

# Anton Kozhemyako. Contradictory Business Processes and Schematization

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## 1 Introduction

In his thesis “Special Features of the Use of TRIZ for Solving Organisational-Managerial Tasks (OMT): Schematization of an Inventive Situation and Work with Contradictions” [1] Anton Kozhemyako proposes a way to use schematization on business tasks to TRIZ tools which can be successfully applied. Further he develops a method for determining the operational zone in OMTs.

## 2 Organisation and Management

According to Kozhemyako [1] there are three forms of activities that build the basis of management:

- **Organisation** is the process of forming supersystems and/or subsystems of various level in business systems: associations, organisations, departments and workplaces. Organisation is the formation of the structure, i.e. of the elements and their interconnections.
- **Leadership** is the setting of tasks to performers and monitoring their implementation.
- **Management** is a change in the activities of performers, i.e. when the structure is organised and all tasks are distributed (including tasks for feedback), but the efficiency of the performers is not satisfactory. The Manager tries to change their activity in the direction of improvement, that is, he/she begins to manage their activity.

All of these are activities in business systems and can be called “organisational-managerial” tasks or OMTs for short.

Most of such problems do not cause difficulties to managers since they encounter similar situations regularly. However, some OMTs cannot be solved in the usual way. For this reason, many attempts have been made to use TRIZ tools to solve OMTs but to analyse the OMT it turned out to be difficult or unreliable since most of the TRIZ methods are ill equipped to incorporate human elements [1]. When solving OMT, it is impossible to consider people in organised social systems as ”objects”, since they are essential (and often the most important) elements of the system.

### 3 Schematization

Schematization is a method developed within the Moscow Methodological Circle lead by G.P. Schedrovitsky as a means to solve problematic situations in the field of organization and management [1].

Schematization tries to look at the business system from a bird's eye view. The use of schematization prevents the narrowing of the task during the analysis stage [3].

Components of schematization: [3]

- System Framework or model of a working system (MWS). This is the system to be analysed.
- Elements. There are two types of elements: Objects and Subjects.
- Levels. The levels describe which element is managing and which element is managed. The element of the higher level is the managing one.
- Connections. There are three types of connections:
  - A direct line – A relation. There is a connection between two elements but it is of no interest.
  - A one-directional arrow – A function. A function is defined similar to TRIZ.
  - A two-directional arrow – A process. A process is the development of a phenomenon in time.
- Generalized objects. A generalized object is a shell that serves a role within a system. It specifies the requirement of that element.
- Filling (content). A filling or content of a generalized object specifies the requirement of a specific entity. For example, a person with relevant competences or a computer program with special characteristics.

Using a generalized object without a filling result in a repetitive solution that can be used in a variety of situations and it can be easier to anticipate outcomes.

Using a filling on the other hand allows for the usage of its characteristics to get a more specific (tailored) solution for the problem but risks not being reusable.

Schematization should be considered only as a tool for the primary analysis of a business system and should be combined with the analytical tools of TRIZ [1].

### 4 Inherent Contradictions of Goals Regarding the Remodelling of Business Processes

When remodelling business processes the main technical contradiction has to be found. The technical contradiction is a pair of two opposing goals both demanding the same resource. This pair is called the operational zone and is the location of the conflict.

Within the operational zone you can find a tool, which is the object that performs a negative impact, and a product which receives the impact as well as the environment surrounding this conflicting pair.

Using those it is possible to find the resources used by these elements and prioritise them if necessary. Resources can be prioritised by e.g. the available quantity, how useful or harmful it is, how high the cost of the resource is or to which element it correlates.

Each resource should be used in the most optimal way possible in order to get the best solution [1].

## References

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