Integration of Predated Notifications of Personal Actions for HR-Planning in ERP-Systems

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ABSTRACT

This chapter intends to reveal the benefit of predated notifications of personal actions for HR-planning and discusses the interrelated demands on ERP-systems. If e-government is implemented, one has to think of rearranging the government's HR-structure in order to adapt to the new circumstances, too. This means to take advantage of modern HR-methodology in order to become more efficient in HR-administration. One possible way in improving human resource management (HRM) is using predated notifications of personal actions for HR-planning. Human resource planning (HR-planning) is a component of strategic enterprise planning. It is fully integrated into the enterprise-wide planning process, because HR-planning is not only determined by other planning areas, but it also determines them vice versa. So the more precisely and comprehensively HR-planning is done, the more accurate derived key figures, which are used in other planning areas, can be. Governments usually deal with a huge amount of personnel, so HR is one of the main tasks in administration. Predated notifications of personal actions usually are known in present, but will be started in the future. In contrast to planning a personnel action the predated one will take place with the highest possible probability. An example for making the difference more clear may be an employee's retirement. It does not stringently depend on the employee's age, but rather on the person's individual decision to retire. As a general rule, an employee's intention to retire is already known about half a year before it takes place. If this information is used in the planning process, the company will have enough time to estimate the loss of knowledge or the cost-savings that will be caused by the employee's withdrawal. In huge companies, HRM typically is supported by ERP-

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systems. The functionality offered by the software depends on the company's needs and may range from a simple keeping of personnel data to a complex module called human capital management, which is used for payroll accounting, talent management, employee self services, and many more. If the decision-making body considers the company's personnel as business critical, a lot of employee-related data is collected and analyzed, ranging from master data to planning key figures. This chapter will emphasize the importance of efficient HR-planning for governments in order to improve their business processes. It can be seen as one of the goals of e-government. It will be pointed out how HR-planning can be improved by using predated notifications of personal actions, so that HR-divisions in governments can use advanced HR-planning right on from the beginning when preparing themselves for e-government.

INTRODUCTION

E-Government has been invented in order to improve governmental business processes with the help of information and communication technology (ICT). The main objectives are cost-reduction, increase of process-quality and lowering lead-time. But improvements do not have to focus on governmental business processes only. Governments will work more efficiently, if all administration tasks are optimized, too. And one of the main tasks in administration is HR-management. The optimization potential in the HR-sector can be imagined if one takes a look at how many full-time employees are deployed in the German Federal Land Nordrhein-Westfalen and its communes. The population living in Nordrhein-Westfalen in 2007 was about 18 millions of people (NRW, 2007). In 2007 there have been 188.425 employees with a full-time contract for administration tasks (NRW, 2008). For comparison, the Daimler AG in Germany producing Mercedes-Benz cars among others had 272.382 employees all over the world in 2007 (Daimler, 2008). An efficient human resource management is vital for companies as well as for governments, which act with view to offer a high-performance and high-quality governmental service at optimal cost. A more precise HR-planning will definitively lead to a more efficient use of personnel, no matter if governments or companies are concerned, as both have to face the same challenges in HRM.

With the need for a more precise enterprise-wide planning the HR-planning must be optimized, too. The improvement can be achieved by collecting and analyzing systematically pre-dated notifications of personal actions and using this data to enhance HR-planning. ERP-systems are applied to collect the actions that will take place in the future, so the data is fully integrated and can easily be used in the planning process. In the following the importance of pre-dated notifications of personal actions will be highlighted and it will be shown how the data can be used for an ERP-system-based HR-planning. The findings will lead to a better use of HR-resources, in governments and companies.

Thus, governments have the opportunity to make one more steps towards a higher sophisticated e-government through improvements in HR-management. Governments can have an effect on the efficiency of their HR-planning with the choice for an enhanced ERP-system and take advantage of a more efficient HR-planning-module and -process. When dealing with e-governmental readiness, it is necessary to emphasize that the customer-view (or citizen-view) is not the only perspective that has to be considered. This research indicates that the optimization of general administrative tasks in governmental business processes is one of the tasks governments must work at in order to become ready for e-government or to use e-government more intensively. And HR is one of these administrative tasks every government is

faced with. What is more, now and in future HR will become a vital division of governments, like IT and Financials. This research uses the awareness that HR has to be taken into consideration if a government or a company wants to improve it's HR-management and concentrates on a specific part of HR-planning and HR-controlling, the predated notifications of personal actions.

HUMAN RESOURCES PLANNING

Human resource management is defined by Scholz (Scholz, 2000) as "the systematical analysis, evaluation and organization of all personnel aspects in a company". The main task of HRM is deriving HR-goals from the company's strategic objectives and also assuring the achievement of these objectives (Drumm, 2006). HRM is more than just collecting personnel data. It must not be isolated from other business data used in the company, although personnel data often is considered as severely critical as far as privacy is concerned.

Looking at a company's manner when dealing with its employees one can suggest what kind of HR-philosophy is dominating. Saying it backwards, it means that HRM guidance is determined by HR-philosophy, which makes a statement about the importance of HR in the company (Müller-Christ, 2005). HRM may have different guidelines. It depends on the decision, whether the employees must be just administrated, or they are joint venturers, who expect a wide supply of services (Müller-Christ, 2005). As an example two different enterprise concepts will be presented. On the one hand a bakery with a lot of chain stores. This type of company needs to administrate a lot of homogenous, lowly trained employees. On the other hand a law firm with highly trained experts, who demand a service from the personnel office.

Human resources have to subordinate to strategic objectives in the same way as other divisions of the company (Schanz, 2000). The main objectives for HRM can be harmonized with HR-philosophy and derived from economic and social aims (Olfert, 2006). Although companies may differ from each other, they have to solve the same primary problems in HRM. Kossbiel specifies them as availability and effectivity of human resources (Kossbiel, 1994). A definition strongly influenced by functional economic thoughts says that the main objective of HRM is offering the required personnel in all sectors of the company, in the exact number, with best skills, at the right time and with regard to long-term profitability and objectives of both, the company and the employee (Freund 2003). Finally all this points to the conclusion, that HRM is an interdepartmental function, which affects all other sectors of the company. Simultaneously HRM aims for decentralized tendencies. Therefore coordination, communication and harmonization of strategic HR-objectives are vital to a sustainable success of the company (Reichard, 2001).

An important part of HRM is HR-planning. It includes all activities that are used for planning the quantity and quality as well as the personal actions, which have an impact on the HR-structure (Müller-Christ, 2005). Kolb says, HR-planning "is the systematic anticipation of future actions concerning a company's personnel" (Kolb 1998). The main objective is to assign strategic enterprise aims to HR and to prepare the personnel systematically for future requirements with the use of personal actions, so that the target achievement will be maximized (Schanz, 2000). Important constraints are given by the law, so that not all action alternatives may be permitted (Olfert, 2006). Finally the effectiveness and availability of human resources has to be maximized (Kossbiel, 1999).

HR-planning can be divided into quantitative and qualitative HR-planning, followed by the planning of personal actions. The whole process is known as the planning part of human resource management (HRM). Quantitative HR-planning deals with the number of employees or headcount (HDCNT) and the full time equivalent (FTE) in relation to time and space. Qualitative HR-

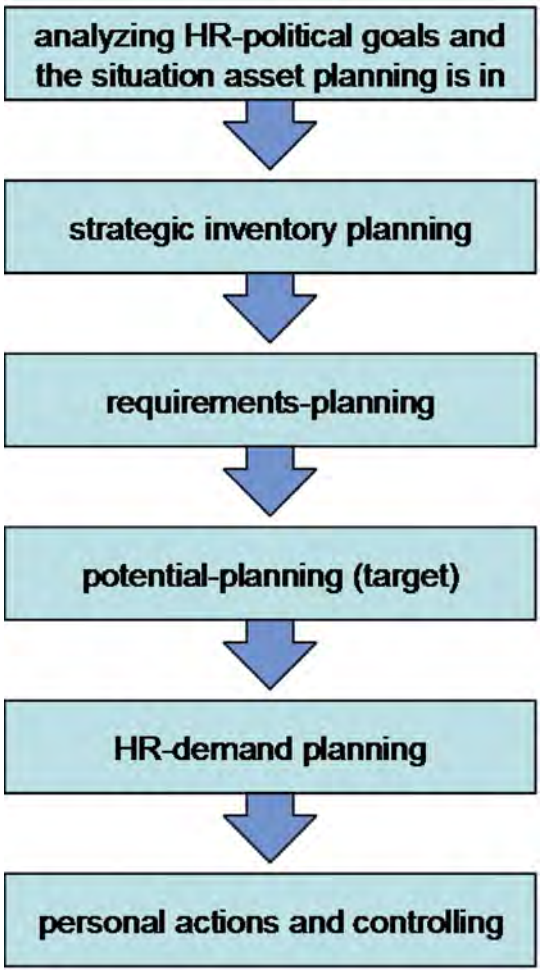
planning is about the employees' occupational aptitude, depending on time and space as well. Planning of personal actions means describing the process of turning the actual performance into the target performance as far as the personnel sector is concerned.

HR-planning is not just one activity; it is just an aggregation of many tasks. These tasks are planning the demand, the acquisition, application, development, leadership, disposal and the costs of HR, for example (Reichard, 2001). The different tasks are highly interlocked between each other, what leads to the conclusion that only an integrated and comprehensive view of the HR-sector can lead to the point (Albert, 2002). External and internal factors must be considered in the planning model in order to adapt objectives and actions to real world conditions (Drumm, 2006). A roadmap for HR-planning (see Figure 1) has been proposed by Müller-Christ (Müller-Christ, 2005).

With subject to HR-political guidelines the personnel inventory planning is prepared. Changes in the production-planning or recurrent events like the close of the second quarter are often the inducement for the HR-planning process. Besides pointing out the reason for starting to plan again, the identification of determining rules of the objects to be planned and constitution of planning parameters like planning horizon, factors, allocation base and the planning and estimation methods take place (Springer 2006).

When all basic conditions for the planning process are set, current and future HR-requirements can be listed and arranged into homogeneous task-groups (Springer 2006). Ideally each task in the company can be represented by a job by connecting the specification of service to a position in the organizational hierarchy (Jetter, 2003). Generally speaking the specification of service is dynamical and must be connected to a timeline, because it changes very often. Therefore it is suggestive to aggregate the specifications into time slots, in which they are unaltered (Edinger, 2008).

Figure 1. Roadmap for HR-planning



From the prepared data the qualitative and quantitative target-values can be derived. A statistical analysis of job descriptions provides an indication of how many employees have to work at what kind of job in the company. The number of employees usually is described in headcount (HDCNT) or full-time-equivalent (FTE), the quality of performance in the job is given by the required qualifications (Drumm, 2006). In HR-structures with homogenous descriptions of job performances the number of work places is estimated by statistical methods. Modelled on job descriptions the target value for the headcount is calculated for one or more points in time. For the

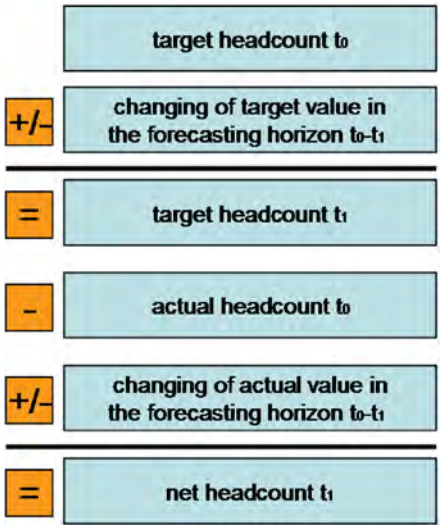
computation data from many sources, internal and external, is used, like work plans, job descriptions, absenteeism analysis and employment law (Scholz, 2000).

The way of how the target value for the headcount is computed is decisive to how the actual headcount has to be calculated. This is made for assuring the comparability of actual and target values and to develop and monitor personal actions, which have a stake in the actual headcount. The actual headcount represents the current HR-structure and is updated as well as the target headcount, because it is influenced not only by planned personal actions, but also by several factors (Olfert, 2006). Factors in detail are demographical changes, job training, changes in the work schedule, absenteeism and retirements (Schanz, 2000). In general these factors are known before they happen, so updating the actual headcount in advance is possible. Therefore in addition to the estimation of the actual HR-structure a prediction of how it will look like in the future and what kind of measures are needed to work against factors must take place (Reichard, 2001).

When the actual and target values for HR are computed, a comparison of the headcounts reveals how much employees are needed to achieve the company's objectives. Planning the demand determines how the actual HR-structure has to be changed in order to fulfil the company's requirements, in other words: how many employees with what kind of qualification are when and where needed to meet the production and performance plans (Schanz, 2000). Planning the demand is also called the pivotal unit of HRM (Müller-Christ, 2005). It is the fundament for the whole HR-planning and determines all other HR-sectors (Springer, 2006). Demand planning is connecting production and sales planning with HR-planning. It determines, if the number of employees has to be increased, decreased or unchanged in every division of the company, so that the personnel capacity is used with a maximum benefit in the short, middle and long term. Demand planning means not only to estimate the headcount that will be used productively, but also the amount of employees that serve as a buffer to compensate absenteeism (see Figure 2). What is more, the demand for replacement of existing jobs and filling new ones (or dismissing employees) has to be planned, too (Drumm, 2006).

In order to ensure the required headcount for the creation of value in the company measures have to be implemented to match actual and target values. Neither actual nor target headcount are constants, both can be changed using personal actions (Drumm, 2006). For example, the target headcount can be reduced by implementing more efficient production techniques. What personal action is applied to change the headcount depends on the objective and the action's characteristics. Characteristics are the type and intensity of the action, the costs and the period of time it affects the headcount. Secondary effects like influencing the employees' motivation must be evaluated, too, even if they are not intended. Not taking into consideration secondary effects can even lead into a devaluation of intangible assets

Figure 2. Computing the net demand (Adopted from Müller-Christ 2005)



(Jochmann, 2007). Hence a simulation of a personal action's effects is vital.

The results from demand planning are handed over to personnel acquisition (Springer 2006). All agreed personal actions must be monitored with the aid of key figures in order to make a prompt reaction to irregularities possible. Unexpected changes are most likely as all planning data is future dated and most of it has been only estimated. Thus expressive, subject-oriented key figures must be defined in advance. They replenish HRM through making a comprehensive view over HR-development in the whole company possible (Hentze, 1993).

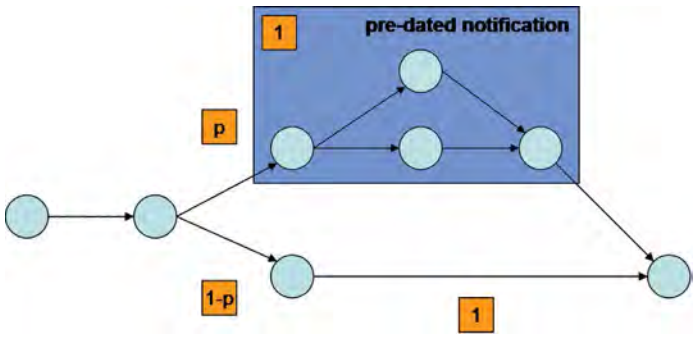
PRE-DATED NOTIFICATIONS OF PERSONAL ACTIONS

From the actual point of view future events can only be anticipated. If the level of abstraction is low enough, all statements about future evens are uncertain. The more precisely a future event is predicted; the more difficult it is to reach the objectives. Uncertainty for future events can be distinguished between two kinds: uncertainty if an event will occur and uncertainty what it will be like. In the quantity of all possible predictions about future events and their effects on HR pre-dated notifications of personal actions are those with the highest probability and very precise description of the effects that will take place when the action is executed. There is a clear cause-and-effect-chain when we talk about pre-dated notifications with a probability of occurrence of 1 (unity). Pre-dated notifications are no plan-values, but they affect them and thus are highly valuable for the HR-planning process.

A pre-dated notification is a future event with a maximum probability of occurrence, which is started with input-data and whose action has a deterministic effect on the environment. Actions can be executed simultaneously or sequentially, but they all have the probability of occurrence of 1 (unity). The cause-and-effect-chain and the probability can be modelled as a deterministic process, which can be implemented in any other decision process. Figure 3 illustrates a pre-dated personal action implementation in a decision tree. Furthermore, as many events can take place inside the process-chain of a pre-dated notification, it is not a Bernoulli experiment.

As pre-dated notifications are no planning values, they must be handled differently in creating scenarios, too. The accrual from planning happens through versioning: a plan can have many versions; pre-dated notifications have only one valid version. The action is started always under the same conditions and causes every time the same effects. Therefore, pre-dated actions are constant events in a planning process. Input-parameters and output-data make pre-dated per-

Figure 3. Pre-dated personal action implemented in a decision tree



sonal actions flexible, so that an implementation into different processes or even into dynamic scenarios is quite easy. The deterministic workflow guarantees a comparability of all planning versions with the same pre-dated notification of a personal action.

A pre-dated notification of personal actions is distinguished by a functional description of the starting events and the following effects on personal data. By this means a catalogue of personal actions can be created in order to define pre-dated notifications of personal actions correctly. Listing the complete input-data is vital, so that all uncertain values of parameters are excluded right from the beginning. The creation of a catalogue means also, that personal actions which are not mentioned inside this catalogue must not become a pre-dated notification of personal actions and must be regarded separately.

An employee's decision to change its full-time job into a part-time one will serve as an example for a pre-dated notification of a personal action. A correct pre-dated notification defines the employee, the beginning-date of the action and the new FTE. A false pre-dated notification of a personal action is entering a probable FTE and not the constant target value (see Table 1). This may happen if one wishes to emphasize that the employee still does not know, how much part-time he wants to do in the future.

Pre-dated notifications of personal actions are derived from personal actions, because in fact they are an anticipation of changes made to the HR-structure and have identical work flows. Therefore pre-dated notifications can be turned into a personal action without making any severe change to the process or the existing data. The main characteristic is the fact that pre-dated notifications are not approved yet and will not be turned into a productive event until the decision-maker decides it to become a regular personal action. This is the main difference: a personal action is turned into reality at once, a pre-dated one changes its status from pre-dated into productive or is copied and set productive. In terms of EPR-systems this means, that the date difference between entry-date and beginning date indicates, if the personal action was pre-dated or not. None or a small difference indicates that there is no pre-dated notification of personal actions. But regular personal actions cannot be analyzed later easily, because one has to inspect the beginning-date and the entry-date to identify a pre-dated notification, what will become very complex in modern ERP-systems, as the entry-date is not a common data field for functional (i.e. HR) analytics. And if the entry-date is higher than the beginning date, we talk about personal actions that were started retroactively, because one has forgotten to execute them in the right time, for instance. These actions may not be considered as pre-dated as well. What is more, not all personal actions are in the catalogue of pre-dated notifications. Finally, using only the entry-date and the beginning-date is not suitable to identify pre-dated notifications.

Like personal actions pre-dated notifications are approved by the HR-division in advance. The decision making process with the HR-division, the managers and the affected employees as key players usually has successfully ended before. Although the process takes more time when

Table 1. Correct and false pre-dated personal action

	employee	personal action	Beginning	new FTE
correct pre-dated personal action	10000001	work-time reduction	01.01.2008	=0,5
false pre-dated personal action	10000001	work-time reduction	01.01.2008	=(0,5*0,8)+(0,62*(1-0,8))

Table 2. Pre-dated personal actions

personal action	description
Employment	A person becomes an employee. Usually the decision has been made months before the action takes place.
Dismissal	An employee leaves the company at a point in time in the future. More often than not this is known a few months before the employee is dismissed.
Retirement	An employee leaves the company at a point in time in future and will get a retirement pay from that date on. Usually a retirement is known about one year before.
training course	An employee will take part in a professional training. Although this is not mandatory a personal action, it may be worth analyzing it together with personal actions.
organizational change	An employee is being relocated in future. This action has to be prepared carefully, so it is known a few months before.
take-over of trainees	A trainee has been doing well during his apprenticeship and will be taken over. Often one can make this decision before the trainee has written his final exam.
partial retirement	An employee wishes to take part in a partial retirement program. The beginning date is know years before, as the contract has to be changed completely for that purpose. The working-phase and the retirement-phase typically take five and more years.
maternity leave	The employee will become inactive for a period of time, or he will be active again. The time period is known before about half a year.
Salary change	An employee's salary has to be changed, because he will take part in a project team, what for he will earn more money.

all affected actors are involved, this procedure assures that the pre-dated notification will take place with a maximum probability and does not has to be reversed. An exemplary set of personal actions shows (see Table 2) what kind of actions can suite as pre-dated notifications.

How much value is added by the successful implementation of pre-dated notifications depends on how many personal actions are started in the company on average. If there are only a few employees, the number of personal actions will be low and no methodical collection of this data is needed. Objectives provided by the top-management of a small company are very detailed and the data the management uses is almost completely operative. Most personal actions are decided directly by the CEO and included into the plans, whereby an analysis of pre-dated notifications of personal actions is not of interest. But if a company has so many employees, that it applies decentralized management techniques, the organizational distance between the decision-makers and the basic staff is big enough to turn pre-dated notifications into useful information.

The benefit for HR-planning is the opportunity to improve the updated actual values and to analyze pre-dated notifications of personal actions in order to make predictions about the number of pre-dated personal actions in the future. Clear-cut information about changes in headcount and the employees' master data are highly planning relevant, because they are as precise as the existing personal master data. Thus they can be analyzed in the same way and the same level of detail as existing data collected in the past and can be used for HR-planning without any constraint. The integration factor is most important: using pre-dated notifications of personal actions one can exactly predict how an employee's master data will be affected. This information can be used for example to forecast the loss of know-how through the dismissal of an employee before he really leaves the company. Thereby the HR-division is able to start counter measures, so that the loss of knowledge will be compensated in the organizational unit. In a more complex scenario all effects of the dismissal can be simulated like cost-changes, different span of control, organi-

zational effects, qualification profiles, changes in absenteeism or even the contribution to profit. If pre-dated notifications are analyzed through a longer period, trends can be educed from the collected data, which can be used to make even the target values more accurate and an evaluation of how many pre-dated notifications really became personal actions.

Using pre-dated notifications of personal actions for operative analysis is possible, too. Career planning, for example, can be monitored with the use of data gained from pre-dated notifications. The according personal actions are organizational changes, changes in contract or professional training. If these pre-dated notifications are considered, an employee will be asked to join conferences which will be useful for his career. The other way around one could monitor whether an employee is still developing his skills and moving forward his career by analyzing his pre-dated notifications of personal actions. This offers the opportunity for the HR-division to act before too much time has passed and it will be too late for any action.

INTEGRATION OF PRE-DATED NOTIFICATIONS OF PERSONAL ACTIONS INTO ERP-SYSTEMS

Today's companies use ERP-systems in order to support the main divisions like financials, material management or HR. The more sophisticated the software is, the more functions it offers. In the majority of cases an ERP-system's HR-component offers master data collection, payroll accounting and computation of personal actions. Superior software offers even routines for HR-planning and employee self-services (Haßmann, 2003).

A HR-module's level of complexity depends on a company's demands. The more challenging the demands are, the more complex the software is. ERP-systems like the SAP ECC 6.0 HCM-module offer the function to enter personal actions and to execute them, what finally gives way to make the system change an employee's master data (Edinger, 2008).

Changes in data mostly result from so-called personal actions, which are implemented in programming routines. These routines use input-data, compute the data according to the selected personal action and generate output-data. So it is a complex program that causes changes of the data in the data base. Although most of the personal actions needed by HR-administrators are already available in the software in terms of ready-to-use routines and functions, they are rarely used to record pre-dated notifications of personal actions. More often than not the only data that implicates a future action is the valid-from-date of the personal action. What is more, employee-self-services (ESS) have to be used more intensively in order to reduce administration tasks as far as pre-dated notifications are concerned.

The capture of pre-dated notifications of personal actions must be identical with the collection of personal actions in order to use the data comprehensively for HR-planning. The only difference in the records is a label that identifies them as pre-dated notifications of personal actions. But data that belongs to pre-dated notifications must not have any impact on productive processes, the payroll accounting for instance. Although pre-dated notifications are events that will happen almost for sure, the data must be stored separately and the actions must not be applied to productive data until the process has been approved by the management.

Pre-dated notifications can be collected manually or generated automatically by the system. The advantage of manual input of data is the precision and the complete supervision over the process and the data. Disadvantages are not only the manual effort, but the more complex workflow and the appointment of the dates. If the process is not reliable enough, events may not be recorded correctly and thus personal actions will be incorrect. Automatic collection of data and pre-dated notifications on the other hand is suitable only

if the events require almost the same data and have an identical process every time. Thus flexibility is low or will cause a much more complex process, if it has to be guaranteed. But in some cases like taking over trainees or the retirement of an employee automatic generation of pre-dated notifications may be easy to implement.

Pre-dated notifications of personal actions must be converted into real personal actions without any barriers, so that the manual effort gets as low as possible. Ideally a reminder exists, which provides information to a clerk in the HR-division about pre-dated notifications, which will be actual soon. The system can also generate suggestions for personal actions to be started like the replacement of a job position. A workflow-integration could suite perfectly here. When applying a pre-dated notification the data record should be copied, and not changed. This procedure ensures that pre-dated notifications can be differed from regular personal actions and analyzed later on.

If a pre-dated notification is not to be activated, the data should not be deleted from the system. The records can be used to evaluate how many pre-dated notifications were turned into productive personal actions in the past. This monitoring will provide information about how reliable pre-dated notifications really are.

Today large-scale enterprises use a data warehouse for enterprise-wide reporting. The newest trend is to integrate planning functions into the data warehouse. Even existing planning routines are transferred from the ERP-system to the data warehouse in order to generate scenarios and to make plans on a higher scale. In this case redundancy may be eliminated through service-oriented-application-programming. The programming routines needed for planning functions are offered by a service, which runs on the ERP-system and computes values for the data warehouse, which calls it, for instance. However it should be examined if all functions are needed to be transferred to a data warehouse.

FUTURE TRENDS

Today personal actions usually are collected and maintained by the HR-division. It is a service the HR-division offers to the company's employees. This will certainly change soon. With employee self-services and delegated HR-planning a new approach has been started, which will lead into a decrease of personnel maintaining personal actions and master data. These administrative tasks will be taken over by the employees themselves or the mid-level management. Like employee self-services, which made HRM more efficient and cost-optimized, personal actions will be the next outsourced task. In future the HR-division will only authorize personal actions; the employees will deal with the maintenance themselves.

Many surveys described how positive the impact by ESS on HRM is. Costs for Standard HR-processes will decrease by up to 50%, personnel needed for administration tasks will be reduced by up to 40% (CEDAR, 2002) and lead time will be reduced by up to 50% (Hunter Group, 2000). With these KPI-values it is only a matter of time until personal actions will be delegated, too.

The HR-module is an essential component of an ERP- and also of a governance system. It is not only an operational system, but also a data source for reporting systems like data warehouses. Future trends in e-government analytics indicate the necessity of a data warehouse-based reporting for statistical analysis and data mining (Nandan and Gopi Chand, 2007; Sharma, 2008). This kind of reporting will use HR-data, too. As reporting becomes more and more transparent, especially in e-governance, data quality is most important. It is obvious, that the higher the data quality is, the more precise reports and analyses will be. In case of e-governance many of the reports concerning the government are public, so especially in this case reports must be reliable, transparent and updated. And public interests focus on how efficient the work is done, too. An enhanced HR-planning will contribute to this very well.

CONCLUSION

There cannot be a single answer for challenges of today's governmental processes. E-Government is just one measure of many. What is more, the implementation of e-Government forces to adapt all other structures in the government to the new strategy, ICT and HR for example. As far as HR is concerned it is necessary to analyse the HR-structure in governmental departments and anticipate changes that will take place because of e-Government.

The implementation of e-Government will lead to different requirements: on the one hand many jobs will become dispensable, because the work can be done more efficiently with less effort; on the other hand the employees will be faced with a broader field of activity, i.e. dealing with an enterprise portal and workflows.

The government's HR-system must meet all the requirements which result from the suddenly dynamic structure in business processes and job descriptions. If a new HR-system will be introduced in HR-division of a government, it will be one of the few leading vendors. This assumption results from the fact, that the headcount in a government will be more than 100.000 employees (see 188.425 employees with a full-time contract for administration tasks in the German Federal Land Nordrhein-Westfalen (NRW, 2008). This amount of people necessitates a powerful HR-system.

When evaluating the different systems available on the market, one should also take the ability to deal with pre-dated notification of personal actions into consideration. The significance of pre-dated notifications of personal actions for HR-planning is high enough to be considered seriously. In the planning process they improve the target values because the data added to the process is comprehensive and precise. Thereby the operative processes are supported very well and tendencies can be recognized early.

Pre-dated notifications are usually known some time before they shall take place, but they are rarely used for the planning process. Standard ERP-systems do not offer the function to work with pre-dated notifications of personal actions. The planning process, which is supported by ERP-systems, thus is not enhanced by the data from pre-dated notifications. But the data would be very useful, as it can be fully integrated into the data model without great efforts, because pre-dated notifications of personal actions are quite similar to existing personal actions. On the contrary the information about pre-dated notifications is used in reports and planning processes. But the source for the data is not the integrated ERP-system, but a bunch of Excel-sheets. The process is not integrated as well and becomes very error-prone. The effort to consolidate the data is enormous in this case, even if the planning is done only once a year. Finally this will lead to not regarding the data from pre-dated notifications as important anymore.

Thereby the benefit of integrated pre-dated notifications is often higher than assumed by the IT-director. Even if the planning values for headcount gets about 30 FTE more precise, with an average earning of 50.000€ (employer's share for social insurance included) the saved costs are 1.500.000€ high. If we take a look at more expensive job titles on the executive levels the cost savings will be much higher, projects will run better and will not be delayed because of the leak of information about personal actions.

ERP-systems as the central software product in a corporate information systems landscape must offer the option to use pre-dated notifications of personal actions. The benefit for the customer is much higher than the costs to implement the functionality. Governments wanting to become ready for e-government should also take a close look at the ERP-system they want to introduce and find out if it supports pre-dated notifications of personal actions when building up or improving their HR-management system. What is more, the organizational structures have to be prepared for an enhanced HR-controlling and HR-planning,

because an ERP-system is not a final solution, but only a tool which makes efficient HR-management possible. Not until the business processes are redesigned and set up-to-date, governments will be completely ready for e-government.

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KEY TERMS AND DEFINITIONS

Employee Self-Services (ESS): Employee self-services have been invented in order to make HR-administration more efficient by transferring administrative workload to the employees. Commonly an enterprise portal is used as user interface, which is directly connected to the database. Employees are allowed to maintain certain master data themselves, like address or vacancy-dates. ESS made administrative HR-processes faster up to 50% (Hunter Group, 2000).

Human Resource Management (HRM): Human resource management is defined by Scholz (Scholz, 2000) as "the systematical analysis, evaluation and organization of all personnel aspects in a company". The main task of HRM is deriving HR-goals from the company's strategic objectives and also assuring the achievement of these objectives (Drumm, 2006).

Human Resource Planning (HR-planning): HR-planning is an important part of HRM. It includes all activities that are used for planning the quantity and quality as well as the personal actions, which have an impact on the HR-structure (Müller-Christ, 2005). Kolb says, HR-planning "is the systematic anticipation of future actions concerning a company's personnel" (Kolb, 1998:pp#). The main objective is to assign strategic enterprise aims to HR and to prepare the personnel systematically for future requirements with the use of personal actions, so that the target achievement will be maximized (Schanz, 2000). Important constraints are given by the law, so that not all action alternatives may be permitted (Olfert, 2006). Finally the effectivity and availability of human resources has to be maximized (Kossbiel, 1999).

Personal Actions: Personal actions are a bunch of functions to change data in a database consistently. They are implemented in programming routines. These routines use input-data, compute the data according to the selected personal action and generate output-data.

Pre-Dated Notification: A pre-dated notification is a future event with a maximum probability of occurrence, which is started with input-data and whose action has a deterministic effect on the environment. Actions can be executed simultaneously or sequentially, but they all have the probability of occurrence of 1 (unity).

Time Slot for Master Data: An employee's master data often changes in a period of time. This can be his address or bank account number, but also his assignment to an organisational unit or his status. For time-dependency each dataset has a valid-from and a valid-to date. Time slots define the temporal validity of master data restricted by the valid-from and valid-to date of each dataset.

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