

Information Support of Performance Management in Public Service Institutions

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Abstract — Information and communication technologies (ICT) can support performance in public service institutions in two ways: they can positively affect the performance by improving availability of required information for realisation processes, but ICT can have positive impact also on the support of performance management system. This paper is aimed at the analysis of preconditions that need to be fulfilled in order to have the performance management system functioning effectively. Standardization of processes/categorisation of tasks and the process of a requirement going through the service provision system in the public service institution will be separately examined.

Index Terms — Public services, Performance management, Task categorization, Workflow.

I. INTRODUCTION

The process of performance management including the process of performance evaluation belongs to supporting processes that are meant to help managers of public service institutions to make correct decisions related to measures for the improvement of working environment [1], qualification of employees, determination of strategies, setting of strategies, goals and procedures, as well as allocation of sources [2]. Information and communication technologies act in the process of performance management in public service institutions in two different positions:

- as a tool for improving performance/efficiency – the role of information technologies in achieving high performance of an institution [3] – utilisation of ICT in those areas where it was not possible to produce required outputs before ICT were applied; or the efficiency of work dramatically increased due to use of ICT and thus also the performance of employees and of the whole institution increased,
- as a supporting tool for the performance management system – the role of information and communication technologies is crucial for creating a tool for supporting a more efficient work with objectives and indicators of institution's performance in the sense of a controlling system related to the usage of sources of the institution for effective fulfilment of tasks [4].

The subject of examination in this paper is the role of ICT as a supporting tool for the performance management. The performance management process in public service sector offers many opportunities for the implementation of ICT in various forms: in form of various cards and sensors they can serve as an unpopular method for monitoring attendance of

employees and their movement in workplaces especially from the perspective of access to institution's premises with authorised access; in form of networks they can serve for interconnection and sharing of information including information about performance measurement [5]. However, these are approaches that do not bring any added value to performance measurement in form of new opportunities [6], but only substitute or accelerate existing ones.

II. SUPPORT OF PERFORMANCE MANAGEMENT

Available software products for the management of public service administration offer usually the following basic functionalities in the sense of an online application:

- administration of users including the organizational structure of the institution,
- assignment of tasks and control of their fulfilment,
- displaying an overview of monitored indicators and data,
- displaying data transcripts,
- entering data,
- correction of entered data,
- later addition of indicators and data,
- calculation of indicators for both consistent and non-consistent data periods,
- displaying results in table and graphic form.

The performance management system with ICT support can be characterised with parameters related to:

- functionalities – number, sophistication (e.g. option to make experiments with changed setting of values of target indicators or categorisation of tasks),
- scope – scope and completeness of used standards,
- access – differentiation and options to assign access rights, degree of required interaction with the user,
- reports – setting a combination of factors for creating the required output,
- review frequency – provision of innovative solutions and approaches, transition to other SW and HW platforms.

The model must also take into account the fact that the role of performance management is to manage sources and competencies efficiently in order to achieve the highest possible benefit for all concerned parties. More specifically, it means the role to maintain and improve the management system for effective achievement of objectives with respecting requirements of interested parties [7]. The performance management must in addition to the evaluation of outputs and results include also indicators that take into account the availability and adequacy of competencies and sources, as well as indicators that take into account participation of interested parties [8].

III. CATEGORISATION OF TASKS

Categorisation of tasks represents one of possibilities how to overcome barriers in the measurement of performance (both individual and of the whole institution) in this institutions where work has project nature [9]. It consists of creating acceptable categories of tasks to be solved by individuals and teams. Such tasks can have assigned determined evaluation, which can be projected to comparable values (such as consumption of sources, consumption of costs). The issue with the categorisation of tasks is in the determination how to divide tasks and to how many groups. This issue can be solved in following steps:

- **Generating a set of the most frequently occurring tasks** - This task can be best solved by a team of experienced senior managers able to name and specify typical tasks occurring within the organisation. Tasks should be briefly described and apt denomination should be found for them. Tasks overlapping should be avoided in their specification, i.e. individual tasks should not have a common intersection;
- **Determination of criteria for evaluating demands of tasks** - The task to determine criteria for their evaluation, which shall form a basis for the subsequent categorisation, is essential for the proper categorisation of tasks into groups. This task should be dealt with by the management which sets organisational performance targets and monitors their fulfilment. The only one criterion can be determined, which shall express time expenditure of a task fulfilment. However, such solution is often insufficient because of high misrepresentation. The author of such categorisation would be in fact forced to solve each task separately not allowing, however, distinguishing between the required competences of employees. This would thus result not in the categories of tasks, but in a set of tasks evaluated by time dispositions. In this article, we focus on a more appropriate approach which would lead to the creation of categories requiring, however, the use of several criteria. Such approach allows achieving a better result in tasks categorisation, although with higher demands on the initial processing. The appropriate criteria for categorisation can include for example the following:
 - o time expenditure of the task processing – starting from the tasks which can be solved in an hour up to the tasks requiring tens of hours or respectively days of work;
 - o the required specific knowledge and skills - starting from the tasks which can be solved using conventional knowledge (e.g. obtained by study) up to the tasks requiring experience, a combination of knowledge from several disciplines and a certain level of invention to be solved;
 - o the required team work - starting from the tasks solved in sequence where the cooperation in the form of handing down outcomes is sufficient up to the need of developing a common outcome created in close interaction of several specialists.
- **Assignment of criteria values to individual tasks** - each from generated tasks should be specified according to

determined criteria, namely in the expression of units according to the stipulated value interval;

- **Determining groups of tasks using cluster analysis** - The tasks specified can be classified into groups using cluster analysis. This involves in fact a comparison of the distance of objects in n -dimensional space, where n represents the number of criteria. In this case, objects are the tasks characterized by criteria values. The purpose of the comparison of objects is to form from the set of all objects such groups where the objects within a group are as homogenous as possible, i.e. objects within a group should have the highest possible number of similar features and groups with respect to each other should be as heterogeneous as possible. When solving this task, the contemporary software tools (e.g. Statistical Analysis System – SAS) allow obtaining natural clusters, forming a specified number of clusters, characterizing the most important criterion causing differentiation, or characterizing a typical representative of a cluster respectively.
- **Determination of average value for a group (category) of tasks** - Categorisation of tasks makes sense only if each task assigned and implemented within the organisation can be categorized in the corresponding category. Similarly, if the aim of categorisation is to help in performance measuring within the organisation, the value expressing e.g. the average time of the task fulfilment must be determined for each task.

IV. SUPPORT OF PERFORMANCE MANAGEMENT – PROCESS OF THE REQUIREMENT'S COURSE THROUGH THE SYSTEM

Solution of the software support of performance management must be based on the analysis of activities related to dealing with a standard task of public service institution [10]. This is an example of task assigned to the institution from outside:

- Reception of task assignment – software for registration of institution's requirements registers the requirement (internal or external), assigns a unique identification code to it and forwards it to decision about categorisation and assignment.
- Initial decision about the task – responsible employee receives the task (with identification code), makes preliminary familiarisation with the task (general characteristics of the task) and categorises the task to relevant category. The task is subsequently assigned for processing to the respective level, what is entered into the software environment.
- Secondary decision about the task – if necessary, categorisation of the task is reassessed at the respective level and the task is assigned for processing to a particular work position.
- Start of task processing – employee at the respective work position receives the task assignment and evaluates whether there are all necessary inputs available for the processing of the task. If not, the employee asks specific

departments or work positions inside or outside the institution for necessary inputs (in digital form), what is registered also by the software environment, which also contains options from whom s/he can ask a statement or necessary inputs.

- Collection of necessary inputs and partial opinions – each of the interested parties coming into contact with the task on request of the processor registers work with the task in the software environment.
- Reception of inputs and fulfilment of the task – work position responsible for the execution of the task performs necessary final actions and prepares the solution for approval of person who assigned the task.
- Approval of the fulfilment of the requirement (solution) and closing of the task.

A process-oriented model (Fig. 1) can be created by means of this analysis, which characterises requirements for functionalities of the performance management system [11].

overview of how many task of which category were managed by a certain employee in the given period of time and in what quality. Information from performances of one employee can be compared with the average performance of the whole department or with other employees, but especially – it is possible to return by means of results about the average processing of tasks of a particular category to the setting of category parameters (change of evaluation from the perspective of time fund assignment). Information obtained from such measurement of performance should provide to process owners exact and objective information about their course. Identification of the improvement potential is possible by comparing obtained data from the performance measurement with target, planned values, which can be called also the expected level of service quality. At the same time, information can be used also for arguments concerning individual performance, as results of measurement of individuals are comparable by means of task categorisation, and even internal target values, benchmarks, can be determined.

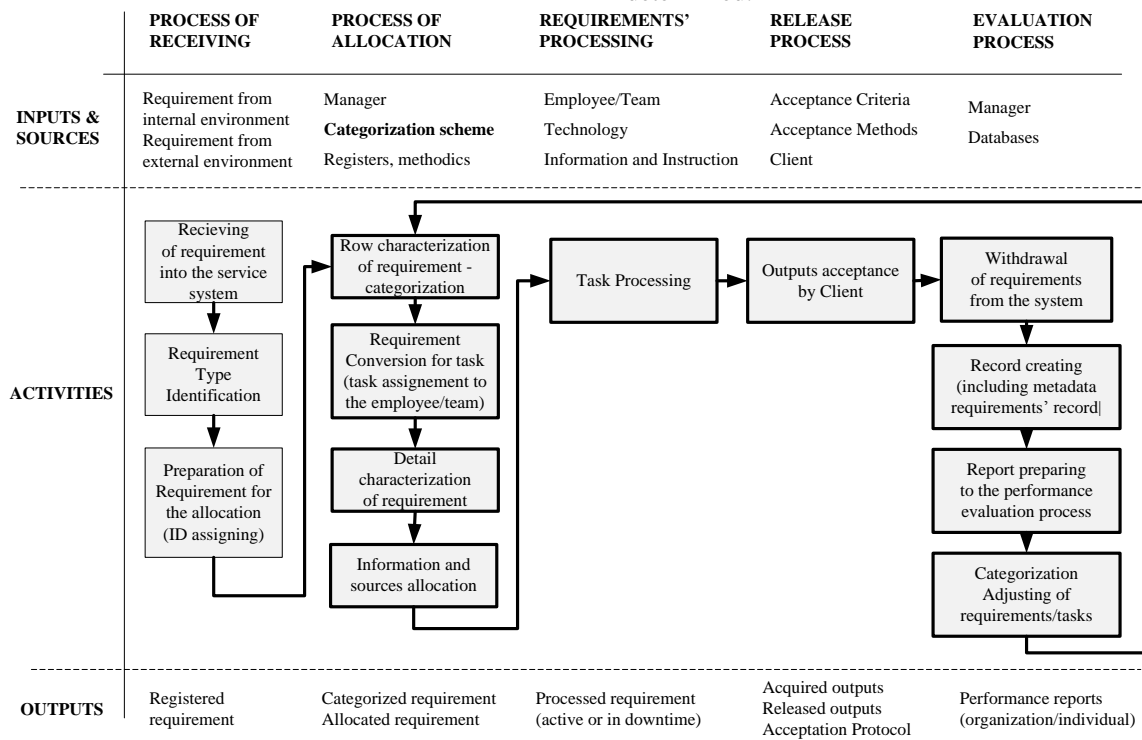


Figure 1. Process oriented model of requirement fulfilment

Software environment with necessary functionalities will, in case of long-term monitoring of performances in the institution, provide necessary information for measurement of performances as every status of task (requirement) will be recorded in the system (in institution), detailed to the level of work positions and records about the status of its processing (requirement is received, requirement is being worked with, requirement waits for processing, requirement waits for supplementary inputs, requirement was forwarded to further processing, requirement waits for decision, requirement waits for approval, requirement is closed).

In addition to information about the status of the requirement, the work load of employees can be also evaluated. Reports for the respective period can provide an

V. CONCLUSION

The performance management system should capture the flow and procedure of activities of the requirement flow process through the system of service provision (description process model and process model with workflow). A model created with this purpose can serve as a basis for further elaboration into use-cases and for the creation of an information system for the support of performance management.

Optimal setting of a software application for the needs of performance management should, in the sense of meeting theoretical inputs, enable the creation of any model of performance indicators of the institution, contain qualitative information of the institution, such as institution's vision,

definition of elements in the indicator model (e.g. to create groups of indicators), map relationships between elements and determine correlations between them on the grounds of data from the previous period, define the method of measurement of indicators and respective responsibilities and powers related to the creation of records and changes, including the method of entering data in order to maintain currency of structures of indicators and monitored values, define action plans based on results of the measurement system and to consider their effectiveness: "do we achieve expected results with respective activities and sources?", quickly and efficiently create reports of the performance of institution, its departments and employees, include into measurements also external sources of data, enable the whole institution to comment the measurement system and values obtained via the web.

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