

DESCRIPTION FOR THE GENERAL PUBLIC

The project is focused on the negotiation analysis of bilateral electronic negotiations conducted by means of negotiation support systems.

The phenomenon we try to describe and analyze is the cognitive dualism of negotiators in making their negotiation decisions. The results of scientific researches conducted within the experimental economy emphasize the decision makers' limited rationality and common using of intuition and heuristics instead of systemic and rational decision analysis while making various managerial decisions.

Heuristics are simple procedures that allow people to elaborate quickly, yet not always precise, answers for complicated questions or solutions for the problems they face. They are present in all those situations that involve emotions, limited time for making decision (deadlines) or some external difficulties. They are present in one of the thinking modes called fast thinking (System 1), used by people for solving vast majority of their decision problems, which involve intuition and experience-based reasoning. An opposing system of slow thinking (System 2) that is based on rational and analytical approach to decision making, is used by people only if System 1 is not able to cope with the problem under consideration and provide them with quick solution. An important feature of all heuristics is their "invisibility", which means that very often the decision makers do not realize that they are using the heuristic-based reasoning approach, i.e. they use it unconditionally. Despite all the difficulties in recognizing the heuristics they influence the decision making process heavily. Hence, it is vital to categorize all types of heuristics and study their impact on the decision making processes and their results (the decisions themselves).

The heuristics in negotiations were widely studied as a part of the behavioral negotiation analysis. They were also confirmed in many experiments. Various misperception errors that result in distorting information were analyzed and their consequences such as anchoring effect or framing effect were analyzed. The recent development of software engineering and e-commerce makes people to negotiate via Web more and more often. The business electronic negotiations can be conducted by means of negotiation support systems, both dedicated or being parts of larger ERP systems. Such an electronic negotiation implements many formal algorithms for supporting and facilitating the decision analysis in the prenegotiation phase, allowing for advanced preference elicitation and building the negotiation offer scoring systems that reflect precisely the negotiators' preferences, goals and aspirations. These formal mechanisms should stimulate analytical and rational behavior of negotiators, who are enforced this way to analyze the problem using the slow thinking mode and consequently eliminate or significantly reduce the negative effects of heuristics. As a result the problem should be recognized, defined and structured more adequately, the preferences defined more precisely and the later decision on accepting or rejecting the negotiation offers – more rational. However, the results of our initial research indicate various problems the negotiators (i.e. the participants of the electronic negotiation experiments) have in appropriate and correct using the analytical tools designed for supporting the negotiation process. Therefore, it should be verified and experimentally confirmed if and to what extent the formal decision support tools, methods and algorithms based on the theory of multiple criteria decision making and applied to negotiation support eliminate the negative effects of heuristic-based thinking and prevent the negotiators from making the typical mistakes resulting from way of acting typical to fast thinking mode.

Hence, the main goal of this project is to recognize and evaluate the potential impact of heuristic-based thinking on the prenegotiation activities of negotiators that are focused on strictly analytical tasks such as: defining, structurizing and analyzing the negotiation problem; and building the decision support models for facilitating the further stages of negotiation process, i.e. determining the negotiation offer scoring system and verifying its adequacy and accuracy in reliable scoring the negotiation packages. Within this project we will conduct novel and original research focused on measuring the scale of influence of using heuristics and intuitive thinking on analytic work done by negotiators, and analyzing the capabilities of various decision making models and tools to eliminate the negative effects of such heuristic-based thinking. It will allow to identify these stages of prenegotiation preparation that required a special attention and support by additional facilitation mechanisms. From the viewpoint of the negotiation theory these findings are of particular importance, since any mistakes and errors made in prenegotiation phase, e.g. related to false problem definition, preference analysis and inaccurate determination of scoring system, influence the further decisions made by negotiators in subsequent phases of negotiation process. We would be also able to design and develop new support techniques and algorithms adjusted to the negotiators cognitive capabilities and their decision-making profiles, easy to use but, at the same time, precise enough to adequately represent the negotiation situation and negotiators' preferences, goals and aspirations.