

Cockpits for Swiss Municipalities – a Web Based Instrument for Leadership

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ABSTRACT

The increasing complexity concerning leadership and management of small and medium size municipalities in Switzerland, poses high demands on executive authorities. Cockpits for municipalities collect data for the decision-making processes in order to launch and establish a strategy and to enhance information based municipal leadership.

Categories and Subject Descriptors

H.2.7 [DATABASE ADMINISTRATION] Data warehouse and repository; H.4.2 [TYPES OF SYSTEMS] Decision support; J.1 [ADMINISTRATIVE DATA PROCESSING] Government.

General Terms

Management, Measurement, Performance, Design

Keywords

Cockpit, Municipalities, Web based Instruments, Information based Leadership, Decision Making

1. COCKPITS FOR MUNICIPALITIES

Municipalities are the smallest political entities of Switzerland. They are in charge of matters such as social services, local planning or taxes, independently to a large extent. Due to increasing responsibilities, the complex nature of political issues and interdependencies within the public sector, the local management is rather overburdened.

By introducing a cockpit, small and medium municipalities have a better chance to achieve their goals, to strengthen their political leadership, and to accomplish more transparency towards their local target audience [1]. The cockpit allows identifying data derived dependencies, and may thus give an overview to strategic goal conflicts which may lead to new sets of synergies to the stakeholders. Hence, optimized and structured data presentation can efficiently support the management process. Budget divergences, for instance, can be analyzed with a few clicks, while data on inhabitants deliver information about changes in the population structures, as a whole.

However, a successful implementation of a cockpit requires a communal strategy from which measurable goals can be derived and viewed by a set of indicators. For the latter, an alignment between the (local) business and the IT-view is essential in order

to reach integration between the cockpit and the municipality's processes [2].

We are developing and implementing IT based cockpits for seven small municipalities in the Swiss Cantons of Berne and Wallis within a Research & Development (R&D)-project supported by the Innovation Promotion Agency of the Federal Office for Professional Education and Technology (2007-2011). The cockpits are built on top of a web-based platform to incorporate collaborative functions and data that is structured and analyzed using Business Intelligence (BI) methods and technologies.

The project adopts two research perspectives: a management- and a technical perspective. The researchers dealing with the first perspective have to raise the municipalities' awareness for strategic leadership, understand their policy making and administrative processes in-depth, and they need to identify as well as support the development of indicators, which are strategy based in order to measure the common goal. The more technical oriented team has to adapt Business Intelligence (BI) for municipalities' cockpits, ensure data import, storage and processing (Data Warehouse, OLAP, data mining, balanced scorecard based performance management). Further the team is in charge of reporting and presenting the data of the cockpits.

The preliminary results of this interdisciplinary and applied R&D-project will be fruitful for those researchers and developers who are interested in the topic ICT based leadership and management – especially for those focusing on the public sector. To ensure an effective dialogue between end-users and developers on all aspects, the seven pilot municipalities obtained a simple cockpit from the very beginning of the project. To ensure a sustainable utilization of the cockpit solution, the team works with strong industrial partners, national and cantonal entities as well as the Swiss Municipal Association.

2. MUNICIPALITIES' NEEDS

According to a survey carried out by the R&D-team at the end of 2008, end users are mostly interested in quarterly data (e.g. development in different political areas), benchmarks with other municipalities, and functions like extrapolation and trend analysis. Being able to provide an overview for the council and the mayor, efficient document management and the promotion of collaboration on an agglomeration level are also of great relevance.

In order to model the processes concerning the communal annual planning, we conducted qualitative interviews with political and operative stakeholders of the pilot municipalities at the end of 2009. We identified different needs on the political and operative level (leader of the council, mayor vs. "Gemeindeschreiber", the operative view of a Swiss municipality): They need a controlling instrument, analytical overviews for supporting particular lines of

argumentation, and a collaboration system with central data management. A simple, concise and sustainable data placement and visualization on the cockpit website seems to be relevant here.

The decision makers on the municipal level need to be trained and sensitized. Especially for the implementation of the cockpit it seems indispensable to support them in defining the indicators for measurement.

3. STATE OF THE PROJECT

During the first two years of the project, we developed and implemented simple cockpits in the seven pilot municipalities. Further information can be obtained at <http://www.gemeindecockpit.ch>.

The IT-Team focused on interfaces, data import (data logistics and import process, data quality and validity), security and data protection (user and authorization concepts, data protection for personal data, technical and organizational steps for data protection), BI (data warehouse, OLAP, Cubes), web based presentation.

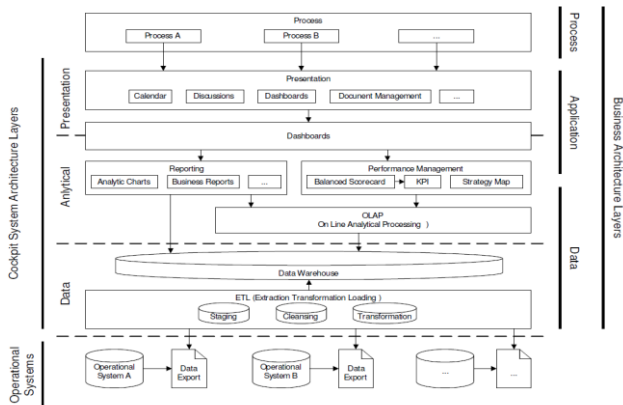


Figure 1. Cockpit Solution Architecture

The team designed an IT centric system architecture for the cockpits that are in alignment with the business processes [1]. The cockpits contain multiple dashboards providing comprehensible overviews for specific subjects. BI, cockpits and dashboards are rather attractive for the public sector where they can be used for information based management and decision support in policy making.

The cockpits for the seven municipalities are customized versions of a standard cockpit that encompasses common features. The customization mainly concerns the two upper layers of the architecture (cf. Figure 1) since the dashboards and views reflect the strategy of the respective municipality. Further, they are tailored for their individual management processes.

From the management perspective awareness for strategic leadership was raised; processes, such as annual planning, were modelled (annual planning vs. rolling strategic planning) and together with the pilot municipalities we identified first indicators for the cockpits. Based on the phases of process analysis and instrument mapping we were able to better capture the possible fields of application of the cockpit (cf. Figure 2), namely the assessment of the situation as a whole (basis for decision-making),

of the strategic level (effectiveness, right direction) and of the operative level (efficiency).

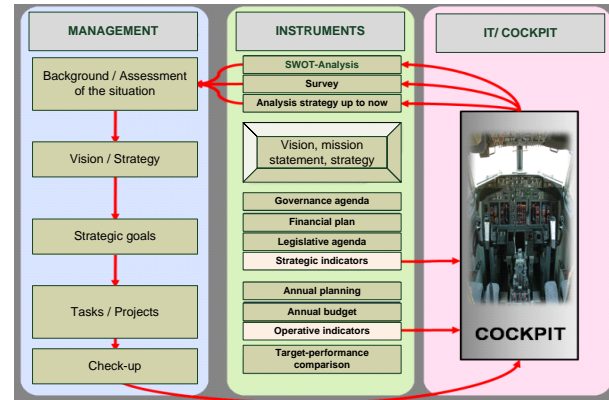


Figure 2. Management Process with Instruments

4. MAIN CHALLENGES AND FURTHER PROCEEDINGS

In municipalities with approximately 5,000 inhabitants and a political militia system (i.e. the poorly remunerated public offices are filled by normal citizens), the principle of strategic thinking is less popular than direct problem solving. In this context, decision-makers are generally not used to measurements in the political context.

At the end of the project we need a cockpit that provides utility for strategic management as well as the support for the daily business. The challenge is to identify incentives to transform the cockpit from a playground into an acceptable and frequently used management tool.

In order to achieve advancements on a large scale we need to raise the municipalities' awareness of the advantages of cockpit solutions and we need to support them with training and workshops. The challenge is not to provide a system, but to work with it in the municipalities' daily business and decision-making process.

5. REFERENCES

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