E-SMO Project and SW Tools Used in Process Modelling

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Abstract: - The paper presents basic information about a newly implemented information system E-SMO, which has been recently created as one of the largest projects in the Czech Republic that is used for process analysis in public administration. Apart from content informations specialized software tools are described that are used for process modelling. Main focus is put on process analyses (ARIS tools) which were used as building tools for the described information system implementation.

Key-Words: - ARIS, E-SMO (Electronic Statutory City of Ostrava), call center, process modelling, public administration, back office

1 Introduction
Together with increasing competition in commercial sphere, both in the Czech Republic and in Slovakia, the pressure for raising product quality and creation of services and care is rising. A citizen when acquiring services and products takes into account – except their quality – also a specific attribute – the price of products. The price becomes a parameter that is often crucial when concerning acquisition of particular services or products.

A citizen is persuaded by various commercial subjects about acquisition of the best product or service at the lowest possible price.

In the commercial sphere there are discussions about companies’ productivity and about cost of various processes that are creating a final product or a service for the citizen. The citizen, on the basis of his/her experience from the commercial sphere, requires from the subjects of public administration the same service quality at which he is accustomed to from the commercial sector. The main task for management staff of public administration subjects is thus to provide the similar service quality with some limited facilities.

The government and particularly the governmental departments produce legislation acts, public notices, as well as delegated legislations. There is a task for subjects of public administration executive to create such processes, which will fulfil the clause of these standards and ensure an adequate service to the citizen, or they will prepare data for decision making, which is a task for certain governmental departments (i.e., they will supply information as a final service). A final value of this service consists in and is also produced by corresponding processes but not by organizational divisions or functions.

2 The process analysis in public administration
In open information society the public administration authorities have possibility to draw on the experience and on the knowledge, which were obtained by many of productive and non-productive, profit-making and not-for-profit organizations for a couple of decades in the area of process development. The process control is one of the possible tools of an additional economic growth of the organization. In the area of public administration there are discussions about establishment of process changes that will lead to [1]:

- increment of public administration efficiency, i.e. it will lead to better quality of services provided in accordance with a statute of public administration authorities;
- minimization of errors;
- an acceleration of service delivery (customer’s requirements fulfilment);
- saving of expenses concerning delivering services.

In most of organizations, including subjects of public administration there has been a large number of implicit rules which survived from the past. These rules are often based on techniques and organizational purposes, which may not to be valid anymore. Together with increasing worldwide tendency concerning emphasis on quality of delivering services it was concluded that organization control based on functional hierarchy requires excessive expenses and is time-consuming.

Recent subjects of public administration are composed of vertical structures based on sub-elements of a whole process. The staff involved in a process is ranked to their
subdivisions and to their leaders, but the majority of them do not have direct relationship to a customer (a citizen) outside of the organization. Hardly anybody is responsible to for the processes as a whole. These problems are conclusions of processes break-ups, resulting in the following facts [1]:

- inhibition of innovation and creativity (a new idea is accepted only in case that every control cascade is agreed with a proposed idea, but the idea could be rejected by only one negative attitude);
- collective leadership is often separated from the procedure of process realization and in consequence of its division into specialized units. In the organization nobody does undertake such function, from which he could recognize crucial changes in the process;
- lack of economy in disintegrated organizational units does not reflect in direct costs, but in indirect costs. It arises also production necessity of many of workers (auditors, check personnel, co-ordinators etc.) who are responsible for sticking together a whole process, which has a metaphorical meaning that you pay more for a glue than for a real work.

Among specific causes of a low effectiveness (which may lead to an inefficient production) of public sector belong these [1]:

- absence of a profit category;
- complicated costs expression, an expression of pay-offs and profits;
- noncompetitive environment;
- feeble consciousness about the importance of a citizen as the recipient of delivering services.

3 Software tools

In the area of public administration in the Czech Republic and in Slovakia we met three SW tools, which are used in process modelling. These are:

- FirstStep;
- ARIS;
- QPR.

Within the frame of project E-SMO (see the following chapter) there are individual agendas processed by the software tool ARIS. There are clearly defined roles which ensure the process. In agendas, two primary roles are defined. These are front office and back office. The staff that get role in the front office provided contact with a client. To be concrete, it means a reception of clients’ requirements, eventually these requirements fulfillment (if it is possible, of course) and then issuing of required documents after processing it in the back office. The staff with a role in the back office in the Ostrava Town Council performing their duties, they do not get into touch with a client. They bring into effect processing of client requirements, which they accepted in the front office. They also ensure every activity that is concerning processing of requirements, e.g. a reception of requirements received by post.

<table>
<thead>
<tr>
<th>ARIS</th>
<th>„ARchitecture of Information Systems“ The information system used to process analysis and to information systems developed by IDS Scheer Company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>eEPC</td>
<td>extended Event-driven Process Chain</td>
</tr>
<tr>
<td>VACD</td>
<td>Value Added Chain Diagram</td>
</tr>
<tr>
<td>FAD</td>
<td>Function Allocated Diagram)</td>
</tr>
<tr>
<td></td>
<td>The object used in VACD models. It represents individual processes and subprocesses.</td>
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<tr>
<td></td>
<td>The object used in VACD models. It is so-called “inactive” object. It is used for visual differentiation of subprocesses, which do not come under the particular process, but e.g. subprocesses directly connect an object or go before an object.</td>
</tr>
<tr>
<td></td>
<td>The object used in eEPC models. Under the term Status we understand the result of certain previous activity – e.g. after the activity “Reception of client request” and the resulting status could be “The request was accepted for processing.” Status symbols making the model more transparent and contribute to simplification and readability of the model. The status describes static reality no an activity.</td>
</tr>
<tr>
<td></td>
<td>The object used in eEPC models. Under the term Activity, we mean particular operations, which must be done – either by a staff member or automatically by the information system. As an example of Activity could be “Issue of a request,” “Discussion of a life situation,” Information of an applicant” ect.</td>
</tr>
</tbody>
</table>
The object used in eEPC models. It is an automatic system function.

The object used in eEPC models. It represents cohesion of particular processes – e.g. the majority of processes have certain previous processes/following processes.

The object used in eEPC models, or Organigram. It represents which staff member performs a particular activity. Into one process role there is usually united knowledge, skills and competency that are necessary to perform a part of the process. The staff gets process roles; a worker usually has one or more roles. A few workers (because of taking the place of each other, as minimum) usually simultaneously perform one role.

The object used in eEPC and FAD models; it is a model of documentation. Moreover, it represents a concrete data form that has been processing during a particular activity.

The object used in eEPC and FAD models. The object represents base of knowledge, which could be used during a processing of concrete activity. It usually mean either references to legislation, in-home regulations (directions, instructions, rules for the implementation) or http://slovnik.seznam.cz/?q=dokumenty&lang=cz_en documents put in the Intranet/Internet.

The object used in eEPC models. The object of the logical operator AND – used in eEPC models. It shows that all input/output linkings leading to/from the object must come simultaneously.

The object of the logical operator XOR - used in eEPC models. It shows that from all input/output linkings leading to/from the object must always come just one of them.

The object of the logical operator OR - used in eEPC models. It shows that from all input/output linkings leading to/from the object must come one of them as minimum or all of them as maximum – it means that there is any combination of linkings possible.

Fig. 1: Symbols and conceptions table used in process models [2]

4 E-SMO

The E-SMO project is one of the bigger projects, which is used for a process analysis in public administration. It is realized in several stages and the project is recently in progress in Ostrava (the third largest town in the Czech Republic, the city has cca 320 thousand inhabitants and the city agglomeration has about 1,2 million of inhabitants).

The E-SMO information system (or so-called „the electronic corporate town Ostrava”) represents a modern and attractive way of communication between a citizen and the authority. Fast, reliable and transparent service for a citizen is possible thanks to the Internet or telephone that is used for communicating with the public authority. The E-SMO is a tool, which makes official business easy.

The first stage that used modern communication channels for communication with an official business of citizens in agendas is oriented on:

- identity cards;
- communal waste (the system of refuse collection and regulation charges).

Since the beginning of the year 2007 the second stage has been opened and services were extended for other areas.

- issuing of travel documents;
- citizenship statistics;
- administrative agendas of transportation department;
- administrative agendas of transportation-administrative department;
- administrative agendas of Trades Licensing Office department.

It follows that in near future it will be possible to use the E-SMO also for issuing of driving licences or for
submitting Trade Certificate applications. Having finished the second stage, the third stage is expected. The third stage would continue to extending the agendas portfolio further on, but it is still in progress.

5 Conclusion
Nowadays the E-SMO project is at the end of the second stage and it could produce the following benefits for citizens:

- **Distinctive timesavings**
  - In case that the law does not require it, visiting of the office is not necessary or the time spent in the office is minimal.
  - The office visit is possible to book in advance to concrete time and date, which would be maximally suitable for a citizen and he does not need to wait in a queue.

- **Availability and comfort**
  - There is continuous access for entering data and for control of your requirements in the Internet sites and also by telephone through the advantageous telephone line, i.e. also from a house phone.

- **Safeness**
  - The service meets the latest requirements for safety of data holding and data transferring.

- **Topical information**
  - A citizen always has a notion of a stage in which his processing requirements occur.
  - At the moment of requirements fulfilment the information will be automatically send to the client, the information will be send either in a form of SMS message to client’s mobile phone or through the electronic mail to the email address defined by the client etc.

- **Establishment and exploitation of E-SMO services is free of charge**
  - In addition to this fact, the citizen will save money, because he does not need to travel to the authority office so often.

- **Continuous development**
  - The offer of services will be continuously extended.

References:


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