are more limited in the adoption of innovations by the prevailing attitudes in their organization. The influence of external factors is even less in case of the slow followers. Especially the costs and organizational culture limit their innovativeness. For the laggards, barriers are mostly related to getting the attention of top management and overcoming the risk averse culture (1997).

Based on the interview and questionnaire data no mature organizations regarding HR analytics could thus be found. As almost all organizations indicated during the interviews to apply an HR analytical approach out of own interest, instead of responding to competitors' actions, the majority of the organizations who participated in this research belongs at least to the phase of fast followers. Currently there also seems to be no consensus in the industry about the application of HR analytics, organizations are still seeking how to apply it, through which slow followers and laggards are not yet involved in this practice. From this knowledge it can thus be concluded that HR analytics is indeed a relatively new approach. There might exist organizations who are already a bit more mature, however as the fast followers are still in the basic phase of HR reporting, the leaders are not expected to apply HR analytics already in a highly mature way.

Barriers to evidence based management

In the beginning of this study organizations were recommended to respond to the increasing call for Evidence-Based Management (EBM). Decisions should be based on data in order to make the right choices (Pfeffer & Sutton, 2006; Briner et al., 2009). As HR has a reputation for doing a poor job with respect to EBM, Mayo (2008) concluded in his study of 2008 that only a very few organizations were able to measure the real value that people bring to their business, at that time. This same conclusion still seems to be true anno 2012. Though nowadays more organizations might be working on improving their data-based decision making, most of them are still not able to base their human capital decisions on reliable data. For example measuring the impact of HR interventions like training on the performance of the business, still leads to problems.

As obtained from this conducted research one of the most important barriers for organizations is data quality. Due to system errors and diverse data ownership data is not always right. Furthermore organizations often lack analytical capabilities to analyze the data, and even interested business leaders to work with the data are sometimes just not there. As these conditions can be considered as really the basic requirements to apply an EBM approach, most organizations do not seem to be ready for this way of making decisions yet.

Though it is already a big development that many organizations are currently working on implementing an HR analytical approach, or at least have started to think about it, this process is still not finished as long the data is not correct or readily available. Otherwise the outcomes will be of little use.

7.3 Limitations

Because this study collected data by means of a questionnaire as well as by means of conducting interviews, a lot of data has been gathered for the purpose of this research. Nevertheless the quantity of useful data collected was limited due the following reasons.

The sample size

The questionnaire has been sent to 860 respondents. Their contact details have been obtained from the client database of the consultancy firm FCTB. Although 860 respondents formed the initial sample size, about 200 of those respondents have not been reached because of invalid email addresses. Furthermore a same amount of respondents was not (or not anymore) working in an HR related function and therefore not able to fill in the questionnaire, resulting in a total sample size of approximately 460 respondents. Taking into account that 91 people actually filled in the questionnaire, a response rate of approximately 20% can be considered as quite high. However due to a large number of unfilled questions in case of 19 questionnaires, the total number of useful responses ends up with 69. Despite having put a lot of effort in increasing the number of responses, by means of reminder

calls, the number of obtained total useful questionnaires has limited the statistical power for conducting analyses and drawing strong conclusions.

The interview selection

As planned, interviewees had to be selected based on their level of maturity. The aim was to learn from the more mature organizations how HR analytics are applied in practice. In order to be able to select those kind of organizations, initial results from the questionnaire were required. However due to a delay in the development of this questionnaire, together with the fact that the planning of the interviews took more time than expected, it was not possible to wait for the results of the questionnaire to select the interviewees. Therefore the obtained sample consists not of a predetermined diversity with regards to context and maturity, but is more a random selection of especially large organizations in the Netherlands, which were expected to be more mature with regards to HR analytics.

Furthermore the target of interviewing approximately twenty organizations has not been achieved. Though a total of 17 interviews have been conducted, the answers given resulted only in twelve useful interviews. This has mainly to do with the fact that interviews had been scheduled with interviewees who did not have the knowledge about the application of HR analytics within their organization. Also, to a lesser extent, some interviewed organizations were not applying HR analytics at all. Therefore they could not answer the questions and were thus not useful for the analysis as well. This resulted in a relatively low sample size, but has also impacted the diversity with respect to the contingency factors, and thus subsequently on the ability to draw conclusions about the application of HR analytics regarding context.

7.4 Implications & Recommendations

Implications & recommendations for research

As already mentioned this research might have been conducted at a too early stage. While in general all the organizations are still in the basic phase of HR analytics, it could be useful to conduct this research again at another point in time (e.g., over three or five years), to see if the results of an universalistic approach found in this study are still valid. If this turns out to be true the contextually based human resource theories concerning HR analytics need to be revised, favoring a best practice approach over a best fit approach. The influence of context at least with respect to HR analytics does then not seem to be present.

Furthermore since none of the organizations participating in this research are identified as being highly mature, there is a need for developing tools that support organizations to apply HR analytics in an advanced way. Science might therefore be of help by providing the required knowledge. Just as in areas such as finance it might for example set standards that enable organizations to measure the impact of HR practices (e.g., training and development) on performance.

It might be of help in providing steps and indicators which organizations can take into account when measuring the influence of it.

Finally, as already mentioned before, our results suggest an increase in organization's financial health as a result of the application of HR analytics. However to draw any significant conclusions about this proposition it needs to be tested further in follow-up research.

Practical implications & recommendations

Taking into account that context does not matter for the application of HR analytics (at least in case of low maturity), it would be possible for organizations to copy best practices from other organizations, resulting in the same outcomes. Organizations therefore do not have to focus on best practices applied by similar organizations (e.g., operating in the same sector) but can just imitate the application of HR analytics from any organization they want.

In addition, based on lessons learned during the interviews, organizations are recommended to have a good data quality, to link HR with finance, to use only one system for data storage, to apply unified definitions, and to make sure top management is interested. Those are important basic requirements for conducting HR analytics in a reliable and useful way at all. However, to achieve a more advanced form of HR analytics organizations are recommended to consider the hiring of analytical capabilities within HR as well, in order to be able to conduct the required analyses. Taking into account that almost half of the organizations recognizes a lack of analytical knowledge & experience as a barrier for improvement or implementing HR analytics at all, this is something on which organizations can improve a lot. Though it must not be forgotten that it all starts with having the basics right. Therefore, as some organizations already mentioned, start small and develop step by step is the advice.

7.5 Lessons Learned

Conducting this research was a long and intense period of searching literature, conducting interviews and questionnaires, and analyzing results. As my bachelor thesis has made me already familiar with the process of conducting research, writing a thesis was not completely new to me. However there was one difference that has raised my experience enormously: the more practical way of conducting research. Though my bachelor thesis was limited to a literature study, for this thesis I had the opportunity to conduct research in practice. Thanks to the consultancy firm FCTB I had the possibility to experience how HR analytics is applied in real life. By meeting a lot of interesting people in many large organizations in the Netherlands I have furthermore learned how the job of an HR professional looks like. Although you need to possess the basic knowledge learned on university, this is an experience that I could have never learned during my four years of studying on Tilburg University. Furthermore of course I have learned a lot about the concept of HR analytics, the application and importance of it.

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Appendix A: Questionnaire

Competitive Intensity

Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Competition in our industry is cut-throat	☐	☐	☐	☐	☐
Anything that one competitor can offer, others can match easily	☐	☐	☐	☐	☐
Price competition is a hallmark of our industry	☐	☐	☐	☐	☐
One hears of a new competitive move almost every day	☐	☐	☐	☐	☐

(Menguc & Auh, 2010)

Organization's Age

How long has the organization for which you are working existed to date (in years)?

(Calantone et al., 2002)

Organization's Structure

Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Employees receive training to perform multiple tasks	☐	☐	☐	☐	☐
The organizational structure is relatively flat	☐	☐	☐	☐	☐
There are few levels in the organizational hierarchy	☐	☐	☐	☐	☐
Even small matters have to be referred to someone higher up for a final answer	☐	☐	☐	☐	☐
Hardly any action can be taken until a supervisor approves a decision	☐	☐	☐	☐	☐
Employees in this organization learn how to perform a variety of tasks	☐	☐	☐	☐	☐
Employees in this organization are cross-trained so that they can fill in for others if necessary	☐	☐	☐	☐	☐

(Huang et al., 2010)

Organization's Size

How many employees does your organization employ in The Netherlands?

Labor Capital-ratio

The labor/capital ratio in percentages (ratio between costs of labor and total operational costs inclusive labor costs) in your organization is? (For example if your labor costs are 100 Euros and your operational costs inclusive labor costs are 500 Euros your labor/capital ratio is $100/500 = 20\%$)

Organization's Strategy

Please indicate the extent to which you agree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My organization is innovative in the way products/services are delivered	☐	☐	☐	☐	☐
My organization offers a wide variety of products/services	☐	☐	☐	☐	☐
My organization has a very diverse customer group	☐	☐	☐	☐	☐
My organization is innovative in terms of the number of new products/services offered	☐	☐	☐	☐	☐
My organization is innovative in terms of the novelty of new products/services offered	☐	☐	☐	☐	☐
My organization allots a large amount of resources to marketing	☐	☐	☐	☐	☐

(Delery & Doty, 1996)

Degree of Application of HR Analytics

Please indicate. In my organization HR analytics fulfills the need of providing...

	Yes	No
Basic HR reporting (e.g., data from ERP and HCM systems such as turnover and employee satisfaction)	☐	☐
HR value-added metrics (e.g., insight in performance ratings and recruitment process effectiveness)	☐	☐
Integrated talent management metrics (e.g., combined information such as percentage of higher performers retention)	☐	☐
HR business driver analytics (e.g., business impact of HR measures such as impact of employee turnover on financial performance)	☐	☐

(FCTB, personal communication, January 31, 2012)

Please indicate. In my organization there is a team or function dedicated to HR analytics...

- ☐ On an ad-hoc basis
- ☐ Once per period (e.g., week, month, quarter, year)
- ☐ Part-time
- ☐ Full-time

Please indicate which statistical methodologies are applied in order to carry out HR analytics.

	Yes	No
Basic univariate statistics (mean, median, mode, percentiles, standard deviation, etc.)	☐	☐
Advanced univariate statistics (correlation, skewness, differences in means, distribution of a variable, etc.)	☐	☐
Basic multivariate statistics (ANOVA, factor analysis, regression, logit/probit, survival/hazard analysis, etc.)	☐	☐
Advanced multivariate statistics (structural equations, fixed-effects models, maximum likelihood models, etc., used for testing direct and indirect effects of variables on one another)	☐	☐

(Levenson et al., 2005)

Please indicate which data are collected by the HR department in your organization.

	Yes	No
Workforce statistics (e.g., gender, age, absenteeism, job type, ethnic origin)	☐	☐
Measures of people's skills/values (e.g., index of key qualities such as experience, knowledge and skills, competencies and attitudes, values, potential, performance, employee engagement)	☐	☐
Financial ratios relating to people and productivity (e.g., sales/head or revenues-costs)	☐	☐
Measures of efficiency and effectiveness of the HR function (e.g., cost ratios, rates of participation, efficiency and effectiveness of processes such as appraisal, recruitment, succession planning and training)	☐	☐

(Mayo, 2006)

Appendix B: Interview

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)
- 2) What exactly is your interference with HR analytics?
- 3) How long do you work with HR analytics?
- 4) How would you define HR analytics?

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?
- 6) Why does(n't) your organization apply HR analytics?
- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.
- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?
- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?
- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)
- 12) How would you assess your maturity with regards to HR analytics (based on our model)?
- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?
- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?
- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger

possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Appendix C: Questionnaire Results

Organizational Embeddedness

	Frequency*	Percentage
On an ad-hoc basis	13	24,5%
Once per period (e.g., week, month, etc.)	15	28,3%
Part-time	13	24,5%
Full-time	12	22,6%

Table 4. Organizational embeddedness (frequency of presence of a team or function dedicated to HR analytics) *N = 53

Data Collected

	Frequency*	Percentage
Workforce statistics	53	100%
Measures of people's skills/values	30	56,6%
Financial ratios relating to people and productivity	19	35,8%
Measures of efficiency and effectiveness of the HR function	11	20,8%

Table 5. Data collected *N = 53, several options possible

Barriers for Improvement

	Frequency*	Percentage
Data is inconsistent	20	37,7%
Data is inaccessible	16	30,2%
Data is of low quality	26	49,1%
A disciplined and methodological approach to analyze HR data is lacking	34	64,2%
Lack of executive support	15	28,3%
Lack of analytical knowledge & experience	25	47,2%
Lack of funding	8	15,1%
Analytical opportunities are not targeted right	12	22,6%
Rules and regulations	2	3,8%

Table 6. Barriers for improvement *N = 53, several options possible

First Next Step in Improving HR Analytics

	Frequency*	Percentage
Improve basic HR data quality	27	50,9%
Provide insight in the effectiveness of HR processes	12	22,6%
Provide combined information on talent (e.g., % high performer retention)	6	11,3%
Provide insight in the business impact of workforce factors	8	15,1%

Table 7. First next step in improving HR analytics *N = 53

Scale Competitive Intensity

<i>KMO = 0,69 Sig. = 0,00</i>	Component 1
Price competition is a hallmark of our industry	0,902
Competition in our industry is cut-throat	0,798
Anything that one competitor can offer, others can easily match	0,732
One hears of a new competitive move almost every day	0,668
% of Variance Explained	60,8%

Table 8. Scale competitive intensity

Scale Organization's Structure

<i>KMO = 0,57 Sig. = 0,00</i>	Component 1	Component 2	Component 3
There are few levels in the organizational hierarchy	0,986		
The organizational structure is relatively flat	0,973		
Employees receive training to perform multiple tasks		0,836	
Employees in this organization learn how to perform a variety of tasks		0,777	
Employees in this organization are cross-trained so that they can fill in for others if necessary		0,750	
Hardly any action can be taken until a supervisor approves a decision			0,952
Even small matters have to be referred to someone higher up for a final answer			0,925
% of Variance Explained	42,2%	20,5%	17,6%

Table 9. Scale organization's structure

Scale Organization's Strategy

<i>KMO = 0,77 Sig. = 0,00</i>	Component 1
My organization is innovative in terms of the number of new products/services offered	0,791
My organization is innovative in the way products/services are delivered	0,783
My organization is innovative in terms of the novelty of new products/services offered	0,688
My organization offers a wide variety of products/services	0,634
My organization allots a large amount of resources to marketing	0,557
My organization has a very diverse customer group	0,540
% of Variance Explained	45,2%

Table 10. Scale organization's strategy

Appendix D: Interview Results

Interview	Influential factors to start applying HR analytics:	Reasons to apply HR analytics:	Data gathered/reported:	Software applied:	Analytics applied:
	(1) Trend/Hype in general (2) Application by competitors (3) Not applicable	(1) To Support Workforce Planning (2) To make decisions (3) To benchmark costs/revenues (4) To follow how the HR policy is executed (5) For the annual reports	(1) Headcount reporting (2) HR efficiency reporting (3) Performance reporting (4) Potential reporting	(1) SAP (2) PeopleSoft (3) Cognos (4) Business Objects (5) Cura (6) Excel	(1) None (2) Basic
1	1 (HR should be much more fact and number based) 2 (No direct influence: we hear that it can improve business decisions)	1 2 (Cost reductions/investments) 3	1 (Full-time/part-time, gender, age) 2 (Cost per hire, time to fill)	1	2 (Headcount development)
2	3	2	1 (Sex, seniority, age, nationality)	Not answered	1
3	3	2 (Cost reductions) 3 (Emphasis on efficiency)	1 (Absenteeism, mobility, engagement)	2 3	1 (Projects with more statistics are outsourced)
4	3	3 (Cost control)	1 (Absenteeism, holidays, etc.) 3 (Target achievement: e.g., sales target)	Not answered	2 (Ratio analysis)
5	3	5	1 (Illness, gender, age, mobility, etc.) 2 4	1 4	1
6	3	4	1 (Illness, hours worked, holiday hours, satisfaction)	4 5	1 (For satisfaction is outsourced)
7	Not answered	1 5	1 (Gender, age, illness, type of contract) 3 (Performance reviews)	3	1
8	3	4	1 (Function, salary, mobility, satisfaction, absenteeism) 3 4	1 2	1
9	3	3 (Emphasis on efficiency)	1 (Age, education, experience, etc.) 2 3 4	1 (Basic system) 6	1
10	3	1 2 (Only on ad-hoc basis)	1 (Function, absenteeism, mobility) 2 (Reasons for difficulties in vacancy fulfillment) 3 (Target achievement: e.g., banknotes processed)	2	2 (Only in case of ad-hoc requests)
11	3	1 2 3 4	1 (Function, age, gender, ethnicity, etc.) 2 3 (Not in system) 4 (Not in system)	2 (Basic system) 6	2
12	3	3 (Cost control) 4	1 (Absenteeism, engagement, function)	Not answered	1
Total	(3): 10 (1): 1 (2): 1	(3): 6 (2): 5 (1): 4 (4): 4 (5): 2	(1): 12 (3): 6 (2): 5 (4): 4	(1): 4 (2): 4 (3): 2 (4): 2 (6): 2 (5): 1	(1): 8 (2): 4

Interview	Employee(s) involved:	Employee(s) interested:	Alignment with Finance:	Influence on business performance:	Satisfied with impact:
	(1) One function (2) Team	(1) Business Leaders/Top Management (2) HR community (3) Division Manager(s) (4) Strategic business partners (5) Middle management	(1) Yes (2) No	(1) Yes (2) No	(1) Yes (2) No
1	2 (5 People for reporting and data quality)	1 (Depends on the relevance of the question) 2 (Mainly Senior HR Leaders)	2	2 (Not structurally, only on ad-hoc basis)	2 (Not sophisticated enough to drive business performance structurally)
2	1	1 (Not yet clear picture of Top Management's needs) 2	2	2	2 (But happy with what is in place)
3	2 (2 People: in total < 1 FTE)	1 (Partly) 3	1	2 (Lack of performance metrics)	1 (Proud of what is accomplished so far)
4	2 (2 People: in total 1 FTE)	1 (Only headcount) 2	1	2	2 (Should do more with it)
5	2 (In total 0,5 FTE)	1 (Not sufficient, only interested in illness, mobility) 2 (HR (Business) Partners)	Not answered	1 (Illness and mobility data is used: influence HR strategy)	2
6	2 (3 Part-time functions: in total < 1 FTE)	1 (Only very basic) 3 4 (To start up conversation with the board) 5 (Differs per person: mostly illness)	1	1 (Data is used: e.g., illness, hours worked)	2 (Want to achieve more, but we are on the right way)
7	Not answered	1 (Quarterly management report, very financially driven (e.g., reduction illness))	Not answered	Not answered	Not answered
8	2 (Corporate Shared Service Center, Functional Management)	1 (Make little use of reports) 2 (HR Advisors)	1	1 (Sometimes <u>negative</u> : not well organized)	2
9	2 (HR Department: 35 FTE staff)	1 (Only General Director) 2 (HR Director + Strategic HR Consultant)	1	1 (Increases efficiency)	1 (Because of support HR Director and General Director)
10	1 (Responsible for data and reports)	1 (Analytics related to staffing (e.g., positions filled)) 2 (HR Advisors) 5 (Absenteeism, function)	1	Not answered	Not answered
11	2 (MIS team, Datawarehouse team)	1 2 3 4 5	1	1 (Depends on analytical interest HR business partner)	2 (HR is too less fact based)
12	1 (Manager delivers data)	1 3	1	2 (Mainly backward looking HR reporting)	2 (Can be done better and more)
Total	(2): 8 (1): 3	(1): 12 (2): 8 (3): 4 (5): 3 (4): 2	(1): 8 (2): 2	(1): 5 (2): 5	(2): 8 (1): 2

Interview	Level of maturity:	Future plans/needs to improve HR analytics:	Barriers for improvement:
	(1) Basic HR Reporting (2) HR value-added metrics (3) Integrated talent management metrics (4) HR business driver analytics	(1) Improve data quality (2) Optimize system landscape (3) Identify factors that drive business decisions (4) Implement performance cycle (5) Link data (6) Define KPI's (7) Broaden data collected (8) Increase business interest (9) Hire analytical HR people	(1) Data quality (2) System landscape (3) Lack of interest Business Leaders (4) Lack of business need (5) Money (6) Lack of analytical competencies (7) Organizational culture
1	(Model is no sequence of steps with clear boundaries) 1 2 (Partly in: HR efficiency ratings)	1 2 (One pay-roll system per country) 3 7 (Broaden workforce productivity assessment)	1 (Diverse data ownership) 2 (Different pay-roll system per country)
2	(Model is no sequence of steps with clear boundaries) 1	3 5 (E.g., number of females in top management)	1 (Sometimes system errors)
3	1 2 (Only on ad-hoc basis)	1 (Unify definitions) 2 (Integrate HR dashboard into Finance and Production dashboard) 6	3
4	1	7 (Focus on benefits as well, time to hire, costs to hire)	4
5	1 2 (Partly in: HR operational effectiveness) 3 (Partly in: percentage of high potential turnover)	2 (Change system, SAP is very limited) 7 (A lot more can be put into data) 9	3 (Benefits are not clear enough) 4 (No need to see KPI's) 5 (Unable to hire qualified analytical people) 6 (HR Managers are not qualified to work with data)
6	1	4 7 (Measure skills, education, output of activities (e.g., how much did people learn))	1 (Bugs in system, unclean data) 2 (Very old basic system) 3 (No questions asked about contribution) 5
7	1	<i>Not applicable</i>	3 (HR does not play a big role) 5 6
8	1 (Very basic: information service still not right at all)	1 (Maximize the right information) 2 (Improve distribution to end user) 7 (Capture intern employee mobility (e.g., new function)) 8 (Create information wish)	1 2 (2 Different systems)
9	1 2 (Partly in: HR efficiency ratings)	2 (Structure all information)	7 (Conservative)
10	1 (Sometimes very ad-hoc) 2 (Partly in: reasons for difficulties in vacancy fulfillment)	5 7 (Measure potential)	1 (Difficulty with defining 'good people')
11	1 2 3 (Not in a statistical way)	2 (Centralize data) 5 (In a statistical way)	2 (Different systems: data not centralized)
12	1	7 (Determine further data needed)	2 (Information overload)
Total	(1): 12 (2): 7 (3): 2 (4): 0	(7): 7 (2): 6 (1): 3 (5): 3 (3): 2 (4): 1 (6): 1 (8): 1 (9): 1	(1): 5 (2): 5 (3): 4 (5): 3 (4): 2 (6): 2 (7): 1

Interview		Relation HR analytics ↔ Financial health:	Lessons learned (tips):
		(1) HR analytics → Financial health (2) Financial health → HR analytics (3) Not applicable	(1) Data quality is important (2) Understand how the system works (3) Link HR with Finance (4) Use simple statistics (5) Top Management interest is important (6) Start small (7) Use only one system (8) Do not provide management with too much information (9) Make people responsible (10) Use ambassador to transfer message and set standards (11) Enable managers to get their own information (12) Do not focus too much on ad-hoc questions (13) Involve the organization in the whole process (14) Explain what you are doing (15) Use unified definitions (16) Analytical people within HR are required (17) Hire a marketer within HR
1	Not answered		1 2 3
2	1		1 4 (People in HR do not know a lot about statistics) 5
3	1		2 6 7 8 (Reduces interest) 9 10 (In case of new definition, format, etc.) 11 12 (Takes much time and does not lead to improvement)
4	3		8 13 (Design, implementation, application) 14
5	Not answered		1 3 (Enhances business interest) 5 (For defining KPI's) 6 14 (Educate the business in using KPI's) 15 16 17 (People in HR are not very good in marketing: it is also about selling your product/idea)
6	Not answered		1 3 15
7	Not answered		Not answered
8	Not answered		3 7
9	3		1 5 (Otherwise reports will not be read)
10	1		Not answered
11	1 2		6 13 (Convince everyone of the usefulness)
12	3		15
Total	(1): 4 (3): 3 (2): 1		(1): 5 (3): 4 (5): 3 (6): 3 (15): 3 (2): 2 (7): 2 (8): 2 (13): 2 (14): 2 (4): 1 (9): 1 (10): 1 (11): 1 (12): 1 (16): 1 (17): 1

Interview 1

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I'm heading the center of Expertise Talent Acquisition. I'm responsible for talent acquisition (all white collar recruitment activities) globally. I'm the global lead of workforce planning for the organization.

- 2) What exactly is your interference with HR analytics?

HR reporting is a little bit outside my area of expertise.

(I was the head of HR for television globally. Before many different roles in HR, roughly 10 years. I've done almost everything you can do in HR.)

- 3) How long do you work with HR analytics?

Pure headcount reporting is in place for at least 5/6 years. To look structurally at HR reporting as a kind of discipline (more qualitative productivity) is pretty new (maybe a year). Ad-hoc reporting we have all the time.

- 4) How would you define HR analytics?

What kind of measures are we going to use structurally to measure workforce productivity. Workforce analytics should drive business decisions.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

Driven a bit by workforce planning. For workforce planning in a long term structural way you need HR analytics. On the other hand HR analytics is a trend in HR. HR should be much more fact and number based than before. Business leaders get more interest in people's productivity, quality, costs involved, etc. Not directly influenced by competitors, but we hear that it can improve business decisions, which can give a competitive advantage.

- 6) Why does(n't) your organization apply HR analytics?

To support workforce planning more from a statistical point of view.

Interest for cost reduction activities and investment decisions.

For benchmarking (costs) you have to make it comparable.

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We have standard HR analytics in place (e.g., simple headcount reporting). We do that on an ORU (Organizational Responsible Unit) level. We know then where are the people, which grade they are (full-time/part-time). We also use some standard function definitions (e.g., sales, marketing) so that we make those splits. Where legally allowed we also look at gender and age distribution. For the various functional disciplines within HR we do our own analytics and reporting. For example for talent acquisition we report on cost per hire and time to fill. Furthermore we report on customer satisfaction.

We use a company data store which interfaces with the key HR systems. We drive it now by running pay-roll systems in many countries and want to move to one pay-roll driver for most of the countries. On top of that we have a basic HR data layer which is today the SAP system of that pay-roll provider. And then we put on top of that our data store which gets the data out of those pay roll systems more or less standardized, but also gets data out of other HR systems to build those reports.

We have data on an individual employee level in those pay roll systems. But to really bring HR reporting to a level where it comes sophisticated you need the other data out of HR systems as well (e.g., staff turnover; all the data you get out of core HR activities like recruitment, talent management, etc.) and you have to combine it with a financial system as well.

We do more reporting right now (e.g., basic productivity: revenue per FTE) and less analytics. The analytics we do is very basic (e.g., headcount development).

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

We have a group of 5 people who are responsible for HR reporting and HR data quality. They cover all the different systems.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

It depends on the relevance of the question if the business leaders are involved, but for the time being it are mainly the senior HR leaders who are interested. They also drive the HR function.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

HR analytics does not influence the business performance structurally. Only if required on an ad-hoc basis. But there are no standard reports/analysis.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

No, not sophisticated enough to drive business performance in a structural way. We are not really good at integrating all analytics and reporting into an HR dashboard, mainly because pretty complex system landscape (e.g., different pay-roll system per country). If you really want to drive HR productivity or people productivity you have to link it with your finance systems as well, because then you'll come to meaningful analyses.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

On a 1 to 5 scale I would say level 2. We do a little bit more than basic HR reporting. A bit more with regard to the basic productivity (e.g., revenue per FTE) and we have solid dashboards of the HR activities (e.g., measurements for talent acquisition, learning, throughput times). For HR processes we have quite a number of substantial KPI's. HR effectiveness we do quite a bit now, but it is not integrated in a way that it really drives business decisions outside HR.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

Getting the basics right: improve data quality. Furthermore we want to optimize the current landscape. We also we want to broaden our workforce productivity assessment (e.g., what is the investment you do to for example get or train your people, and what do you get out of it). Therefore we look at how do you define your investment (which components do you take into account) and outcomes (e.g., revenue, profit, growth). We are looking at factors that drive business decisions, not the productivity of an HR function. But within the HR function they do, and they are pretty good at it.

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?
Mainly the IT landscape, so it is simply systems. The second one is data quality. The more systems you work with the bigger the risk is that your quality is not good, but also who owns the data. The quality of data goes up if the one who is owning the data is really doing something with it. Data ownership is now diverse. And there is also a difference (not always) between the persons that maintain the data and the persons that use data.

15) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

No

16) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Data quality is the starting point and it is also important to understand how the system works.

Interview 2

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

(Two interviewees): Responsible for global systems information and for setting up an HR analytics data backbone.

- 2) What exactly is your interference with HR analytics?

Setting up the HR analytics data backbone.

- 3) How long do you work with HR analytics?

We started in August 2011 with building up a data backbone. Since we split up the organization we had to create our own data backbone. Including the conversations we had before, this took us in total approximately one year. The data system is currently running since a week.

- 4) How would you define HR analytics?

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

To be serious in HR you have to do HR analytics. You should be able to report on a global level.

- 6) Why does(n't) your organization apply HR analytics?

Nowadays senior management relies more on it. For many reasons you need HR data when making decisions.

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

At the moment the basic database is ready. Everyone has access to it and we have one overall format right now. We can put files in the database and can do basic headcount reporting and

FTE reporting. Furthermore data about sex, seniority, age and nationality is collected as well. We do have competency scores, but these are not fully integrated yet. Compensation data is currently partly in. Engagement measurement is still in development, we need to find out amongst others what questions we are going to ask. We have not decided that yet.

Statistical methodologies are not yet applied, but in the future we want to do simple correlations. In HR people don't know a lot about statistics so it's better to keep it simple.

So far only Shell and Ahold have somewhat impressed me with their HR analytics systems. But we spent half a million for getting the system right, these are the onetime startup costs, while they spent millions. Most organizations have only payroll systems.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

There is increasing top management concern for HR and Talent analytics. There are plans to set up a team, but currently it is only me.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

There is not yet a clear picture of what top management wants to see from HR analytics. We are talking about it and I need to provide a list of what we can do with HR analytics. But I know that strategic workforce planning is a key target of top management.

Currently mainly the HR community is receiving the results, not directors. But HR is aligned and knows what to deliver when and why. Finance is not yet aligned.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

HR analytics is not yet influencing the business performance.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

We are happy what is in place right now, but are not yet satisfied.

12) How would you assess your maturity with regards to HR analytics (based on our model)?

Stage 1 (Basic HR reporting) is there in general. The other stages 2, 3 and 4 is a mix of all that will come. For me the model is not a sequence of steps with clear boundaries.

13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

We currently have a lot of data, but we want to do more with it. In the future we want to link these data, e.g., how many females make it to top management. Measuring human drivers behind business performance requires successfactors which are different and difficult to integrate in one system, but we want to improve it. We want to go to a situation wherein HR analytics is a business driver.

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

Data quality keeps an issue. Automated systems have also sometimes errors (data format is wrong, e.g., language wrong).

There is no lack of financial resources in the sense that if top management sees the benefits of HR analytics it will all come.

15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

HR analytics will start thriving organizational performance, but we are not there yet.

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

We have more learned from it. We discovered things such as data format and quality have to be right. We had IT issues (different IT companies), which made it difficult. For example we had access problems. But IT also had to learn.

Furthermore it's good to show managers what information you can provide, but it would be easier if top management asks for the information itself.

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Try to be a little bit more practical by timelines. Take other people into account and wait for their responses, be patient.

Sometimes organizations are reluctant to share information, but that is more a general thing. It has more to do with the culture of the company. Retail banking is slower than wholesale banking, as there is more money involved in wholesale. The priority is different, in retail you live by the half hour, while in wholesale you do a big deal once a month.

Furthermore there are cultural differences in the world in data quality. Asia is more willing to share data. America normally says yes and does no.

Interview 3

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

(2 interviewees): - Head of HR management

- Started as reward management consultant, now changed my focus to all kinds of management information

- 2) What exactly is your interference with HR analytics?

- HR analytics and SWFP are relatively new to me*
- Have a lot of skills in analytics and IT*

- 3) How long do you work with HR analytics?

Formally there is a focus on HR analytics for 3 years.

- 4) How would you define HR analytics?

Mainly structuring all the management information, both on the input and output side. We do have a lot of information about our HR processes, but we want that it is all integrated with each other. Furthermore we want to get the information we already have to everybody who is a stakeholder in it. In first place all the HR professionals need to have access to the information that they need to do their jobs. So we are working on different projects right now.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

In our mission we are trying to attract and maintain top personnel. To do this we have to know what our business is about. In order to know what to do in the future we have to know what we are doing right now.

We started with our interest in the information itself. The financial colleagues started with reporting HR metrics and we took it over.

The increasing emphasis on efficiency and cost reduction was also an important reason. The board of directors wants to empower the medical heads to know where they are going to get

their future plans (budgeting needs). The medical heads need information to know what there status is right now.

Overtime HR analytics started to pop up.

- 6) Why does(n't) your organization apply HR analytics?

(See question 5)

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We are not that far in the sense that we have a lot of complex analyses. No statistical analysis.

Normally we report on headcounts, absenteeism and mobility (input/output from personnel). When we do some projects with more statistics we outsource it to a consultancy firm. Furthermore we do an engagement survey. But that are mainly projects, not structural.

We do cross data (for example absenteeism per employee group). We can measure engagement for age, female/male, etc. (it's linked), but the data is not integrated yet.

We have an HRIS system (PeopleSoft) and management information system (Cognos). They are aligned.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

There is no team dedicated to HR analytics, it is my focus to do it half of my time, together with one colleague who spends less time on it. We work along with the guys of finance.

In case of an ad-hoc report request it is my focus to enable other people to get their information. But you have to be specialized at this moment to get the information out of this system, so we use reports to enable others to have easy access.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

Finance and HR are aligned.

Top management is interested yes and no. Yes because since 2009 the government forces to do a cost reduction, therefore the board of directors needed to get inside into the personnel information. So the interest is financially driven.

No because in our organization it is still very normal that the only ones who know about personnel are the people that are in the lead (the medical heads who are responsible for the personnel). They know what they are doing so they do not need an HR department to cover all

kinds of information. So we are still in a phase that we have to prove why HR analytics is necessary. So the cost reduction helps us.

It's not only the board of directors, we have 5 decentralized divisions. And every division has a manager who is in charge of the personnel finances and IT results of their departments and they are interested as well. They want to know how all the departments in their division are doing. One of those managers is our ambassador, so every time we have something new (e.g., new definition, format, etc.) we use our ambassador to transfer the message and set the standards. What we do is always secured by our board of directors. One director has HR in his portfolio.

We have one colleague who is responsible to keep all the systems together. PeopleSoft is our basic system, all systems are connected with it. So there are no HR silo's.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

Not yet, we are lacking at the moment performance metrics, we need those kind of information to be a business driver. We want to make this step, but it is not possible.

Also the board is not interest in it.

Currently in research we do have measures of performance (e.g., number of publications)

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

I'm very proud of what we have accomplished so far. As a business consultant I would say it would be better if we take our cost reductions seriously. Right now we are not able to report on any performance indicators.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

I think we have one foot in stage 2. We do some scenario's for nurses population, a lot of comparisons between compensation and headcount, and use a toolbox of engagement survey as well, but it are just projects.

So for the whole organization we are in box 1, but for specific projects we are in box 2. The current need for cost reductions are helpful to book progress in HR analytics.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

We are trying to integrate an HR dashboard into a financial dashboard and a production dashboard. We are trying to improve the quality of the information; we work on the input side

of the information. We are changing definitions (for example we have changed the definition of personnel). Because we want to see how flexible we are with respect to our personnel groups (e.g., students, temporary workers, consultancy workers, etc.). The future gives us a lot of cost mindfulness that will trigger us to reduce the amount of personnel who has a contract.

We want to make sure that we use all the same definitions for HR metrics, that the Cognos system has all information, and make managers aware which HR indicators are helpful to measure their area of work, so define KPI's. Furthermore we want to empower HR professionals to enable them with enough information to do their work (not only management information but also policy information). Our strategy is bottom-up. It is not imposed by boards of directors.

We are now at the crossroads if we are skipping the HR PeopleSoft system or not, we do not know yet

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?
We are lacking at the moment performance metrics. We want to improve this, but it is not possible. Also the board is not interest in it.

15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?
HR analytics is improving the business performance by making it more efficient, which is needed because of cost reductions.

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

- *We had a personnel monitor (a huge report with a lot of pages), but it was hardly read by the managers (too much information). Now we only give highlights, which makes them more curious. Then they start to ask questions.*
- *Use of ambassador to transfer the message (e.g., new definition, format, etc.) and set the standards (see question 9)*
- *Start small, build it up*
- *Managers should be able to get their own information*

- *One system of records*
- *Make sure that you understand what the figures are saying*
- *Not always take no for an answer, but try to find other ways to make sure that it is ok to do what you want*
- *Make people responsible for information*

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

- *Don't try to comment on things that are not your expertise. Being a business partner gives attention, not by giving comments*
- *Don't focus too much on ad-hoc questions, it takes too much time and you are not improving anything*
- *It is better if one person has a full focus on HR analytics than when it is divided between two colleagues.*

Interview 4

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I'm an HR advisor. I give advice about the personnel within the department HR Nieuws.

- 2) What exactly is your interference with HR analytics?

We started in 2010 with a performance management digital system, but the organization is not really asking for it yet. We are not really using HR analytics yet.

- 3) How long do you work with HR analytics?

I am working for 6 years in the organization, but the organization works already much longer with headcount reporting (absenteeism, holidays).

- 4) How would you define HR analytics?

All data and figures an HR department can use in their way they influence the business. To start up the discussion.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

It is based on cost control, but now also used for performance indicators and talent development indicators.

General interest and competitors was not the main reason to start, we have our own vision on HR analytics. We are also in our branch a kind of leader in it. Especially in commercial television our biggest competitor has an HR department which consists only of two employees. They report nothing about the information we report on (such as absenteeism and holidays).

- 6) Why does(n't) your organization apply HR analytics?

(See question 5)

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We only measure costs not benefits, so we do not measure the effectiveness of the HR operation. We are heaving quite some reports and metrics, but not perform analysis. We report on number of holidays, absenteeism, etc. With the performance system we collect information about the differentiation in performance outcome and we control it (over/under performers). This is a system of target achievement, but more based on dialogue instead of hard targets. An example of a target is the number of ideas brought in for news items, or just a sales target.

We use ratio analysis, we make comparisons with other companies in the Netherlands. We benchmark salaries and rewards but this is outsourced.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

There are 13 people working in the HR department. We are now forming a new department. Two people are dedicated to HR analytics (in total 1 FTE). They make sure the system is working.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

The board has interest in costs mainly (e.g., wages, training costs). I believe the interest of top management in HR analytics is not that great. The only thing the managers are asking for is headcount.

Finance and HR are interacting. Once a month we have to report to our head office and we do this together.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

The influence of HR analytics is not really there, as there are no real analytics. Only some HR metrics are used as steering information

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

We should do more with it but the question is how far ahead of the organization can we go as an HR department. Because it takes time for the business to get acquainted with it.

12) How would you assess your maturity with regards to HR analytics (based on our model)?

Basic HR reporting phase 1.

13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

In the changing demand market it will become more difficult to get employees. So we have to focus on how much we are spending to get people into the company, how to get people staying in the company, and how much time it does take to hire people.

Also for the benefits of training we can do much more.

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

No lack of financial resources. It is more a lack of business need.

I think we have to look into the possibilities to do more with HR analytics, but there is no need for it.

15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

(Not applicable)

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

I think it is important to involve the organization from the beginning till the end in the process of design, implementation and application.

Furthermore it is important to support it and give advice (explain what you are doing).

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Be aware not to send too much information and never assume that people understand everything of what you are saying.

Interview 5

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

(2 interviewees)

- *Manager HR service center: Responsible for people center and HR Process & Information. People center is doing the HR administration and process & information is responsible for HR systems, HR reporting and HR projects. NL based.*
- *Working for the organization in Europe, responsible for ELLP HR systems, projects and reporting. Heavily involved in ELLP service center.*

- 2) What exactly is your interference with HR analytics?

- *I am responsible for the HR management information and also the analytics.*

- 3) How long do you work with HR analytics?

- *I don't have an HR background, I have a retail background. So I am more on the hard side of HR.*
- *I am very interested in KPI's and HR analytics, I have been involved in building the data warehouse.*

We started 11 years ago with building the reports, the data warehouse. The discussion about KPI's started 5/6 years ago, developed 10 KPI's (like headcount, joiners, leavers, performance scores, illness, exit). Do not report on engagement, no skills database. Therewith they could report on the operational effectiveness of HR, but do not report that anymore. One of the reasons could be the background of the firm in Audit: financial KPI's are strictly audited and governed, not so for HR KPI's.

For the strategic KPI's you need a strategy that you can translate into KPI's those KPI's should be at the top (most important).

- 4) How would you define HR analytics?

The whole set of data (operational data, KPI's), but also the analyzing of the data which is used by HR or by the business (quantitative & qualitative).

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

It started from Business need to underpin KPI's, so HR and finance initiated. We developed the KPI's with the business. We reported on KPI's for 2 years, but we noticed that it wasn't used, so we stopped it. Next to that HR was not qualified to work with it and translate the numbers/HR data, it has not always been strategically relevant information. Therefore we think the data was not used. But you can also raise the question if this is something that you want the HR managers to do. Summarizing, a lot more can be put into data, but it needs to be explained.

- 6) Why does(n't) your organization apply HR analytics?

We do reporting on HR data because it is needed for the annual reporting.

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We have a data warehouse and our management reports are based on a Business Objects tool.

We have developed a lot of KPI's in the past but only a couple of them are being used (about 10). This regards illness, resources and headcount. We don't think the board looks at it.

We measure also the operational effectiveness of HR. So how does HR operate, e.g., what is the contribution of HR to the results of the organization.

We only use data from our own HRIS, such as gender diversity, age, joiners/leavers, headcount. We do not measure engagement and lack a good performance management process/system. You cannot follow the performance of an employee during the year in the system, only at the end of the year (e.g., number of high potentials). The skills differ per business unit and country. It's quite complicated, therefore we don't have a skills database.

We do potential ratings, but only in an excel sheet.

We don't have the right tools do analyses so we export the data to excel. We don't use any statistical methods for analyses currently and do not combine HRIS data for analyses.

We use Business Objects, but I think it is not really a good tool to use for analytics, it is a tool to create reports.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

We have an IT department and they maintain the data warehouse. And we have a corporate report department and they create the Business Objects report. And within HR they can create ad-hoc reporting and management reports and do the HR analytics. Right now only 0,5 FTE are available for reporting within HR.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

HR analytics is not sufficiently used in the boardrooms. They look at figures such as how many people are joining/leaving the organization and illness, but figures such as what does it cost if 1% of the high potentials leaves the organization really matter. We sometimes show the percentage of high potential turnover to the board, but then nothing happens. The benefits are not clear enough.

The 'standard' reports are send to the HR business partners, to the board and to HR partners (people who have HR in their portfolio). Some businesses ask data from us and then create their own reports. For example for strategic workforce planning.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

We have exit analytics and illness analytics. Those are good analytics they are also discussed with the business. Those reports affect the business and also the HR strategy for example on illness and exit. The business is aware of exit reasons, but we don't get feedback about if they really doing something with it.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

Not at all, and HR is aware of it. But we are not able to make that step.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

We have a lot of data available. The Netherlands is one of the most mature if you look at the data warehouses compared to Europe.

Stage 1 is all done. I think we are between stage 2 and 3. We don't have talent metrics. We are really struggling with getting the right metrics for talent. But that is also because there is not much measured regarding this.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

A lot of work still needs to be done to. This has not only to do with figures, but also with the real analytics behind it

There are no plans yet to improve the number of HR people who are able to work with HR data. But the solution is quite simple: we need more money to create this HR data driven organization. To get the experts in HR who are able to make from HR a more data driven HR organization. You cannot put everything into data, but I am sure that a lot more can be put into data in this organization.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

Just generating the data and the right KPI's is still a problem. At the moment a tremendous amount of KPI's are present, but not used. The reason can be that the KPI's are wrong or that the business does not know how to use these KPI's. A good written explanation of the KPI's is lacking. Furthermore there is no business need to see the KPI's.

We are in a partner governance, so we have about 200 people who are owning the organization. This doesn't help ELLP in getting strong actions. The actions that are taken by the partners are strongly money driven, and short-term focused.

We are aware that it is really important to do HR analytics but at this moment we don't really have a suggestion for it. But this has also to do with costs. There is no money for it now.

- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

- 16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

Agree on definitions: *It is really important that someone with authority says these are the definitions we are going to use, because definitions of KPI's such as joiners and leavers differ across Europe. For example in the UK temporary staff is not seen as leavers. It would be*

much easier if they are all the same. In general definitions are also different because companies are different, but there should be general definitions for different branches. There are no guidelines right now.

Specific attention for HR starting at the top: The problem of HR is also that it is done by someone in the board as a 'next to job'. The difference with finance is that it is black or white and with HR there is a story behind (people).

Validate KPI's and educate business: If you can translate the metrics into money then the board probably will be more interested. You need people in your organization who really know how to use data. Within HR it is also about selling your KPI's. In general people in HR are not very good in marketing their own projects. Perhaps you should also hire a marketer within in HR.

It is important to heavily involve the business on the right level in defining your KPI's. And also heavily look at the validity of the KPI's, are they still valid.

The analytics part should really get attention. It is important to have the persons in house that have the right qualifications.

Combine information: Link it with finance, with money. Data quality is important, garbage in is garbage out.

High data quality guarantee: Have a limited scope, start small and expand. Educate the business in using KPI's. Use the newest technologies. For HR data you have to be very flexible. If you want to involve the business you have to act fast if they have a question. And sometimes we are not able to do that. So you need flexible tools.

- 17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Interview 6

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I am a policy officer. It is a back office function for HR. We have administration and we have a strategic business partner. I help the strategic business partner. So I do organizational projects, policies, introduction of new software systems for planning and HR.

- 2) What exactly is your interference with HR analytics?

In the past I did a lot of personnel control as we call it (HR and analytics). But only in the basics. And furthermore a bit workforce management.

- 3) How long do you work with HR analytics?

I started about 5 years ago with HR analytics, and I think it is about 4 years ago that I have got the assignment to build on social control as we call it (HR analytics).

- 4) How would you define HR analytics?

In my perception HR analytics has two areas:

- *The check of the policy (control if the targets are achieved, e.g., percentage of illness has to be lower than...) If it is not achieved we look if we have to change policy or not.*
- *The other area is to measure the added value of HR, but we do almost nothing with that. Not even the fill rate. Because we do not work with Service Level Agreements.*

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

The most important reason to start was to follow how the HR policy is executed in practice. But I think the expectations of HR analytics were really big. Perhaps that is the reason why top management asked me to stop with it. Also because of the systems. So there was not only a financial reason to start, but also because of the quality check.

- 6) Why does(n't) your organization apply HR analytics?
(See question 5)

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We are not measuring HR performance, but more what we see in the organization, how people and costs do it.

We use Business Objects. Therein we have 4 reports in a dashboard. Two for illness. You can see illness for all the levels of percentages and frequencies. Third we report on headcount, but just FTE on all the organizational levels. We can report on number of temporary workers, but we do that not structurally, so on an ad-hoc basis. The fourth report is about all the hours people work (including holiday hours, school hours).

One other report we make is “Stuwmeer Rapportage”. It reports on the holiday hours people have, and are used or not.

Those reports are reported each quarter of a year. Furthermore we report on turnover, but that is more on an ad-hoc basis and also mostly manually. We get the data from our system and we work with it in an excel sheet.

We do not measure performance, we have no performance cycle, but we do measure satisfaction (every 2 or 3 years).

We do not report structurally on potential, but we did have a potential scan for our middle management. However we are in a reorganization now.

We have our own reports and participate in the benchmark for illness (compared to other hospitals). But not on the costs, only on the percentages. It is not linked to organizational performance.

We use Business Objects as reporting tool. We use an HRIS (Cura). Furthermore we have another payroll system. But we go now to SAP CareCTRL and Harmony as planning tool. Then we have one overall system.

We do no statistical analysis at the moment. Only for satisfaction, but we outsource that.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

There are 3 part-time functions dedicated. I am the thinker, the one who cares about the definitions, what the organization needs. And then we have someone who gets the data out of the system and makes the reports. The third one is the administrator of Business Objects. I now spend 4 hours a week on it. The second 6-8 hours a week and the third 1-2 hours a week.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

The board wants to see what the people are doing, but that is very basic.

We have the strategic business partners they use the information to start the conversation about it with the board. The reports are real-time available for the board.

The sector managers and the board of directors use our reports every quarter of a year, but some reports they can see every day. Some data is used by middle management (mostly illness percentages), but that differs per person.

Finance and HR are aligned. Finance owns the Euros and we own the FTE's. We combine these data. The alignment is pretty good.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

I think HR analytics is influencing the business performance. The systems are not very good now, so it is difficult with the FTE's, but overall the "Stuwmeer Rapportage" and illness figures are used. And we do get ad-hoc question sometimes.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

That is difficult. I think we are on the right way, but I would have wanted to achieve more right now. But I do see we first have to get the systems right.

And in practice HR analytics is more difficult than you think. Many people do not understand why it is not easy to give the figures. And many people have different things they want to see. And you cannot use different data.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

Basic. Sometimes we have a little bit of this and that, but we are not very mature. We had performance ratings in a pilot, but we did not had it structurally. But what we have is ok. We know what we are doing.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

We are trying now to work on a "Learning House", together with other hospitals who invest a lot in education and learning on all levels (STZ-hospitals). Now we are trying to measure the output of the "Learning House", but we want to measure the output of the activities (e.g., how much did people learn). But that is at the moment too difficult.

In the future we want to grow to a performance cycle.

I think we will improve with the new system. But I doubt if we can become real mature, especially with respect to the contribution of HR analytics. There are no questions about it. At the moment we do not register everything. For example skills and education we do not measure. We did an investigation in the skills of our nurses, but it was manually (look into the employee files) as it is not in the systems. In the future we will, but now we wait for the system.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

We probably can do more in Business Objects, but a year ago we stopped with the development of this because we had a very old basic system and there were bugs in it. So data quality is low.

Furthermore we can link our employees only to one cost centre or function. Many employees have more functions or work on more departments (e.g., nurse also works as a trainer in "Learning House", or Operation Room Assistance is also a member of the Works Council, employees are partly employed to our external subsidiaries). We cannot make that distinction: thus they are registered in one place with too many hours and in the other place they are missing. Therefore the data was not clean enough to develop further. And I got the assignment from my boss to stop putting much time and energy in personnel control.

So there is not much interest by the board, especially not by my own manager. But that can also be because our statistics are not good enough. The managers of the primary process are probably more interested. But at the moment it has no priority until the new systems are there. Since we are doing a lot of work manually it is difficult to produce reliable data. So the trust in the system was/is not there. But I think it became better last years. The good thing we have is an integrated dashboard not only with finance.

- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

We as an organization are doing pretty well financially, but every year we get less money, while we grow in our production. So we have to do cost reductions, therefore money is also a barrier for us.

Furthermore there is no good relation between the benefits and costs of a service provided. But this is also difficult to measure.

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

- *Corporation with finance has to be good.*
- *Definitions are very important. You do need people who get the data out of systems. But those people are mostly very practical thinkers and not very good in the discussion about the definitions. So you need someone who has sense of figures and knows how to lead the discussion as well.*

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

- *Make choices. We did not made enough choices. We wanted to please everyone. Therefore we had for example 2 definitions for illness, which does not work.*
- *Keep it simple. Do not try to please every question. We did this too much and then people could not follow it. It is more important that the data is reliable and the definitions are clear.*

Interview 7

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

(2 interviewees): - *Manager mobility and recruitment (7 people are reporting to me)*
- *Manager HR advice (19 HR advisors are reporting to me)*

We are both part of the P and O direction (management team HR)

- 2) What exactly is your interference with HR analytics?

We are both more proficient in Strategic Workforce Planning.

- 3) How long do you work with HR analytics?

- 4) How would you define HR analytics?

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

HR analytics is done to support Strategic Workforce Planning and for the annual reports.

Strategic Workforce Planning is our umbrella, it sets our HR strategy and HR analytics is part of that. We cannot do it without it. So even if we do not proactively hire people to focus on HR analytics, we are still forced to do it because of Strategic Workforce Planning.

- 6) Why does(n't) your organization apply HR analytics?

(See question 5)

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

When it comes to management information reporting we have our own system. It is called MIS (Management Information System). We get about everything out of there that have to put in different systems. But they only report on figures, they do not make the analyses. And those analyses that is still one step too far for us.

The figures consists of the normal basic figures such as male/female, age, kinds of contracts, sickness. Furthermore we are doing a lot of performance reviews. For potential and development ratings we do that since last year summer, but more in combination with Strategic Workforce Planning. We are not ready to go full on the talent management part. We have a personnel system which could do information gathering and information resourcing around evaluations and education, unfortunately we do not always put that information in there. So we are not very good at it.

The reporting consists mainly of headcount and illness reporting. Combining figures does not happen structurally, it is more ad-hoc based.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

Just like any other department we have to come up with a quarterly management report about what we have achieved (financially, with regard to projects, reduction in sickness and other budgetary information). It is very financially driven.

But also for the HR specific topics we also have to do it for the rest of the company. But that does not say that we are doing a good analysis.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

HR analytics is not that much developed. It is something on our wish list.

In general we are in phase 1, but we have already a linkage between the qualitative part and the quantitative part for Strategic Workforce Planning. But we are not that professional in it yet. But the first steps have definitely been taken.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

Not actively for the next year.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How? *There is so much stuff that needs to be done. Therefore HR analytics is not number one priority. Furthermore with the money we have we cannot do it all at the same time. But also because of the position of HR. It does not play a big role. We do not have the right competencies for HR analytics. I thought it was a brilliant idea to hire somebody who is good in analyses. Now the HR advisors and business controllers have to work together. But in the short term I do not think they have the right competencies. We have hired 3 new HR advisors who are academically schooled. They have more the capabilities for making analyses, but we are not there yet. But we are working on it to improve it.*
- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?
- 16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?
- 17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Interview 8

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

(2 interviewees): - Policy adviser

- HR consultant (supplying information services)

- 2) What exactly is your interference with HR analytics?

- Involved in Strategic Workforce Planning
- Involved in the development of the information services/reports

- 3) How long do you work with HR analytics?

N.A.

- 4) How would you define HR analytics?

The control information at the operational level (standard reports) and strategic level (is more important), e.g., the priorities of HR policy you have and that is preceded by the direction and strategy of the organization (how HR can facilitate that). So basically the amount of all HR information services throughout the organization.

Hereby the execution of the policy can be monitored and insights of the effects can be given by means of quantitative and qualitative reports. It is about monitoring goals set (e.g., more women at the top) and identifying effects/actions that need to be adjusted.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

It is the desire of the business. From HR is increasingly expected that you are a strategic business partner. The ultimate goal is to map the added value of HR. But also a desire from ourselves, you should also be able to explain what your contribution is.

The receipted formation is also a priority of the organization. As HR we must hereby give a clear view of the internal and external mdw's (= reporting on a flexible layer), inflow/throughput/outflow are important indicators and mobility (rejuvenation).

6) Why does(n't) your organization apply HR analytics?

For example because we want to be an Employer of Choice. That means that everyone should know us as an employer for which you want to work. We want to make people able to outshine. We underpin this with HR analytics by looking at what kinds of people visit our website. Are these the people we want to capture, do those people eventually come in, and how are they doing. Are we doing what we had promised. This is also the foundation for our own policy and budgeting for HR.

7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

ERP system: function, level, salaries, mobility (in/outflow). Receipted formation is important for us at a high level. We need to operate in a cost-conscious way, and than the budgets are translated into FTE's. Absenteeism is also an important strategic issue for us. It is reported monthly.

Employee satisfaction we find an important indicator as well. This is measured every 2 years. From this plans of action are also derived.

In addition, mobility is an important point. The rejuvenation of the organization. We expect a large outflow and therefore you have to prepare already for it in your recruitment. We look for instance for people with growth potential.

Potential is also measured. Definitions are clear in the information services. Since half a year we have an integrated absenteeism system and integrated employee satisfaction surveys.

These can also be compared with each other. At the individual level this is only in terms of reporting more difficult due to privacy regulations, but at the departmental level this happens for sure.

We work with SAP and PeopleSoft and in terms of Business Intelligence we are working to use SAP BW. For the HR part we switch to SAP. SAP BW is the information tool in there.

We do not yet use statistical methods within HR. We now report in particular bare data.

Making combinations we have to do that ourselves.

We also report on performance. We have an HR cycle. By making use of PPM (Performance Potential Matrix). It is about functioning in the current job and future potential assessment.

The rating system we want to arrange in such a way that there is a 1 to 1 relationship between performance and pay. At the moment our subsidiary still works with linear scores (using an assessment tool), while we work more subjective with this. We want to unify this.

Both structural and ad-hoc reporting is done. We have regular reports (once a month) and annual reports. The frequency differs and depends heavily on the desire of the management, we want this to coexist.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

We have HR advisors, those are our connections with the business and from this eventually information requests will result (such as inflow/outflow). We try to unlock this from the system (ESS/MSS functionality) as much as possible by means of standard reporting.

Corporate Shared Service Center is involved in the information services. They do particularly the large bulk operational HR information (payroll). Herein is also partly included employee self service (e.g., transactional processes such as leave requests, claims submission, etc.).

Surrounding the system are also many units involved (e.g., functional management/information management).

We provide the added value of HR on the basis of the data that is already in the system, make analyses and reports, and arrange the information services in such a way that the reliability of the information increases (table management: as much as possible standardized).

The interior side is addressed in particular to functional management. But we do give our outlines for it.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

At the moment we still notice little use by the business because of the data quality. For this reason the 2 key objectives are to maximize the right information that comes from the system and comes out of the system, and to get the distribution to the end user in order. The end user is management and finance.

We also work with finance for creating the reports. Especially for the month and quarter reporting to the board of directors. The source information comes from us.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

HR analytics affects the business. But research has shown that the influence sometimes is dissatisfied and that is because from HR it is expected that it is well organized and we are just not there yet. The business has shown to be bothered by it. To some extent this also has to do with the management itself, because we give them by the reports more insight into how they/their department performs. Management clearly has to make a step in transparency. I do believe in the cleaning operation by delivering the information as close as possible to the customer.

I notice that we as HR are coming in control more and more, but how do you get the manager with you to deliver things on time? What remains is the challenge of getting changes from the

management delivered on time.

11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

12) How would you assess your maturity with regards to HR analytics (based on our model)?

We are not yet as far as HR department that we can say we have this and that done for you and that has delivered this and that. That is the step that we wish to make. We are really still at the base of the pyramid to get the information service right at all. To provide the flat information, let alone show causal relationships (for example link a productivity rate of an employee to the company performance) is not possible for us yet.

13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

Work more towards long-term goals, from our proactive attitude. We feed the business also with ideas. For example, with respect to the information services we want to form a focus group with the management and the board to determine the information they need and create an information wish. We notice that everything you create raises new questions. We want to be able to capture future steps of an employee in our system (e.g., a new function).

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

There are currently still a lot of information needs that we cannot yet complete, but that we do want to fill. On the other side there is also a lot of information that we have already delivered, but that leads to discussions because the information is not true. So the first priority is to get the information services right, that currently costs so much effort that we cannot make the other steps yet.

On the HR side it has to do with the 2 systems, but also because it is a company with many organizational changes.

15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

Important concerning the information services is to seek collaboration with the business (HR consultant and finance). Finance creates namely also their own reports and when those are not properly aligned you will get various conflicting information in your company.

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

In SAP you need to do a lot of standardization. That makes it difficult, the system can be much improved with respect to this.

Get clarity about the HR system architecture quickly, whereby everything is integrated with each other as much as possible, or at least corresponds with each other to exchange data.

Interview 9

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I work on a strategic level. I am the strategic HR consultant. My focus is to create structure in the company.

- 2) What exactly is your interference with HR analytics?

I am very much into Strategic Workforce Planning. At the moment I do it for the unit "Central Administration".

- 3) How long do you work with HR analytics?

- 4) How would you define HR analytics?

I would say HR analyses. We always talk about Ist and Soll situation and gap analyses. So we always see HR as the current situation versus the preferred situation. And all the calculations etc. of the alignment. That's how we see the analyses. I think we have never talked about analytics.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

The urgency to work more efficient, because of required FTE reductions (cost-savings). The urgency lies in the change of the labor market. A lot of people will retire. They do not only take a 'spot' with them, but also knowledge. And also the reduction of the number of FTE permanently. The urgency of introducing lean (optimizing the processes). This means less people, more cost-efficient.

We always steered on budget, but because the budget is now considerably less, we now steer on reductions. But the focus on the budget stays the same.

- 6) Why does(n't) your organization apply HR analytics?

(See question 5)

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

With regard to data we collect everything from age, education, experience, competencies, etc. Also performance and potential. With regard to combining information it does not go that far. Most of the linkages I have being made is if there are vacancies, then where is the person with the university level with this same salary scale etc. So to see within the organization then where the matching is. That is how far it goes.

Our basic system is P-Direkt (SAP), but so far we have been building everything in Excel, apart from the basics in P-Direkt.

We are also doing analyses, mostly gap analyses between Ist and Soll situations, but no real statistical analyses such as regressions, etc. We are not that far yet.

We also measure the efficiency of the HR function.

We create reports structurally, monthly. So far we had no ad-hoc questions at all.

We do not yet work with unified definitions for the whole organization. But within the units those are unified.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

It is a hierarchical structure. So the HR director is primarily responsible for the results. But execution is done by the HR department with two managers and 35 FTE staff.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

Who should be interested is the whole management team. But at the moment the persons who are most interested are only the HR director, the General director and myself. There are 4 other directors and they are at the moment less interested.

Finance and HR are very aligned. Never leave finance out.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

It is focused on being lean. It is all about money and process efficiency.

11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

Yes, because of the support of the General Director and the HR director. Without the support of your management team it does not go anywhere. Then they will not read your reports. At the moment the steering is mainly based on budget and not really on all the HR components that are underneath. Not yet.

12) How would you assess your maturity with regards to HR analytics (based on our model)?

It is very basic. We are currently between phase 1 and 2. The data is there, but the value added metrics not really, phase 2 is not finalized yet.

13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

First we need to get in all the information, get the basics right. We have a lot of information already but it is not structured. We are now going to put it all into one document. We are very detailed, so it is a lot of work.

14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

The most challenging thing is organizational culture. The business unit I am working for is conservative. It does not really like changes, although they are necessary. Furthermore the staff counsel will be a problem because of the reductions. Not even the money, but especially the culture is the barrier.

15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

Since government organizations are not profit based, it will be difficult to say something about it. We can be very efficient and financial unhealthy at the same time, and the other way around. So for government organizations this assumption might be wrong, because it is political.

16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

It is all about getting the basics right. The basic information needs to be right and updated regularly, because it will be outdated within a month. Then the data will be more reliable.

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Do not work with old data.

Interview 10

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

My first education was in law and my second in HR. I started in 2003 at the organization. The main topic I was involved in was first the merger between this organization and the insurance and pension supervision authority, which was in 2005. There I was mostly involved in procedures that helped to move the staff from the combined organizations to the new organization with a reduced number of employees. The second project was to develop an integrated performance and appraisal system, which was competency based and focused on getting the workforce more result driven. Then I became an HR advisor for the board members. After that I moved to the ECB (European Central bank), where I was working for 2 years and was mainly involved in policy and HR advice work. In 2009 I returned to this organization and became the coordinator of the development center; there I am coordinating the activities on training, career advice and international secondments. Currently I am also the project lead of SWP.

- 2) What exactly is your interference with HR analytics?

At the ECB I dealt amongst others with a dossier about HR demographics. It tells something about the age structure of the staff, but also about the spread of the staff over the different positions and what that meant for their opportunity to be promoted further up in the organization.

- 3) How long do you work with HR analytics?

- 4) How would you define HR analytics?

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

6) Why does(n't) your organization apply HR analytics?

The HR analytics that HR advisors discuss with management is usually around staffing of their department. So how many positions do you actually have on a position plan and how many of them are filled, where they are and do we need to recruit or not. This is something we have in an overview.

We started together with finance (who also create a quarterly report) to come up with a kind of dashboard. We are also trying to get additional data once the HR advisor has a notion of something particular that is going on in his particular department. And we make ad-hoc analytics (at the moment a manager is deciding on whether he should reorganize or not).

So for instance in the ICT department they are currently thinking of improving the ICT services and they want to have them more client focused rather than technique driven and they want to improve on their technical skills as well. And then we come in with some kind of measurements to make sure that we have an overview of whether you think your staff is right now and where do you want to be. Then we start to monitor and we do that on an ad-hoc basis. At least we then have some indication of the competencies.

7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

Yearly we make an analysis of how the appraisal process works. Quite recently we have introduced a recruitment system and that means that all the vacancies are put into the recruitment system. We can now analyze the number of vacancies we have, the number of people that apply, the number of people that have applied to what type of positions. And we are now in the process of trying to understand better where we have difficulties in terms of vacancies that are very difficult to fill and why it is and whether we for instance should use different means of recruiting and so on. This is rather new.

We have a dashboard on sick leave, the position plan (positions and how many people are we occupying), that we report to local management. We do not report on inflow/outflow per department, we do it all over the organization.

Sometimes we make ad-hoc reports. For example if we think that the increasing average age is a problem, then we provide an overview of it.

Productivity is monitored by our appraisal system, because in our appraisal system we not only look at competencies, but we also say that in your work you are responsible for a couple of goals. Sometimes in project deliverables and sometimes it is a norm for standard work. So for instance in banknote distribution you could say I want you to process at least 300.000 banknotes per day and with a quality rate of 99.9999...%. For researchers for instance the key indicator is that you have to publish at least 2 researches in these and these quality journals.

We do not combine all of this into analytics (e.g., relation between performance, engagement, sick leave, etc.). We just report on data. But in case of ad-hoc requests (for example the decision about reorganizing) we could come up with reports which could include the qualitative data and the cross relations.

The data is located in one place (PeopleSoft), performance scores are also in there. The competency profile is automatically connected to the function level.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

Involved are HR and Finance. Standard reports on actual staff versus position plan etc. are disseminated to HR advisors and will be made available to management. For policy purposes and ad hoc questions HR administration can make ad hoc queries from our personnel information and registration system (PeopleSoft).

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

At board level we discuss recruitment issues, staff motivation, performance management cycle. At department level we discuss more operational HR issues

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

Not asked, while limitations to the use of HRA.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

Not asked, while limitations to the use of HRA.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

Not asked, while limitations to the use of HRA

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

I do not think that combining data is at the top of mind to do next years. But I am quite sure that because of SWP there will be a demand for this.

We have to improve on the 9-grid by not just plotting people, but also clearly define potential and possible interventions.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?
To define top staff is difficult (the strategy on top staff is only a few weeks old) but we can measure it by looking for example at the increase in staff mobility or compare the staff and quality needed for a task now and the same task over 10 years, although you then need the future data to compare.
- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?
*It is very difficult to measure our financial health. But what we can influence is basically whether we feel that we are able to run our business with less staff and higher quality. One of our aims is to get the job done with less people if we have top people. So this is how we probably will make the connection with analytics. Not so much to our profit (maximizing our contribution to society).
I think that the fact that we will use HR analytics will enhance the focus on how we are capable of hiring better people and therefore hiring less people to do the same number of tasks.*
- 16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?
- 17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Interview 11

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I am manager of the Center of Expertise People Development (COEPD). That is actually the policy club on indoor and outflow, strategy and policy on indoor and outflow. So then you can think of recruitment, talent, management development, learning and diversity. But it are also things such as strategic workforce planning and analytics.

Since two months I am also interim manager of Management Information Systems within HR. I'm in the MT of HR and there you have another policy club, reward. So you actually have two centers of expertise. Reward is dedicated to all employment conditional things. And I am more at the human side of HR.

- 2) What exactly is your interference with HR analytics?

- 3) How long do you work with HR analytics?

- 4) How would you define HR analytics?

An important aspect I find the statistical justification behind it. So not just making the reports. But analytics for me is that you for example put your training hours in a regression together with your assessment. Or that you are able to analyze your customer satisfaction and leadership styles statistically. So truly evidence based.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?
- 6) Why does(n't) your organization apply HR analytics?

- 7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

We register a lot. We only have a very fragmented IT landscape. Our main source is PeopleSoft. Therein is our personal records and there we register our assessments when it comes to qualitative data. But otherwise, it is particularly personal information (function, level, age, ethnicity, gender, etc.).

We also have a separated recruitment environment, a separated learning environment (LMS). Performance management we do on paper. Potential assessment (9-grid), we simply do it with excel. Succession planning is also done with excel. The reason that the landscape is so fragmented has to do with the unstable years that we have behind us. Hence less investments have been done in it.

We have enough loose reports. When you draw only such reports from the LMS system it is not that complicated and you can automate it. But we do need a combination often. In the LMS system you will for example not find our organizational structure. So we cannot group to departments and units. Then we have to extract the data from the system and put it into data warehouse, put our structure in it and only then we are able to make a cross table of the data. And that is quite time intensive. And I would just like to go to an environment wherein you organize your data warehouse well and are able to run reports automatically.

For creating the reports we use the Business Objects environment.

Three months ago we started a pilot with a company to work on the three sources (LMS, Recruitment and PeopleSoft): clean data, categorize or label if necessary, etc. Since we are still in the middle of this pilot, we do not have results yet. The goal of this is to have a taste, or rather a bit of evidence to understand how useful HR analytics can be. I think HR needs to make a movement from the social way of conducting HR towards a more evidence-based way of working. Something that really contributes to the business and that you also can measure the contribution. Here you do not have to exaggerate. But now we do with respect to this simply saying, really nothing.

I want to make a case internally to show how important this is and these examples make it lively. If you for example can show that your training hours are negatively correlated with your performance this would be interesting to talk about. Now we do not know this.

- 8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

The MIS team is fulltime busy with making reports and also with combining data, but not with statistical analyses. Besides this we have a data warehouse that actually does the same only

they are more focused on the data warehouse and they also do something more functional management. MIS is also trying to operate the fragmented landscape.

- 9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

Actually everyone. It can be a manager who wants an overview of sickness, but it can also be MT's who want to see a breakdown of for example performance relative to sex. And it also is specific to HR to manage and to monitor and also for HR operational.

The creation of reports happens both structurally and on request. We have many predefined reports which are in Business Objects, which is a self service environment. But within MIS we also get ad-hoc queries. And I think also that we have to quit with this. There have been a lot of ad-hoc questions in the past three years (reorganizations, separations, integrations). At that point you should have a good overview of whom are in scope, what their age is, etc. But in a more stable environment, I expect you are more using the Business Objects environment and will get less ad hoc questions.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

Of course we deliver data where the business is also seriously looking at. Because we are delivering certainly at the strategic level too little standard reports it is very dependent on the person who is at the HR business side, if he/she has affinity with analytics. And that is something that determines how often HR puts figures on the table and explains them well. But where this occurs, it is certainly appreciated.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

Our business thinks in numbers, but our HR world thinks too less in numbers.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

Phase 1 and 2 we do. Phase 3 as well (the combination of data), but not in a statistical way. In phase 4 we are not yet, that's where we want to be.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

We are in the middle of a sourcing process. In the summer we will make the choice which vendor will take PeopleSoft over, possibly with SAP or something else. Then you have a better

global data warehouse environment, and the data is more centralized. That we have not yet. We have a global data warehouse. We have some interfaces towards the global data warehouse.

Internationally not everyone is working with PeopleSoft, local tooling is used as well.

Challenge is therefore to get the right data at all in the global data warehouse.

Within HR we are thinking of setting up an HR analytics club, to proactively investigate themes (cross-ties). I am thinking more of a profile of people who are more statistically educated than HR per se.

At this time our goal is to really get a good base, the system landscape. Only then can we make the next step. Actually we do not yet know well enough what we all want in the data warehouse.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?
Fragmented IT landscape.

- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

This can both be true. HR analytics will lead to better decisions and therefore less disposals which makes your organization also healthier. And at the same time I think that because of this budgets will become available for doing it.

- 16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

This is very company dependent, but it's good to just start small. Do not wait until you have properly set the global data warehouse and until you have a whole team in place. You can now, as we do with such a pilot at a company, starting with some analyzes. These analyses can then be used internally to tell your story and to show some results and then you have at a certain moment a point at which the company believes in it and already makes some investments. And I think in the long term it is also important to have mature resources for it. For example a global data warehouse, a way to combine your data properly and to open up for yourself.

If you want to do HR analytics, it must embrace the business. The convincing of the usefulness of HR analytics does not stop at just HR colleagues.

17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

Interview 12

Introduction

- 1) Could you please tell me something about your current position in the organization? (Function & tasks)

I am currently working as an HR manager in the business unit of M&L Machines. I joined the organization very recently, which means that I got this position 1 month ago. Before that I was working for 7 years at AS Watson Group, a big retail organization. In the Benelux countries they are known for companies like ICI Paris XL and Kruidvat, whereas in the rest of Europe it is popular for Marionnaud.

- 2) What exactly is your interference with HR analytics?

I am planning to start a project to explore SWP and/or HR Analytics at this organization. HR at this specific business unit has not really a strategic role (but this differs from unit to unit). My job-predecessor was not very much involved in the strategic business issues, but now the management wants HR to act more on a strategic level.

- 3) How long do you work with HR analytics?

- 4) How would you define HR analytics?

HR Analytics are KPI which are directly abstracted of HR subjects.

HR Analytics-Process

- 5) Why has your organization started applying HR analytics? Did the rising interest in HR analytics in general, and/or the application of HR analytics by competitors, influence this decision?

The main reason was to increase the current strategic level of HR. It is important to have numbers, figures and facts to lead a discussion on a more objective level. Then you have evidence to discover real problems and to monitor the HR performance. Starting with this HR reporting process is the first step to move the HR position in this business unit from more operational to an HR business partner. But of course to start this change, the basics, which means the administrative tasks, need to be executed as efficient as possible.

The rising interest in HRA or that competitors are using this practice is not a reason for us to apply it. We are not looking at our competitors in this case.

6) Why does(n't) your organization apply HR analytics?

7) How is your organization fulfilling the objectives of HR analytics? (Which data, metrics, methodologies and analytical software are applied and how are they applied). Describe the approach to generate HR analytics per HR subject/service area.

Regarding HR analytics the organization is performing employee engagement surveys, is monitoring illness rates (absenteeism) and FTE rates. This kind of data is embedded in an overall system; but to report it, HR has to fill in these numbers manually each month. This means mostly quantitative data is collected, whereas there are also conversations about succession planning and employee mobility, but this information is not used in a structural way. Especially the managers have these numbers in their heads. This implies that there is a platform to talk about these topics, but just at a higher level.

We have mainly HR reports, so no statistics or other methodologies are in place. But each month reports get monitored. In the organization it is currently of utmost importance that the business units get a certain budget and that they stick to this budget. So data is mostly used to check if the business unit is still in the budget.

There is a software which is used in the organization, the personal system which is used to maintain the data, but this is an administrative software which is running no statistics.

8) Who is involved in the execution of HR analytics in your organization? Is there a team or function dedicated to HR analytics?

There is no team fully dedicated to HR reporting. There are (plant) managers who deliver every month data in an excel sheet. Some of these sheets are already in the same system, but not all. The information is then delivered to the board and they are steering on it. Also the controlling department gets the data. The financial departments have a strong point in this company and they are using the data also further. We are budget-driven and this will become probably even more important in the future since we have been recently taken over.

9) Who is interested in the results? (e.g., How are Finance and HR aligned?, Do you see HR-silo's in your organization?)

As already mentioned are currently especially the board of directors, the managers and the controlling department interested in the data. So the top management sees the value in HR reporting and they generally appreciate it, but there can be done more with the data as it is currently the case.

The HR department and the finance department are aligned with each other.

I don't see any HR silos in the organization, which means in my business unit. Here data and information are shared among the different departments, but between the business units itself there can be some silos, since the different companies are not sharing any information with each other.

Evaluation Process

- 10) How is HR analytics influencing the business performance? What has been achieved by using HR analytics?

Since we are talking mainly about backward looking HR reporting, it is not really dramatically influencing the business performance. But it helps to improve the performance management style.

- 11) Are you satisfied with the impact of HR analytics in your organization? Are the objectives of HR analytics achieved? (Why not?)

HR analytics is a process which can develop better and more. But it is important that we will act on the HR analytics. Of course here is a role for the HR department to help with this subject.

- 12) How would you assess your maturity with regards to HR analytics (based on our model)?

Currently I would say that we are between level 1-2, since the quantitative data is collected and also some qualitative data on succession planning is available.

- 13) What can be improved with respect to the application of HR analytics within your organization? How? What are your future plans to improve HR analytics?

First of all we need to gain further experience in HRA. The Vice president supports this plan, since he sees value in HR and in HRA. Primarily it needs to be figured out which data and subsequently information is really needed and what can be done with it.

Afterwards, if this basic step is taken, we have to find a simple process to have the data.

- 14) What are the barriers for improving HR analytics in your organization? Does a lack of financial resources restricts the application of HR analytics in your organization? How?

The biggest barrier right now is to have a simple way to collect the data (automatically).

Furthermore there is an information overload. The most important data needs to be identified to make it easier to use the system.

- 15) In our study we expect to find a positive relationship between the financial health of an organization and the application of HR analytics. This can either be due to HR analytics increases organizational performance, and thus financial health, or due to the larger possibilities in healthy financial organizations to start up an HR analytical approach. How would you relate this relationship to your organization?

There is probably no relationship.

I think that there is probably more a relationship between HRA and the phase the organization is currently in. If the organization is in a pioneering phase it will primarily try to find factors which can make them successful and HRA will maybe not have an important role. But if the organization is more stable, HRA can add value.

- 16) Can you identify do's (your 'best practices') for the process of design/implementation/use of HR analytics?

All people working with the system need to have the same perception regarding definitions. These definitions should be very clear and entirely accepted, otherwise biased outcomes will be the result. You need to be able to trust the numbers, that they are reliable; otherwise managers cannot act on them in the right way.

- 17) Can you identify don'ts (your 'lessons learned') for the process of design/implementation/use of HR analytics?

One "don't" is certainly to have no clear definitions about the data that gets collected.