

Keleti Károly Faculty of Economics**Institute of Enterprise Management****Address:** Tavaszmező u. 15-17, H-1084 Budapest, Hungary**Tel.:** +36-1-666-5210**Fax:** +36-1-666-5219**E-mail:** szuts@bmf.hu**Website:** <http://www.kgk.bmf.hu/intezet/vmi>**Head of Institute:** István Szűts**1 Introduction**

The legal predecessor of the Institute of Enterprise Management has been involved in higher education of technological profile ever since the College of Light Industry was established in 1972. For the past three and a half decades it has been renamed several times. The stages between these acts of renaming mark periods, which indicate the tendencies and also the speed of changes. These changes, certainly, cannot be separated from economic, social and political processes which have occurred in Hungary, on the one hand, and from new demands that the College of Light Industry has faced. With the establishment of Budapest Tech of the year 2000, the Institute was named the Institute of Enterprise Management.

In 1994 the Department was granted the possibility to launch a new, Industrial Engineering Major. Besides assisting engineer training, it was put in charge of a novel training meeting modern requirements and responding to a real demand.

The Department handled new tasks by partially replacing lecturing staff and also by increasing the number of lectures possessing a scientific/doctorial degree. Industrial experience and practical skills were taught by professionals from the outside, who were invited to lecture at courses.

The first group of students took their diplomas in Industrial Engineering in spring 1997, thus the training was officially accredited simultaneously by the Hungarian Accreditation Committee. Since 1994, the number of those admitted for the Major has been annually around 80, out of whom 60 to 70 have graduated each year. 300 diplomas were issued during the End Term Diploma Issuing Celebrations of the academic year 2001/2002.

Relying upon the curriculum compiled by the Institute students involved in Industrial Engineering training are allowed to take up subjects including Quality

Institute of Enterprise Management

Management (TQM and ISO systems), Finances and Accountancy, and, in addition, at their request, further subjects allowing specialisation (such as Value Analysis, Investments, Advertising and Propaganda, PR, Banking Transactions, Stock Exchange Skills, Consumer Protection, etc.), apart from subjects incorporated as core subjects including Economy, Enterprise Management, Management.

The lecturers with the Institute has followed a credit type curriculum for 3 years, and assist students who are engaged in cultivating sports as professionals by supplying them with specially arranged syllabi. The Institute is engaged in training students majoring in Industrial Engineering, and those attending the Light Industry Major in distance learning.

Before the amalgamation of the three colleges, the Institute of Enterprise Management had successfully contributed to projects aimed at developing majors, talent-scouting, etc. These projects have facilitated the compiling of many a coursebook, which have been made use of in training. Industrial Engineering students with specialisation fields for which the Institute is responsible, participate in National Students' Scientific Association conferences by delivering 10 to 15 presentations annually. Our students are qualified for both sections of the nationwide conferences (including the sections of Engineering Sciences and Business Studies).

As for the international relations retained by our institute, the co-operations with Kaiserslautern, Reutlingen and Berlin Fachhochschule engineering colleges are noteworthy. Relying upon the grants provided by the international ERASMUS programme, 3 to 5 students are given the chance to pursue their studies abroad yearly.

2 Educational Profile

Business Management BA Major

The aim of Business Management BA Major is to turn out business professionals possessing knowledge in the field of Economics, Social Theory, Applied Economic Sciences and Methodology as well as special professional skills, who are thus enabled to plan and analyse the processes of business organisations and fiscal institutions, and to control and organise activities and processes in management and the entrepreneurial sphere, in addition they are equipped with the appropriate training to join the second cycle of training.

Industrial Engineering BSc Major

The aim of Industrial Engineering BSc Major is to train management engineers, who possess the appropriate knowledge in Natural Sciences, Engineering

Sciences, Economics and Organisation in order to provide an integrated approach to handling the material, information technology, financial and human resource aspects of processes in production or rendering services, in addition they are supposed to be equipped with appropriate knowledge enabling them to join the second cycle of training.

Media Technology Specialisation Field

This specialisation field offers instruction in skills related to Paper Manufacturing and Processing, Printing Industry and prepares students for handling organisation and control tasks. Those qualifying in this specialisation field can acquire knowledge concerning planning and editing traditional and electronic newspapers, the techniques of creating printed and electronic media.

Quality Control Specialisation Field

Those qualifying in this specialisation fields are equipped with system-based Quality Management and Quality Assurance skills. In their work they deal with assuring the adequate quality of products and services, thus contributing to increasing the company's competitiveness and gaining competitive advantage.

This specialisation field is meant to prepare Industrial Engineering students for twofold tasks: It enables future professionals qualifying in this specialisation field to introduce Quality Management systems in individual companies and to actively contribute to running the companies, by familiarising them with technological tasks linked to Quality Assurance, on the one hand, and with tasks arising from Quality Management, on the other hand.

The Institute of Enterprise Management and the Quality Management section, both being in charge of this specialisation field has established a good contact for exchanging information for the past few years. Launching the major in itself had also been due to well-functioning co-operation. Syllabi were modernised in harmony with the ever-changing demands of economy and new optional subjects were introduced accordingly during last year. Flexible co-operation and guidelines set to meet expectations of the business sphere will increase the demand for this specialisation field. Owing to the special training, graduates will be provided with much wider chances to get employed, regarding the selection of jobs available in the future, since introducing and applying the ISO 9001:200 standard is becoming inevitable for all companies making products or rendering services under conditions dictated by the competition for markets today and in the future.

Company Management Specialisation Field: During the training students get familiarised with the internal processes within a company, which, in most cases, are handled with the help of an integrated company management system. The receiver business organisation faces an extremely great challenge when carefully selecting, introducing, building up and running the functions of such a company management system, especially if properly trained professionals are lacked, as it happens most frequently. During the training students are presented various types

of integrated software functioning in the sphere of finances, commerce and human resources policy and they are also given a deeper insight into how these systems work. While presented these systems, students familiarise themselves with specific features of the running of day-to-day business at companies, the characteristics of various industries and differences in their functions. Lecturers focusing on the practical side of training, present the chief features of company management systems, hitherto discussed mostly theoretically, by pointing to instances in everyday life and sharing their experience.

Business Information Technology Module

The foundations of the Business Information Technology Module was due to the popular structure of Information Technology Economist training, in which 30 per cent of subjects were devoted to instruction in Information Technology. Relying upon experience with the Company Specialisation Field in Industrial Engineering Training, the Institute of Enterprise Management elaborated the Business Information Technology Module, which stresses practice-oriented Information Technology skills. Students are familiarised with up-to-date (integrated) company management systems and their potential applications, which are looked upon as the elements for creating and keeping competitiveness in company. Following a course of computer-assisted project management, students are offered an insight into the set of devices available for project planning. During the training undergraduates can widen their Information Technology skills and competencies by learning about programming and business computer networks. Up-to-date subjects such as Knowledge Management, Decision-Supporting Systems, CRM, BPR, Multimedia and Artificial Intelligence have also been introduced in Business Information Technology Module.

3 Research and Scientific Activity

The Institute of Enterprise Management has a wide scope of R&D activities, following from its professional profile. Its scientific activities comprise several branches of science, such as Economics, Engineering and Logistics, also numerous fields of study, among which Business Studies, Organisation and Management are specially underlined, however, the list includes Applied Mathematics, Information Technology and even Technical Training and Pedagogy. Each individual research field presents a variety of interdisciplinary aspects, naturally, primarily research done in applied sciences dominate, although internationally recognised basic research carried out is noteworthy, as well. In financing research activities, the proportion of external sources is relatively small (OTKA, NKFT grants, etc.), grants coming from other domestic projects (by the Ministry of Education, VOLÁN Co.) were spent merely in providing basic technical conditions. In spite of this most of our research work has been sponsored

by various companies and non-profit organisations. Approximately half of the research activities completed or still in progress have been carried out individually, whereas the rest in the form of teamwork involving experts from various spheres of industry, science or commerce. Among contributors one finds researchers of the Hungarian Academy of Sciences, other research teams, various university departments, and experts employed with enterprises and consulting firms. However, the number of foreign partners including individual researchers or institutions, involved in research projects was relatively small. Thus it is undoubtedly not surprising to claim that the academic standards of R&D activities accomplished by the Institute remained extremely heterogeneous, resources were scattered, however a great many significant achievements, which are considered applicable in practice, have been reached in the field of R&D (for example, studies completed for authorities, supreme authorities in Hungary, such as the Inland Revenue, the Ministry of Finances, the Ministry of Agriculture and Regional Development, the Tax Counsellors' Club, MOSZ, the Association of Hungarian Farmers and Agricultural Producers, the Agricultural Committee of the Hungarian Houses of Parliament, the Budget Committee of the Parliament, the Ministry of Information Technology and Communications, Transformer Plant of Csepel Works, Book Binding Co-operative, Ganz KK Ltd., Capitaly Ltd., Atheneum Printer's, the Public Domain Maintenance Company, Mercantil Bank).

Recognising the need to integrate research activities at a higher level and granting perfectly free choice for colleagues to select a topic for research or to scrutinise a certain special field at the same time, in the year 2002, the Institute headed by István Szűts, director of the Institute, decided to found a Scientific Research Workshop under the heading: the scientific research and development of **Systems of Multiple Factors and Management Decision Supporting Systems**. The research activities in this scientific workshop attracted the attention of the remaining full time staff employed with the Department and colleagues from the outside also joined in. This organized research, which relies upon disciplines of internationally recognised taxonomy for decision-making trends, aims at developing theoretically and practically novel methods and models as well as realising practical applications based on empirical methods to tackle problems in Economics, Finances, Marketing, Production Management, Taxation Policy, as well as Organisation and Management, which arise in connection with Stock Management, Innovation Development of Products and Technologies, the survey of Consumers' Attitudes, Investments, Logistics and Distribution.

For the past few decades, research in Microeconomics and the achievements of Behaviour Sciences have decisively contributed to the development of Decision Theory and Decision Analysis. From these achievements the axiomatic basis for preference and subjective probability, estimating utility index of decision making under risky and uncertain conditions, multi-agent utility theory and analysing decision-making in a team can be underlined. Modern cardinal and ordinal utility

and preference theory is rooted in these disciplines. The main trends are, as follows:

- 1) The expected utility model of preference comparisons of unpredictable acts, Ramsey (1931).
- 2) Utility theory aspects of the game theory by Neumann&Morgenstern (1944).
- 3) The theory of Savage (1954) on decision-oriented approaches to be applied is statistical analysis with introducing the concept of environment statuses referred to as statistical decision theory (of Bayes).
- 4) The behaviourist trend and preference theory by Allais (1953, 1988) and Edwards (1953) for decision making under risky and uncertain conditions.
- 5) The model of operation search by Churchman and Ackoff (1954) for determining weighted efficiency (predictable relative value) of varieties of acts.
- 6) The theory of determining preferences based on commensurable pairs on a majority basis.
- 7) The study of relations between non-linear preference and utility theory, Chew (1983).
- 8) General Multi-Agent Utility Theory (MAUT), Debreu (1960).
- 9) The so-called group of scoring methods, Borda (1781), Smith (1973), Young (1975).
- 10) The priority theory of Saaty (1977, 1980, 1986), the so-called Analytic Hierarchy Process (AHP) theory.

The brief summary of the scientific, Research and Development activities and the outcome are described below.

RESULTS PUBLISHED IN FOREIGN PERIODICALS:

András Farkas and Pál Rózsa conducted intense joint investigation, to which occasionally reputed domestic and foreign researchers also made contributions. The major results of their research, which come under decision-making trends described dominantly in point (10), and partially in point (9) have attracted attention on an international scale, after being published in foreign periodicals.

- Development of the characteristic polynomial and the spectrum of a transitive pairwise comparison matrix, and an extension to a general, elements of which are arbitrary nonzero complex numbers.
- Investigation of symmetrically reciprocal (SR) perturbations of transitive matrices with positive, with negative, with complex entries and the application of their spectra for generating the priority rankings of decision

alternatives, dynamic input-output models, and vibration problems emerging in vehicle dynamics.

- Determination of explicit intervals for the rank reversal phenomenon to the elements of the final priority ranking for some special cases occurring in course of the usage of AHP.
- To find the ‘best’ approximating transitive (rank one) matrix of a general pairwise comparison matrix in a least square sense (minimum squared error). By using the Newton-Kantorovics method for the solution to this non-linear optimization problem the verification of the local minima obtained.
- The mathematical investigation of the uniqueness of the solution to this non-convex optimization problem. Determining the (necessary) and sufficient conditions to the existence of possible multiple alternative solutions.
- The spectral decomposition and the development of the spectrum of a special SR perturbed transitive matrix, by introducing so-called pseudo-circular matrices.

Lajos Tóth, László T. Kóczy and Tamás Hartványi completed joint research in novel and most up-to-date fields of study, in which other domestic researchers were intermittently involved. Their major research and development results are linked to decision-making trends described mainly in point (8), partially in point (9), the major results of which were published in reputable international books containing presentations at conferences and in domestic scientific periodicals. Their statements can be summarised as follows:

a) *The major components of Space Information Technology development projects:*

Determining patterns of systems; development demands of information technology in borderline and services, the development projects of the IT system at companies, exploring phases and sequences; Elaborating modernized company database models; the questions of introducing ID and IRP systems; creating scheme scheduled information technology development projects.

b) *In the field of potential developments in commercial and distribution planning systems:*

Exploring and analysing logistic processes at big retailers, with especial regard to stock management for the January to September of 2005. The analysis of stocking on the basis of product classes; Exploring development potentials; Improving the methods applied for prognostication, Creating the system of Input database on the basis of requirements defined and in harmony with the concept of system development; Surveying models of

forecasting, developing mathematical models, verifying models; Creating Output database according to predefined requirements and the concept of system development, the questions of adjusting other office management systems; Making proposals for introducing a new system;

c) Exploring the methodological and theoretical backgrounds of up-to-date logistics services

Surveying the results of technical literature. Comparative analysis of logistics services methodology. Investigating potential practical applications. Functional analysis; Proposals, summary.

d) Strategies in Logistics and their realisation

Logistics strategy, as a part of company strategy; The relationship between Logistics and Marketing in pull systems; Measuring the efficiency of Logistics Strategy; Developing integrated Logistics index-system (BSC, KPI, SMART).

Results Published in Domestic Scientific Reports:

István Szűts and András Bakó have pursued research activities, which show certain relevance in international research. The major results of their research belonging to decision-making trends summed up in points (3), (5), (6), (9) are the following:

- Constructing new searching algorithms in the field of optimizing the shortest way in networks.
- Applying the constructed model in Learning Management processes.

István Szűts has individual results of a research done separately, the outlines of which are described below. These results bear a close relation to decision-making trends described in points (3), (6) and (9).

- Expanding preference ranking on an ordinal measurement scale to rationally handle a great number of alternatives, defining an efficient principle for arrangement.
- Applying the theory of graphs for structural determining of preference ranking on an ordinal measurement scale.
- Developing a Multi-Agent Comparative Method and applying it in the fields of Benchmarking, Consumers Behaviour Studies and Rationalised Choice

András Bakó has achieved a number of results supported by individual scientific and Research and Development activities, which are attached to trends of decision making given in points (3), (5), and (9).

- Elaborating novel models of operational research and applying it chiefly in the area of vehicular traffic.

- Modelling a decision-supporting system to tackle problems in Stock Management, Maintenance and Trust Management in the field of traffic and logistics, its potential application in Hungary.
- Developing curricula and structure for university training in Media Information Technology.

András Farkas has presented the main results of individually pursued research, which is primarily related to trends of decision making listed in point (8).

- The development of a new additive multiattribute utility model (MTSE) by applying metric distance function and its application to a variety of fields of practical interest;
- The development of a multicriteria decision support system and its accompanied software (MAROM) to measure decision preferences of the decision makers;
- The synthesis of the methods of AHP and MTSE in order to eliminate of the occurrence of the rank reversal issue;
- The modeling and the technology of the measurement and the experts' evaluation of consumers' preferences from management perspectives with applications.

Anna Francsovcis determined as a main goal of the research to examine the characteristics of the development of the process of setting objectives (strategic and operational planning and controlling system), partial costs, the settlement system of performance and results, index systems, systems of reporting and the leadership information system. Special attention was paid to the investigation of general and special features of controlling systems introduced and operated in the sphere of public services and by the actors of the competitive market. Practical investigation are concentrated on controlling systems which she has scrutinised in the course of her research, the researcher also contributed to shaping and introducing these systems in practice. These systems perfectly support theoretical conclusions at which the researcher has arrived, justify their applicability (e.g. in the area of public services, hospital controlling, the controlling systems used in higher education).

- Re-defining the concept of Controlling relying upon scrutiny carried out into international technical literature and highlighting controversies occurring in the application of the term.
- On the basis of the comparative analysis of different schools and trends, formulating the existing model of the Controlling system.
- Developing a new model of Controlling within the special problematic of system development by combining theoretical and empirical approaches and by involving practical experience (gained in company sphere).

Imre Zoltán Nagy focuses upon investigating certain aspects of management and leadership in Hungary-based enterprises. Specifically the researcher has conducted research concerning a serious problem of long standing aggravating national economy in Hungary, i.e. handling receivables as well as national economy and company strategic planning, furthermore the researcher has been involved in interdisciplinary studies in the area of Economics, Accountancy, Finances, Law, Management, etc.

- The accumulation and management of receivables, Managing outstandings in the sphere of Agriculture.
- Proposal and comments for the Regional Development Strategic Plan called 'New Hungary'.
- Special techniques for collecting receivables.
- The requirement of compulsory raising of registered capital and composing medium-term strategies in credit associations.
- The frame of Hungarian agricultural strategy and regional development plan, the methodology applied in the making.

Erzsébet Bukucs and Anita Derecskei have achieved results in their research, which concentrates on aspects of decision-making trends outlined mainly in point (3), and in point (6).

- Control and Decision Making problems occurring with small enterprises with special regard to aspects related to human factor.
- Analysing the status of Customer Related Marketing (CRM) in Hungary relying on multiple samplings, providing an overview and completing proposals.
- A comparative study of research statements based upon questionnaires and completing proposals concerning the nationwide introduction of e-learning.

Anita Derecskei has been involved in fruitful joint studies together with researchers employed in different institutions in Hungary. This investigation is assimilated to a major research project involving a great many institutions and co-ordinated by the Institute of Psychology of the Hungarian Academy of Sciences. It relies upon the methods of press analysis, deep interviews and surveys based on questionnaires.

- Exploring the status of competitive spirits and analysing its effects on macro- and microeconomics on a domestic scale, the attitude of actors in business sphere to competition, the economic and human consequences of competition.

Gábor Tóth, the research aims at Marketing, in which the major achievements are, as follows:

- Analysing the Marketing activity typical of small enterprises, recognising the role of Marketing and its increasing importance following Hungary's accession to the European Union. (Processing facts and figures, completing interviews and project-monitoring with the assistance of students.)
- Analysing the Marketing of Hungarian National Parks (with special regard to Danube-Ipoly National Park) for the tourist industry. Reviewing contradictions and risks arising from developing values and areas of nature and from the growth of tourism. Analysing appropriate ways of communicating the outcome of these analyses, handling responses, adjusting services and developments in harmony with the expectations of visitors versus those living in the area. Exploring the present state of affairs and trends, as well as elaborating on proposals.

Gábor László, the research is centred on surveying the potential applications of software with an open resource code in the public sphere as well as education. This field of study has emerged in international publications and science. The model of open resource is closely related to the philosophy of 'open access', which covers a dynamically growing field of study in international research and publications. The scheme also concerns the investigation of e-government initiatives in respect of providing organisation and a software background.

- A systematised investigation of e-government initiatives and questions of developing a related organisation and software background.

Idikó Gombaszögi, the main aspects of research are linked to domestic economy policy:

- The practice of preparing Accountancy Policies and their role in the operation of enterprises with special regard to differences from the principles included in the recommendations of the National Committee for Accountancy
- Possibilities for altering local government taxation systems.

The Faculty of Economics, with entire involvement of its three institutions, launched a series of international scientific conferences called **International Conference on Management, Enterprise and Benchmarking** in 2002. Thank to circumspect and meticulous organisation, a two-day conference has been held annually, in three official working languages (English, German and Hungarian), which received support provided by partner institutions. These conferences have enjoyed tremendous popularity and proved to be most successful.

International and Domestic Relations are Maintained by the Scientific Workshop Functioning within the Institute with the Following Partners:

Fachhochschule Reutlingen, Produktionsmanagement Fachbereit (Germany),

The Budapest University of Technology and Economics (Hungary),

Institute of Enterprise Management

The Faculty of Economics, University of Western Hungary, Sopron (Hungary),
The Institute of Computer Sciences and Automation, the Section of Operational
Research and Decision Systems, of the Hungarian Academy of Sciences,
(Hungary).

András Farkas employed at the Institute was awarded 'The Researcher of the
Year' award by Budapest Tech at the research application, for his outstanding
research activities carried out in 2004 and scientific publications.

Concerning short-term plans for the forthcoming 3 to 4 years, the Institute intends
to intensify its Research and Development activities, and to keep increasing
standards and quality requirements in the following fields:

One of the main objectives is to strengthen the international character of ongoing
research, by involving EU support (e.g. joining EU research projects, expanding
relations with colleges and universities of EU member states). Another main
objective, which is handled with special attention, is to make increased efforts to
conduct result-oriented joint R&D activities with domestic firms (first and
foremost, with small and medium enterprises). A third objective is to contribute
to, encourage and support young lecturers in their research work.

List of Publications on Scientific and Research Activities Carried out by the Scientific Workshop of the Institute (2000-2006)

Articles published in international periodicals:

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pp.1033-1039. 2005.

Farkas,A.; György,A.; Rózsa,P., "On the spectrum of pairwise comparison
matrices", *Linear Algebra and its Applications*, Vol. 385, pp.443-462, 2004.

Farkas,A.;Lancaster,P.;Rózsa,P., "Consistency adjustments of pairwise
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pp.689-700, 2003..

Farkas,A; Rózsa,P., "Data perturbations of matrices of pairwise comparisons",
Annals of Operations Research. /Data Perturbations/, Vol. 101, Nos. 1-4, pp. 401-
425, 2001.

Farkas,A.; Rózsa,P.; Stubnya,G., "Transitive Matrices and Their Applications",
Linear Algebra and its Applications. Vol. 302-303, No.15, pp.423-433,2000.

Farkas,A.; Rózsa,P.; Stubnya,G., "Spectral Properties of Symmetrically
Reciprocal Matrices", *Zeitschrift für Angewandte Mathematik und Mechanik*. Vol
79, S3, pp.859-860,1999.

Articles published in foreign languages in Hungarian periodicals:

Szűts,I.,”Measurement methods in the field of benchmarking”, *Acta Polytechnica Hungarica*, Vol.1, No.1, pp.120-129, 2004.

Bakó A,Horváth,Z., Decision supporting model for highway maintenance, *Acta Polytechnica Hungarica*, Vol.1, No.1, pp.96-107, 2004.

Farkas,A.; Rózsa,P., “On the non-uniqueness of the solution to the least-squares optimization of pairwise comparison matrices”, *Acta Polytechnica Hungarica*, Vol.1, No.1, pp.1-22, 2004.

Papers, articles published in International conference proceedings and book):

László,G: “Issues and Aspects of Open Source Software Usage and Adoption in the Public Sector ” in: Handbook of Research on Open Source Software: Technological, Economic, and Social Perspectives Idea Group Publishing. (elfogadva, várható megjelenés: 2007. nyár)

Mánik,D.; Hartványi,T.; Tóth,L. „Comparative analysis on economic environment or transporting companies” *Proceedings of the MicroCAD conference*. 16-17 Marc 2006. Miskolc, Section O: Material flow systems. Logistical information technology. pp. 113-121.

Nagy,I.Z. „„Spezielle Eintreibungstechniken zur Senkung der Außenstände” *Proceedings of the 4nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 1-2, 2006, Faculty of Economics, Budapest Tech, Hungary, pp.196-208.

Farkas,A., “Academic value benchmarking”, *Proceedings of the 4nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 1-2, 2006, Faculty of Economics, Budapest Tech, Hungary, pp.130-141.

Francsovcics,A. “Controlling in der öffentlichen Versorgung”, *Proceedings of the 4nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 1-2, 2006, Faculty of Economics, Budapest Tech, Hungary, pp.224-238.

Szűts,I.;László,G. “Exploring the World Wide Web”, *Proceedings of the 4nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 1-2, 2006, Faculty of Economics, Budapest Tech, Hungary, pp. 142-150.

Farkas,A.,“Benchmark of working capital performance”, *Proceedings of the 3rd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 24-25, 2005, Faculty of Economics, Budapest Tech, Hungary, pp.65-78.

Szűts,I.;László,G. “Exploring the World Wide Web”, *Proceedings of the 3rd International Conference on Management, Enterprise and Benchmarking*,

Budapest, Hungary, June 24-25, 2005, Faculty of Economics, Budapest Tech, Hungary, pp.79-88.

Francsovcics,A. “Specific Features of the Development Potentials of Controlling Systems”, *Proceedings of the 3rd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 24-25, 2005, Faculty of Economics, Budapest Tech, Hungary, pp.129-138.

Bukucs,E.;Gombaszögi,I.;Derecskei,A. “Felmérés a műszaki menedzser diplomával rendelkezők pályakezdési, elhelyezkedési lehetőségeiről”, *Proceedings of the 3rd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 24-25, 2005, Faculty of Economics, Budapest Tech, Hungary, pp.281-292.

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Hartványi T.;Kóczy,T.L.; Németh,P.;Tóth.L. „ Architecture of Intelligent Intermodal Logistics Centres”, *Proceedings of the 6th International Symposium of Hungarian Researchers on Computational Intelligence*, 18-19 November 2005, Budapest, 297-308.

Bakó A., Szűts I., “Graph theoretical model of learning management”, *Proceedings of the 2nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 25-26, 2004, Faculty of Economics, Budapest Tech, Hungary, pp.89-97.

Farkas,A., “Multi-attribute utility measurement of consumers’ preferences”, *Proceedings of the 2nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 25-26, 2004, Faculty of Economics, Budapest Tech, Hungary, pp.47-57.

Francsovcics,A.;Dobi,S., “The Controlling in logistics projects”, *Proceedings of the 2nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 25-26, 2004, Faculty of Economics, Budapest Tech, Hungary, pp.175-184.

Kovácsné Bukucs E., Derecskei,A., “Kérdőív kutatás E-learning rendszer bevezetése kapcsán a BMF-KGK-VMI hallgatói körében”, *Proceedings of the 2nd International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 25-26, 2004, Faculty of Economics, Budapest Tech, Hungary, pp.243-250.

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Derecskei,A., “CRM (Keresztmetszet)”, *Proceedings of the 1st International Conference on Management, Enterprise and Benchmarking*, Budapest, Hungary, June 20-25, 2003, Faculty of Economics, Budapest Tech, Hungary, pp.103-113.

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Bakó, A., Ambrusné S.K., Horváth, L., “Development a Highway PMS” , *Proceedings of the 1st European PMS Conference*, 2000, 1- 12.

Bakó, A., Gáspár, L., “Pavement Management Models in Hungary” , *Proceedings of the 1st European PMS Conference*, 2000, 1-11.

Farkas,A.; Rózsa,P.; Stubnya,G., 2000, ”Spectral Properties of Input Spectral Density Matrices”, *Proceedings of the 6th Conference on Vehicle System Dynamics, Identification and Anomalies*, (ed. I.Zobory), TU, Budapest, VSDIA '98, pp.467-476.

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