Electronic tool for analysis of employees’ feedback

KOSTADINKA TOTEVA
TechnoLogica LTD, Chervena Stena 46, 1421 Sofia
Bulgaria,
kossy.toteva@gmail.com  http://www.technologica.com

ELISSAVETA GOUROVA
Faculty of Mathematics and Informatics, Sofia University
125, Tzarigradsko shosse Blvd., bl. 2, Sofia
BULGARIA
elis@fmi.uni-sofia.bg  http://www.fmi.uni-sofia.bg

Abstract: The present paper considers the importance of the proper human resources management for the success of organisations in the knowledge society. It proposes a new electronic tool as an extension of existing human resources management software aimed at collecting objective and subjective feedback from employees needed for management design. An example of the application of the system is provided and analysis of the results for improvement of human resources management in the organisation.

Key-Words: software applications, employees’ commitment, motivation, human resources management

1 Introduction

Human resource management (HRM) gains high importance in the knowledge economy as intellectual capital becomes a critical resource and a vehicle for success, competitiveness and growth. At the same time, employees have an important role for the proper implementation of any new corporate initiative. Organisational culture, leadership, motivation, commitment and participation of employees, etc. are mentioned often as critical success factors for change management, quality management, strategy implementation and generally for higher efficiency and performance of organisations [2], [4], [6]. Therefore, organisations pay special emphasis on HRM and the strategy for employment, training and pre-qualification and motivation of employees. Providing flexible benefits to employees, growing talents, developing strong sense of accountability, as well as building unique corporate culture are considered as important approaches in HR management [1], [5], [6].

Along with the introduction of various management techniques in organisations, the rapid development of Information and Communication Technologies (ICT) provides enormous opportunities for higher efficiency and performance of company management, and in particular, for HRM [3]. Corporate portals, sophisticated information and expert systems, data bases and business intelligence tools have rapidly changed the business environment and the opportunities for analysis, decision making and governance [13], [14]. The importance of HRM systems (HRMS) has also grown rapidly in last decades. They have provided opportunities to human resource (HR) specialists to manage complexity, provide fast quality information to decision makers, and have facilitated their adaptability to dynamic environment changes [9]. However, the successful business application of ICTs, and HRMS in particular, as well as gaining the desired company benefits strongly depends on their adoption by organisational leaders and employees [10]. Therefore, it is essential to have tools not only to communicate to employees the corporate strategy, goals and tasks, but also to obtain their feedback and ensure interactive communications as a regular practice in corporate management and decision making. Information gathered from employees’ surveys can provide insights into work environment, effective job procedures, potential problem areas, and thus could be used for changes in the operations and managers’ attitude and behaviour, and more generally, bringing competitive advantages to the organisation [7], [8]. At the same time, such module could be especially useful for regular knowledge audit in organisations and thus supporting knowledge management monitoring and control by collecting feedback from employees [4].

This paper presents an electronic tool developed as additional module to an existing HRMS - HeRMeS V. The Surveys module is targeted at obtaining feedback from employees. It is tested in an ICT organisation in Bulgaria, where employees’ surveys were not completed before [1]. The results of the survey and their analysis are provided here as well.
2 Strategic role of HRM

In the last century, an unprecedented speed of new knowledge creation was observed, leading to faster innovation, sophistication of products and services and their supply and demand, and deep changes in all areas of public life [11]. Knowledge in both of its forms – tacit and explicit – has become one of the main factors for sustainable development and competitive advantage. Subsequently, Knowledge Management (KM) has emerged as a new practice-oriented scientific discipline, exploring the opportunities of new management methods, cultural and organizational approaches and technology infrastructures in service of the companies [4]. Based on practical cases, the following essential factors were stressed for KM success [14]:

- Knowledge-oriented corporate culture
- Continuous learning and knowledge sharing
- Technical/organizational infrastructure
- Senior management commitment and leadership
- Knowledge champions, such as chief knowledge officers (CKO)
- Link to economics or industry value

Human resources are in the centre of any KM initiative. Employees have an essential role not only in KM implementation, but also on the stage of analysis of the knowledge state-of-the-art in the organization and the consequent KM planning activities. Before launching KM, it should be investigated the organizational culture, knowledge and expertise availability and flows, both in company internal and external environment, and all possible knowledge gaps for reaching corporate goals [12]. Here, employees should be fully involved in order to provide reliable information for the decision-making and planning processes. HR managers are normally a core member of the KM team as a center of information and knowledge for employees in the organization. They work hand-by-hand with ICT managers in order to elaborate the KM strategy and explore the power of ICT in KM implementation.

Actually, the adoption of ICT in organizations followed several phases – starting from single database and going through information systems to more sophisticated systems for decision support, business intelligence and knowledge management [9], [10], [13]. Nowadays, several management information systems are available on the market supporting the different functional areas (sales, marketing, production, supply, accountancy and finance, HR, etc.) and management levels of organizations (operational, middle and top management) [15]. Here, HRMS take a special place providing opportunity to extract timely, accurate and relevant information from growing data sets about employees, their working environment, performance and satisfaction, etc. In the world of Internet, rapidly have developed virtual or e-HRM tools replacing step-by-step the older generation HRMS [16], [17], [18]. They allow individuals to apply for jobs, change their job-related benefits, and enhance their knowledge, skills, and competencies using web-based training systems.

Nowadays, there is a shift in HRM from a focus on staff management to creating strategic contributions [2]. A recent research on HRMS outlines their main usage categories in the past and presently (Table 1), when the role of HRM is recognized in strategic management and decision taking of organization [3].

**Table 1**: Categories of use of HRMS by HR personnel (adapted from [3])

<table>
<thead>
<tr>
<th>Categories of HRMS use</th>
<th>Previous non-strategic HRMS use</th>
<th>Current strategic use HRMS use</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR Planning</td>
<td>Succession planning; relocation; HR planning; labour turnover; HR budgeting; wage modelling</td>
<td>HR planning; organisational development; organisational design; strategic planning</td>
</tr>
<tr>
<td>Salary Advice</td>
<td>Performance appraisal; wage modelling</td>
<td>Compensation</td>
</tr>
<tr>
<td>Employment Benefits</td>
<td>Pensions; car schemes; health schemes</td>
<td>Benefits</td>
</tr>
<tr>
<td>Industrial Relations</td>
<td>None</td>
<td>Union Relations</td>
</tr>
<tr>
<td>Assessment and Training Needs</td>
<td>Training; management development; performance appraisal; needs analysis; skills monitoring; training evaluation; skills matching</td>
<td>Performance appraisal; competency/talent assessment; employee training/education; management development</td>
</tr>
<tr>
<td>Recruitment</td>
<td>Recruitment, budget control</td>
<td>Recruitment; selection</td>
</tr>
<tr>
<td>Performance Management</td>
<td>Performance appraisal</td>
<td>Performance appraisal, competency/talent assessment</td>
</tr>
</tbody>
</table>

HRM is considered presently as ‘a strategic and coherent approach to the management of an organization’s most valued assets – the people working there who individually and collectively contribute to the achievement of its objectives’ [6]. Thus, HRM should ensure regular employees’ feedback and involve them in a permanent communication for organisations’ development and strategic planning purposes. Integrating such function in HRMS will help them to fulfil their strategic management goals much better.

At the same time, one of the main challenges for HRM is to find methods for motivation and creation of engagement and commitment of employees in order to achieve better productivity and performance [6]. Therefore, the awareness of the needs of employees and satisfying them could be an important step to engage workers fully for achievement of the organizations’ goals. HRM should help for encouraging behaviour that supports corporate strategy. As KM has gained importance in corporate practice in last decades, HRMS
equipped with e-tools for obtaining feedback from employees could facilitate the strategic analysis needed for KM planning and implementation by ensuring the necessary information for Knowledge Assets mapping and Intellectual Capital (IC) Inventorying, Knowledge Landscape Mapping, Creating Knowledge Maps and Knowledge Flowcharts, Critical Knowledge Function Analysis, etc. [12]. Of course, a single survey is not enough for full Knowledge Diagnostics and determining knowledge-related strengths, weaknesses, opportunities, threats, and risks. However, this is the first step, and HRM plays an essential role in this process. Equipped with powerful technologies HR specialists could provide high value for corporate strategic analysis, on this base for planning, action, and regular monitoring of the strategy implementation in order to gain the expected benefits.

3 E-tool for employees’ feedback

_HeRMeS V_ is specialized software for HR management. It is designed on modular principle and provides services to various HR activities [1]. The main modules of the system are divided into three groups (Fig. 1):

- **Additional modules** – provide links to other systems and generalized information for the business. The system could exist and function normally without these modules. These modules are accessible through desktop application.
- **Standard modules** – serve the operating HRM activities and are targeted for usage by HR specialists. Personal and Structure are basic modules, which keep up-to-date information for employees and the organization structure. These modules are accessible through desktop application.
- **Self-Services** – is a web-based module for use of all employees. It supports operational tasks which do not require HR specialists’ involvement. For example, through Self-Service the employees launch a process for approval of holidays or mission requests, etc.

All of these modules are accessible by employees. However, some processes require also provision of access to external for the organization people, e.g. in the process of job application. Therefore, a _HeRMeS V_ portal is designed to serve these cases and to unify all HR activities linked to external people.

The newly designed Surveys module is targeted at support for the investigation of employees’ opinion, e.g. after training course, before leaving the organizations, etc. At the same time, it provides opportunity for larger surveys among employees and getting their feedback on organizations health and possible problems, as well as identifying their engagement and commitment status. Therefore, in order to ensure all necessary functionalities of the Survey module by its design are considered different use scenarios based on the various possible users’ roles and actions. Several use cases are determined targeted at [1]:

- **HR specialists:** Survey generation, Definition of group of answers, Individual questionnaires, Leaving survey (Exit interview), Linking survey with personnel list, Linking survey with leaving employee, Group generation of individual questionnaires, Generation of rules, etc.
- **Employees:** Filling-in questionnaires though Self Service, Filling-in leaving survey (exit interview) through Self Service, etc.

On this base, are considered the requirements and preconditions for the module, and it is developed to support three main working processes [1]:

1. Design of survey and determining analysis rules and people who will be involved as respondents
2. Filling-in the questionnaire by employees
3. Analysis of survey results

HR specialists have the main role in the first and the last processes. They design not only the questionnaire, but also the analysis procedure and links between question, block and the whole questionnaire. Subsequently, employees determined to take part in the survey fill-in the questionnaire by using Self-Service.
The responses are stored in a database. The analysis results could be provided in different formats – MS Word, MS Excel or Adobe Acrobat. MS Excel is mainly used for generalized analysis in order to be able to process later the data according to the specific survey rules.

Due to the variety of surveys, the design of the module provides for the use of rules - part of the standard functionality of HeRMesV, which allows code of function to be manipulated and the function to be called according to specification. This ensures alternative calculation according to the survey-associated rules. Without these rules only the standard reporting is accessible, but if no one of the standard designed rules applies to the business needs, fast and easy a new rule could be created. The main idea is, by developing step-by-step rules, a database of rules to be created. This will ensure that only the needed rules are developed.

The module is a valuable tool for internal surveys in the organization and obtaining reliable feedback for improvement of the management processes. This e-tool provides managers the opportunity to design surveys according to their needs using both closed and open questions, multiple choice, ranking, etc.

### 3 Practical results of module implementation

The tests for usability and functionality of the newly designed Surveys module were conducted in an organization operating in the IT sector. In the organization work about 250 employees. Its structure includes standard functional departments: Administration, Accounting, Human resource, etc., and two specialized departments - one that develops software for customer “on demand” and one that develops and maintains the organisation’s main software product. The staff hierarchy is on three levels - operational staff, team leaders and managers.

In the study of the working environment was used a survey consisting of 25 closed questions with a choice of only one answer, plus one question, including marking of three statements. The study aimed to determine employee satisfaction on five key factors of the working environment [1]:

- Internal relations among employees
- satisfaction of the salary
- evaluation of the feedback system (performance management)
- character of work
- training and development opportunities

The survey was carried out in the whole company, and all employees took part in it using the new Survey module. The HR specialists designed the questionnaire and associated all employees to it, who used the Self-Service Survey for responding. The final analysis was completed by the HR specialists using the integrated rules in the Surveys module.

![Fig. 2 Survey results for factors of company working environment](image)

The generalized results for the investigated factors of the working environment are shown on Fig. 2. It is clear that employees are satisfied in most of the relationships between colleagues (73.00%) and work nature (69.33%). Factors characterized by lower satisfaction are performance management (47.31%), opportunities (46.59%) and level of salaries (43.11%). It should be noted that the most important factors for employees’ satisfaction (training and development, and payment) did not correspond fully to the staff expectations. At the same time, internal relations and team work are highly appreciated by them.

The deeper analysis of the survey results has indicated the following:

- **Internal relations among employees:** The average age of employees is 27 years, and most teams and team leaders have no large age differences. The high qualification of employees (most having MSc or at least BSc degrees) and the development of informal contacts are facilitating the closer contacts among them, as well as diminishing the distances between leaders and ordinary staff. All these factors contribute to a positive assessment by most employees of their relation with colleagues, and the overall collaboration climate. This factor could be considered as one of the driving forces for company development. However, it should be taken into account the risk of transferring possible personal conflicts to the working place, and thus decreasing the efficiency of collaboration.
• **Character of work:** The main tasks of employees are linked to software development using new technologies, investigation and satisfaction of clients needs. The different projects of the company require interdisciplinary skills – not just software development competencies, but also knowledge in the area of finance, accountancy, healthcare, banking, etc. The broader and challenging context of the software development is assessed very positively by most respondents. Although the department for developing the main corporate product has not so diversified work, it is involved in application of new technologies and has opportunity to exchange knowledge and experience with the colleagues from the other department which enriches both sides. Therefore, the character of work is very highly ranked by employees.

• **Performance management:** The feedback of managers for the performance of employees is given on monthly base. However, the survey results showed that some improvements could be made. For example, a recommendation was given for introduction of a more formalised system for performance management linked to 6-months objectives achievement, as well as assessment of team work of individuals, their creativity and initiativeness, as well as monthly review and update of objectives. Self-assessment is another proposed measure to take place before the formal attestation. As another need was pointed out the design of balanced scorecards for employees, including measurement of performance and difficulties faced for achievement of the given objectives. Its link to the reward system is desired as well.

• **Rewarding:** The fixed salary given presently is not related to quality and scope of completed work, as well the work towards team goals is not assessed and introduced in the rewarding system. Therefore, it was recommended the introduction of two-fold reward system based on achieving team goals and the contribution of the employee in this process. This may require enlarging the individual objectives with the 6-months team goals. As a result higher team integration could be achieved and greater efficiency and quality of work. In addition, it was suggested the introduction of a second component to the individual basic salary – a bonus divided equally among team members.

• **Development opportunities:** It was recommended by survey respondents to investigate the training needs of employees and ensure for each individual a career development plan, including training and building competences according to the real personal needs, as well as in other working areas of the company where the employee has an interest and potential. The impact of such measure could be a flexibility of labor force.

Finally, it should be noted that this company did not perform such kind of survey before. It provided to the management basic information for identifying problems, analyzing alternatives, and deciding on further actions to increase the satisfaction with the factors of the working environment considered [1].

### 4 Conclusion

The paper presented a new tool integrated to an existing HRMS providing higher opportunities to HR specialists to be involved in strategic analysis of the company. This new module has increased essentially the potential of the whole HRMS, and with its support during the practical testing described above was ensured reliable information from employees on their working environment, and considerations for its improvement.

In the knowledge society HR skills, competences and knowledge are assessed as an essential factor for competitiveness and growth. Presently, the intellectual capital is highly valued and becomes part of organization’s total market value. As one of the key components of intellectual capital, human capital directly affects the status of the company - its innovation and adaptability, the ability to provide quality end-products or services – bringing competitive benefits and higher revenues. Therefore, in the heart of every successful corporate strategy should be the human capital development and its optimal use for organizations’ success and prosperity.

### Acknowledgement

The authors would like to express their gratitude to TechnoLogica LTD employees for their support, and especially to Pavel Petrov whose expertise, understanding, and patience, added considerably new value to the work.

### References:

[1.] Toteva, K., IT use for analysis of employees’ feedback with the objective of HR management, MSc Thesis, Sofia University, 2010


[4.] Gourova, E., A. Antonova, Y. Todorova, Knowledge audit concepts, processes and practice, *WSEAS TRANSACTIONS on BUSINESS and...*
[12.] K. Wiig, People-Focused Knowledge Management, Butterworth-Heinemann, 2004
[13.] M. Rao, Knowledge management tools and techniques, Elsevier, 2005