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Contribution of the Systems Research Institute, Polish Academy of Sciences to EQUAL

Jan W. Owsinski, owsinski@ibspan.waw.pl
Jacek Nieckula, nieckula@ibspan.waw.pl

Main prerequisites:
- high-level expertise in several IT domains on the side of staff of the Systems Research Institute
- widespread lack of skills related to IT on the "intellectual" side, as opposed to, or as an extension of the simple "technical" capabilities (i.e. what a valuable thing can a computer do for me rather than how can I use computer [for fun])
- a portfolio of skills closely related to IT and "information society", which
  o form a coherent whole
  o but at the same time can be treated as self-standing specialisations
  o can be further developed as high-level specialisations
- a set of courses, which involve active role of the participants
- possibility of stages, consisting in contribution to solving of definite problems with the methodology and the set of tools taught at the courses
- tracking of the life paths of selected participants, with the possibility of assistance in the subsequent steps.

The bundle of courses offered by the Systems Research Institute, Polish Academy of Sciences in the framework of the RENOWATOR Partnership's activity:

Data Analyst
Market Analyst
Customer Needs Analyst
Advisor for Tenders
Advisor on Logistics
Designer of Information & Organisation Systems
Project Management Specialist
Advisor on Planning & Assessment of Investment Projects

Feasibility Study Preparation Specialist

Exemplary abbreviated course descriptions

DATA ANALYST

The present-day world and modern economy are founded on skills of analysis and handling of data. These skills are necessary for effective and competitive decisions, guaranteeing success in the constantly changing world of business. To analyse huge amounts of often inconsistent, incomplete or uncertain data, it is indispensable to use computers and appropriate software.

The main task of data analyst is the effective and quick analysis and handling huge amount of the raw data using special software. By applying appropriate statistical methods and software, the data analyst gathers and stores data. Then s/he recognizes the changes, e.g. in the structure of buyers, forecasts the future market, compares various features of enterprise strategies, points out important variables influencing profits, presents the data necessary for efficient management, draws conclusions concerning levels of prices and sales.

The data analyst should know the tools integrated into the common software, like MS Excel. During more advanced analysis, s/he could also use more sophisticated packages, e.g. SPSS or SAS. The main aim is to gather the data necessary for the considered problem and to handle and present this data. Then s/he could draw conclusions and point out the dependencies between processed data and made decisions.

The tasks of the data analyst

The data analyst aids enterprise managers by performing the following duties:
1. gathering appropriate data concerning important aspects of enterprise management
2. preparing input of the data and preliminary handling of the data for further analysis
3. presenting gathered data with graphs and methods of descriptive statistics
4. preparing presentations and reports for managers
5. further data analysis – finding market trends, seeking out dependencies in the variables, recognizing changes in the structure of processes and presenting appropriate conclusions
6. writing reports and summaries for the conducted analysis
7. making corrections of the analysis based on new data inflow

MARKET ANALYST

The course is meant for persons wishing to broaden their skills with the capacity of carrying out market analyses, both for own needs – as persons managing an own small business, and for the needs of a bigger company. The course is also an introduction to a wider market research domain, being nowadays one of the essential fields, in which application of IT and network skills are crucial. Indeed, it is the domain, in which the paradigm of "information society" and "knowledge economy" appears to be perfectly reflected.

Who a market analyst is?

The work of a market analyst is an important component of the broadly conceived management, oriented at cognition of the market environment of the firm, the branch or the product. The significance of the effects of this work increases with the competition and the market

dynamics. It is also particularly important for the firms entering the market and the firms entering new markets, both in geographical and economic sense.

The work of a market analyst is the basis for taking decisions crucial for the correctness of the market and product strategies, and for design of such strategies. Market analysis should indicate inappropriateness of entering certain markets, where competition is particularly sharp, but also the places, where competition is thin (in geographical and economic sense).

The work of a market analyst leads, in particular, to the recommendations as to the desired features of market strategies, that is – the assumptions for the development of such strategies.

The work of a market analyst consists of a number of basic components, taught at the course: (i) design of analysis, and especially of the information sources, including the complementary and counter-checking ones, the methods of information processing and drawing of conclusions; (ii) data acquisition (perhaps as a routine activity); (iii) information processing; (iv) analysis; (v) synthesis in the form of conclusions tangible for management, especially of strategic meaning.

Market analyst may work both as a specialist employed in a production or service company, in a market research firm, and as an independent analyst, the latter especially when work will concern market analyses for smaller firms, which cannot afford the service of the specialised market research firms.

ANALYST OF CUSTOMER REQUIREMENTS

Quality of products is a key factor if a company wants to be successful in a free market economy. Quality is also the main criterion if the company wants to be a subcontractor of a foreign firm. The competitiveness can be dramatically increased if one can quickly define customer needs and then translate these needs into technical parameters of a product.

The analyst of customer requirements is a liaison between marketing and quality department. His/her duty is to do research on customers' activity, to get their opinion, to collect their needs and to point those features of a product that influence the customer satisfaction. The competitiveness of the final product depends on his/her work.

What does the work of the analyst consist of?

- Information about requirements or preferences is collected during visits at the customers. At the beginning, information results from questionnaires or notes elaborated during the visit. Then the data are analysed by a team applying such methods like brain storming, customer activity report or affinity diagrams KJ of Kawakita. The output of the first phase of work presents a large number of oral statements or opinions.
- The next task of the analyst is to choose the most valuable information and eliminate less important data. He/she is to limit information to the extent that can be controlled. Also, of interest is only the information that can be translated into technical requirements.
- Multi-stage Picking-out Methot (MPM) allows to separate the most important data from the vast verbal information. A team of about six write down all requirements or ideas collected from the customers on separate cards and then select the most important ones.
- Next, the requirements chosen in MPM method are put into Kano space. This is a two-dimensional system where X axis describes functionality of a product and Y axis de-

scribes customer satisfaction. The traditional definition of quality assumes that the customer satisfaction is proportional to product's functionality. Kano Space allows pointing out the requirements that can result in satisfaction not proportional to functionality. For example, it refers to requirements described as "must be". If a product complies with such requirements, satisfaction does not change. If it does not, satisfaction decreases rapidly.

- The final result of the work of the analyst is to build Quality House. This is the diagram that allows to map customer requirements onto technical parameters. The analyst develops the Quality House in a team of professionals from many fields. He/she takes into consideration similar solutions of competitors as well.