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MODSSO – A Manager-centric Global Decision Support System for Organizations

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Abstract

The goal of this paper is to describe a set of structured concepts for the design of software systems supporting the global decision process in an enterprise or organization.

The concepts has as elements: i) each manager has available a decision dashboard to support, in a framework of decision theory, the flux of decision-making for which he or she is responsible; ii) the dashboards also allow managers crowdsourcing from non-managers different aspects of decision iii) the dashboards are connected in a conversational network; iv) this conversational network is so structured to support the global decision process of the organization.

An example of implementation's architecture for the concept will be described.

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1. Introduction

The work presented in this paper is based on the concept of a conversational decision support system for organizations, described in [1-3]. Here we shape the concept in a more immediately applicable form, with strong emphasis of the system design on usability and use by managers. We also describe an example of implementation architecture.

The concept of a conversational decision support system acknowledges the fundamental role of conversations among people in decision processes. Inside an organization, decisions can be taken, first, by automatic devices, as some management software that implements established rules upon data. Second, they can be taken in an individual fashion by managers. These modes of decision taking making no use of conversation have their usefulness, but people's practice shows that, usually, from some level up of decision difficulty, conversations among people are necessary for good decisions, if not only for decisions.

This leads one to think of the set of decisions taken in an organization as being supported first and foremost by a network of conversations, complemented with individual and automatic decision. Taken altogether along time the set of decisions can be seen as the global decision process of the organization. Therefore one can ask if and how decision support systems can be built that target to empower managers to accomplish better their managerial tasks in the frame of a global decision support system. It turns out that such system must have support for formalizing decision processes and support conversations. With regard to specific types of decisions, managers can possibly rely on specific decision support systems. Yet, to the best of our knowledge, the idea of a system to support the global decision process as such, that is, in its entirety, has not found its way into functioning products or systems. This was the theme of the above referred papers.

In this paper, we explore another dimension of the problem. As in the papers above, we depart from the concept that any organization or enterprise has, implicitly, a global decision process. This global decision process is constituted by all the decisions taken by managers at different responsibility levels and the interactions among people contributing to the taken decisions. This process has a fuzzy character and implies conversations among people [4].

To this we add another recognition of fact as a key concept. Managers are the ones that take decisions and assume responsibility for the decisions taken. In a successful organization managers are committed to bettering decisions and decision processes. It follows that managers are the ones assuming responsibility for the global decision process of an organization or enterprise. Unavoidably, they shape the process and the system should follow this shaping. Therefore, the architecture for the global decision support system deployed here is *manager centric*.

The main role of each manager is to originate a stream of decisions. Following a manager centric approach, the first function of a system supporting the global decision process must be, exactly, to support each and every manager in her or his daily managing activity, i.e. to support each manager in taking decisions.

In the presented approach, the interface between the global decision support system and each user will be called a decision dashboard. There are decision processes in the organization and people that participate in the decision processes. Processes, people, interactions among people and the system are to be registered in a database or a database system. Each system user, each manager, will have access to a personalized view of the database, as well as personalized functionalities, through his or her decision dashboard. The decision dashboard is deemed to become the main tool of managers in their daily managing tasks.

In the perspective of this paper, the network of dashboards and associated data base, or data bases, constitutes the global decision support system of the organization. Section 2 describes dashboards from the point of view of single manager usage. Section 3 describes communicating and joint-decision capabilities in the network of dashboards, leading to the envisaged global decision support system. In Section 4 we sketch a possible implementation approach. Section 5 concludes.