Hellenic Society for Systemic Studies (HSSS)

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Full member of IFSR

9th National & International Conference

Systemics for Process Cohesion

11-13 JULY 2013 Volos, Greece Xenia Volos Hotel

PROGRAM & ABSTRCTS

In collaboration with

University of Thessaly Department of Economics



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HELLENIC SOCIETY FOR SYSTEMIC STUDIES

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Laouris Yiannis



Welcome Message

On behalf of the Hellenic Society for Systemic Studies (HSSS) we would like to invite you to the 2013 HSSS 9th. National & International Conference, organized in collaboration with the Department of Economics of the University of Thessaly, which will take place in Volos, Greece.

The HSSS's annual National and International Conference is held alternately in different cities of Greece in collaboration with a local University or Department of a local University or with a contribution of a relevant international or Greek organization.

The main theme of the Conference, is to present the dynamic scientific area of "Systemics for Process Cohesion" with applications in organizations and enterprises across a wide spectrum of both service and production industry sectors.

Given the dynamic nature of this challenging area, Systemics will bridge the gap between theory and practice and will promote the use of effective Methodologies and Multi-Methodologies in managing today's organizational complexity for Process Cohesion.

Our interdisciplinary international community has the scientific systemic tools and powerful specialized software to tackle up-to-date multi-dimensional strategic complex problems and to manage their complexity in different applied areas of practice.

The prominent national and international invited speakers in the scientific program, the exciting professional panels, the professional round table, and the professional workshop, will attract the attention of a large number of our colleagues. Further, the participation of the International Federation for Systems Research (IFSR) members, the International Academy of Systems and Cybernetic Sciences (IASCYS) members, together with renowned consultancy firms of national and international stature, will make this Conference a very successful and memorable one in the history of HSSS Conferences.

Who should attend?

- * Academics: Communicate your research results with colleagues around the world.
- * Consultants: Present the power of systems thinking, modeling and simulation in your applied, client-oriented work.
- * Practitioners: Show modeling and simulation at work in your organizations.
- * Graduate students: Share your developing research in a constructive environment.
- * Undrgraduate students: Have a good experience within a challenging and professional environment.

Volos is the third biggest commercial port in Greece. Its economy is also supported by manufacturing, trade, services and tourism.

Volos is an ideal place for bringing together colleagues from all over the world to promote and exchange ideas, knowledge and experience for the benefit of both organizations and enterprises in effectively meeting the needs of a challenging international community.

Chair of the Organizing Committee

Mr. Dimitrios Varsos HSSS Council Member Dept. of Informatics, University of Piraeus Piraeus, Greece

Chair of the Scientific Committee

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Acknowledgements

The Board of Directors of the
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&
the Organizing Committee of the
8th National & International Conference
would like to thank
all those who have contributed to
ensure the conference come to success;
reviewers, presenters, authors, sponsors,
support team and other conference assistants.

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Brief Program

Thursday 11th. July, 2013

09:30 - 18:00	Registrations Open
10:30 - 12:30	Opening Ceremony with Keynote Addresses
12:30 - 14:00	Welcome Reception
14:00 - 15:30	Workshop 04 & Parallel Sessions
15:30 - 16:00	Coffee Break
16:00 - 17:30	Workshop 02 & Parallel Sessions
17:30 - 18:00	Coffee Break with light snacks
18:00 - 19:30	Professional Panel & Parallel Sessions

Friday 12th. July, 2013

09:30 - 15:00	Registrations Open
10:30 - 12:00	Workshop 03 & Parallel Sessions
12:00 - 12:30	Coffee Break
12:30 - 14:00	Keynote Addresses
14:00 - 15:00	Light snacks with soft drinks
15:00 - 16:30	Workshop 01 & Parallel Sessions
16:30 - 17:00	Coffee Break with light snacks
17:00 - 18:30	Professional Round Table
18:30 - 19:00	Closing of the Conference
20:30 - 02:30	Gala Conference Dinner with dance

Saturday 13th. July, 2013

11:30 - 13:30 Sight seeing tour



Program Timetable

Thursday 11th. July, 2013

09:30 - 18:00	Registrations Open
10:30 - 12:30	Opening Ceremony
	Hall: F4 Opening by the Bishop of Dimitriados Salutation by the President of the HSSS, Professor N. Assimakopoulos Salutation by the Chair of the Organising Committee, Mr Dimitrios Varsos Salutation by the Chair of the Scientific Committee, Professor Michel Zouboulakis
<u>KN-O1</u>	A Message of Welcome and Greeting from the President of the ISSS Alexander Laszlo HSSS Awards CSAP Certification Projects: Distinction Best Student Paper Award Keynote Address Chair: Varsos D.
<u>KN-02</u>	Systems Theory and Methods for Constructive Engagement with Entrenched Value Conflicts Gerald Midgley
12:30 - 14:00	Welcome Reception
12.50 14.00	Welcome Reception
14:00 - 15:30	Workshop 04 & Parallel Sessions
	Workshop 04 & Parallel Sessions Hall: F4
14:00 - 15:30 14:00 - 15:30 WS-04 14:00 - 15:30	Workshop 04 & Parallel Sessions Hall: F4 Workshop 04 Human Resource Development The Synolic model® & the NLP (Neuro Lingusitic Programming) system Efthimiadou A. Hall: F1 Dealing with dynamic complexity: a systems approach
14:00 - 15:30 14:00 - 15:30 WS-04 14:00 - 15:30	Workshop 04 & Parallel Sessions Hall: F4 Workshop 04 Human Resource Development The Synolic model® & the NLP (Neuro Lingusitic Programming) system Efthimiadou A. Hall: F1 Dealing with dynamic complexity: a systems approach Chair: Papaioannou P. A Methodological Systemic Scheme for Dynamic Complexity
14:00 - 15:30 14:00 - 15:30 WS-04 14:00 - 15:30 EA-01	Workshop 04 & Parallel Sessions Hall: F4 Workshop 04 Human Resource Development The Synolic model® & the NLP (Neuro Lingusitic Programming) system Efthimiadou A. Hall: F1 Dealing with dynamic complexity: a systems approach Chair: Papaioannou P. A Methodological Systemic Scheme for Dynamic Complexity Assimakopoulos N., Varsos D.
14:00 - 15:30 14:00 - 15:30 WS-04 14:00 - 15:30 EA-01.01 EA-01.02	Workshop 04 & Parallel Sessions Hall: F4 Workshop 04 Human Resource Development The Synolic model® & the NLP (Neuro Lingusitic Programming) system Efthimiadou A. Hall: F1 Dealing with dynamic complexity: a systems approach Chair: Papaioannou P. A Methodological Systemic Scheme for Dynamic Complexity Assimakopoulos N., Varsos D. The Economic Crisis in Spain: an strange case of untapped national resources Parra-luna F. Small hydro power stations, a way to secure electricity supply in Colombia. A policy evaluation using a system dynamics model Perez Perez V., Davidsen P.



14:00 <u>≔</u>	- 15:30 <i>EA-O2</i>	Hall: F2 Managing organizations in a dynamic business environment Chair: Chatzoglou P.
	EA-02.01	Business related factors affecting Innovation and Competitive Advantage Chatzoglou P., Palaskas A.
	EA-02.02	Investigating the intention to use e-Government services Chatzoglou P., Symeonidis S.
	EA-02.03	Structured Democratic Dialogue Process applied in SMEs Zeimpekis G.
	EA-02.04	The effect of Information Sharing Planning on cost, schedule and quality uncertainty reduction Dareios P., Lengos P.
14:00 ≣	- 15:30 <i>EA-O3</i>	Hall: F3 Systemic Approaches in Public Sector Chair: Konstantopoulou M.
	EA-03.01	The use of DCSYM (Design and control systemic methodology) of the seafarers identity documents issuing process Soulos D.
	EA-03.02	The use of DCSYM Systemic Methodology in Operating a Headquarters of the Army <i>Gkontevas G.</i>
	EA-03.03	United States of Europe: A systemic approach Peristeras A.
	EA-03.04	A Systemic Approach for Process Cohesion in Justice Dispensation <i>Konstantopoulou M., Assimakopoulos N.</i>
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		Workshop 02 Design & Control Systemic Methodology (DCSYM) Case Tool Assimakopoulos N., Papaioannou P.
16:00	- 17:30	
	EA-04	Business Continuity & Knowledge Management Chair: Mouratidis P.
	<u>EA-04.01</u>	"Proactive vs Reactive Management" with the Usage of the DCSYM <i>Mouratidis P.</i>
	<u>EA-04.0</u> 2	Strategic entrepreneurship in Greek countryside: Critical factors and skills for sustainable business development Bimpitsos C., Pekka-Oikonomou V., Mylonas N.
	<u>EA-04.0</u> 3	Knowledge Management as a New Enabler for Improved Managerial Performance in the New Industrial Era. Pekka-Oikonomou V., Agoraki K.
	EA-04.04	A Systemic Approach to Knowledge Management (KM) Pakos G.



16:00 − 17:30 <i>EA-05</i>	
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<u>EA-05.02</u>	Construction Company Processes Using Design and Control Systemic Methodology (DCSYM) Bratitsis M.
<u>EA-05.03</u>	DCSYM Methodology - Implementation to the technical department in a road assistant company <i>Vassilakos A.</i>
<u>EA-05.04</u>	Use of DCSYM Methodology in the Re-developing of the Department of Operations of the X Ltd Company in Greece Papassotiriou A.
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EA-06.01	Evaluation of Regional Units using the Fuzzy Analytical Hierarchy Process: The case of the Central Macedonia Region in Greece Koulinas G., Demesouka O., Sougkara I., Vavatsikos A., Anagnostopoulos K.
EA-06.02	
EA-06.03	Modeling Services based on the Abstraction Hierarchy Papantonopoulos S., Mitara E.
EA-06.04	System Dynamics in New Product Development Process Karamatsoukis S
17:30 - 18:00	Coffee Break with light snacks
18:00 - 19:30	Professional Panel & Parallel Sessions
18:00 - 19:30	Hall: F4
PP	Project Management Chair: Giotis T.
PP-01	Organizational Project Management Maturity: Can it help Company's Competitive Advantage? Giotis T.
PP-02	The power of the strategic PMO Pinto J.A.
PP-03	CMMIB® or Agile: Embrace Both, They Need Each Other! Papaporfyriou P.
18:00 − 19:30 <i>EA-O7</i>	
EA-07.01	The use of DCSYM Systemic Methodology and Digital Marketing Actions in real environment <i>Kantartzis N.</i>
EA-07.02	Systems Thinking and Strategic Marketing *Aspradaki N.**



Marketing Research enterprise Kapodistrias N. EA-07.04 A systemic model regarding customer satisfaction from eservices Pakos D. Hall: F2 18:00 - 19:30 EA-O8 Systemic theoretical knowledge applied to tourism ŧ≡ management & event planning Chair: Miaris A. EA-08.01 Strategic Systems Approach of Travel Agency on the island of Corfu during Economic Crisis -The case of Corfu Sunspots Travel Miaris A., Riggas A. EA-08.02 A Systemic Approach to Virtual Collaboration: Developing Collaboration Rooms and Scientific Events Management Software (Sc.E.Ma.S.) Benardis I. 3d SightSeeing EA-08.03 Fotari K. <u>EA-08.04</u> Effective Leadership Implementation as Driver for Competitive Contemporary Entrepreneurial Advantage in Tourism Initiatives. Lazanis K., Pekka-Oikonomou V. 18:00 - 19:30 Hall: F3 **EA-09** Learning and systems thinking in education (I) ŧΞ Chair: Pange J. The role of Corporate Social Responsibility in Higher EA-09.01 Education: A pilot survey from Greece Fafaliou I., Rizos F. EA-09.02 Entrepreneurship at the University level Lekka A., Siolou E., Sypsas A., Pange J. Adoption of Information and Communication Technologies in EA-09.03 **Higher Education Institutions** Siolou E., Sypsas A., Geka P., Pange J. Informal learning: How Greek high school teachers use on line EA-09.04 learning. A case study. Nikolaou V., Karameri K., Pange J.

<u>EA-07.03</u> A Systemic approach of calculating Consumer Price Index for

Friday 12th. July, 2013

09:00 - 15:00	Registrations Open
09:00 - 10:15	Keynote Addresses & Parallel Sessions
09:00 - 10:15	Hall: F4 Keynote Addresses Chair: Antoniadis A.
<u>KN-03</u>	Diagnosing organizations for viability. Some organizational pathologies <i>Rios J.P.</i>

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KN-04 Tobacco Policy Modelling in New Zealand Cavana B. KN-05 Information Object: A Model to Build Web-Based Contents for Sharing Shang Rong Tsai **KN-07** Video Forgery Shih T. 09:00 - 10:15 Hall: F1 **EA-10** Systemic approach to environmental management (I) Chair: Vlassis P. <u>EA-10.01</u> Use of Systemic Methodologies for Research & Development in energy matters with energiaproject - INTRODUCTION Vlassis P., Bitsi M., Tzamou T. <u>EA-10.02</u> Use of Systemic Methodologies for the Research Development and Implementation of electric fields in water and Viability of Aqua Soft innovation Vlassis P. <u>EA-10.03</u> Use of Systemic Methodologies for the Research Development, Implementation and Viability of electric fields in fuel, BENS case: Booster Economy Natural System Vlassis P. Use of Systemic Methodologies for the Research EA-10.04 development, Implementation and Viability in amendment of ICE's (Internal combustion engines & burners) Vlassis P. 09:00 - 10:15 Hall: F2 EA-11 Learning and systems thinking in education (II) Chair: Patsi D. EA-11.01 Systemic Approach of Organizing and Managing a School Unit Patsi D. Management and Control issues of a foreign language school EA-11.02 from the systemic point of view Karagkouni D. EA-11.03 A Systemic Analysis of Sustainable School Award Kalaitzidis T. EA-11.04 Application of systemic analysis and dynamic simulation in the private Educational unit "European standard" Kargiotakis H. 09:00 - 10:15 Hall: F3 Organizational effectiveness in Operations and strategic EA-12 management Chair: Benetatou A. EA-12.01 Monitoring implementation and compliance with the instructions of the Safety Engineer for line 2&3 of Athens Metro Benetatou A. EA-12.02 Improvement of Facilities Management Service Providers for a

Logistic Warehouse Center

Karampatos G.



EA-12.03 Strategic positioning and pricing policy in a small firm. **Chatzopoulos P.**

10:30 - 12:00 Workshop 03 & Parallel Sessions

10:30 - 12:00 Hall: F4

WS-03 Workshop 03

Digitalization of ideas: Necessary requirement for the democratic [R]evolution

Laouris Y.

10:30 - 12:00 Hall: F1

EA-13 Healthcare Management & Medical Sciences (I)
Chair: Giannakou S.

EA-13.01 A systemic approach to the impact of pharmaceutical manufacturing and production on the environmental, human and animals, in order to assure process cohesion towards green manufacturing.

Giannakou S.

EA-13.02 A Systemic approach to Good Manufacturing Practice (GMP) Inspections: Process cohesion of Cleaning Validation in Pharmaceutical Manufacturing Sites.

Giannakou S.

EA-13.03 Implementation of Systemic Polymethodologion in In-House pharmaceutical warehouse of multinational company **Dimitropoulos A.**

EA-13.04 SDD Methodology· a tool for operational solution in MSD organisation

Pantopoulos G.

10:30 - 12:00 Hall: F2

EA-14 Marketing & Tourism Chair: Mitropoulos S.

EA-14.01 Enabling e-Government via Document Workflow Management and e-Collaboration Systems

Mitropoulos S., Douligeris C.

EA-14.02 Extreme Computing

Basios M., Mpasiou V., Chimos K., Karvounidis T., Douligeris C.

EA-14.03 Life expectancy at birth-a global analysis

Mpasiou V., Chimos K., Mpasios M., Karvounidis T., Douligeris C.

<u>EA-14.04</u> High yield municipal bonds regarded as an attractive investement *Mpasiou V.,Kallergis D.,Chimos K.,Karvounidis T., Douligeris C.*

10:30 - 12:00 Hall: F3

EA-15 Systemic approach to environmental management (II)
Chair: Kouloura T.

EA-15.01 Sustainable energy management in the transportation sector: A Systemic Approach related to the materials' transportation in an industrial complex

Kouloura T., Chatziefstratiou D., Pavlidou E., Vachlioti F.

EA-15.02 Sustainable water management in buildings. A systemic approach for the improvement of water management in buildings

Kouloura H., Chatzis V.



EA-15.03 Waste management in Greece: "Unavoidable need or imposed challenge" Alexiou I., Fasoulas S. 12:00 - 12:30 **Coffee Break** 12:30 - 14:00 **Keynote Addresses** Hall: F4 77 Chair: Varsos D. A Systemic Approach to Analysing Quality Dimensions of KN-07 **Business Processes** Loucopoulos P. **KN-08** Professional Systemics in the Process of Counter Drugs Criminal Intelligence Analysis Kastanis G. 14:00 - 15:00 Light snacks with soft drinks 15:00 - 16:30 Workshop 01 (Part B) & Parallel Sessions **15:00 - 16:30** Hall: F4 WS-01 Workshop 01 Systemic Tools for Business Starters Theocharopoulos I. 15:00 - 16:30 Hall: F1 EA-16 Healthcare Management & Medical Sciences (II) 1= Chair: Evangelia Charmandari <u>EA-16.01</u> Systemics for Process Cohesion: Developing a National System for the Prevention & Management of Overweight and Obesity in Childhood and Adolescence in Greece Kassari P., Chrousos G., Charmandari E. <u>EA-16.02</u> Systemic Approach to the Greek Organization for Health Care Services Provision System EOPYY: Guidance System to Beneficiaries of Health Services (Insured - Uninsured) Priftis C. <u>EA-16.03</u> Systemic analysis and simulation of a healthcare clinic Chavez-Kardara S., Kritikos D. EA-16.04 A systemic overview for preventing infection by Genital human papillomavirus (HPV) Papalampros P., Kassari P. 15:00 - 16:30 Hall: F2 EA-17 Management, strategy and innovation ŧ≡ Chair: Georgopoulos N. <u>EA-17.01</u> Co-opetition strategy and innovation: positive and negative effects Kossyva D., Georgopoulos N. <u>EA-17.02</u> The COBIT Framework: A Systemic Approach for the **Evaluation of Information Systems** Katsanakis I., Georgopoulos N., Sfakianakis M. EA-17.03 Tourism Clustering approach in Greece. The Contribution of the Financial Crisis in the Dissolution of the Business Model. Case study: Leading Tourism Cluster S.A.

Klada N., Georgopoulos N.



<u>EA-17.04</u> E-Business and CRM Strategy: The case of FMCG companies in Tasolamprou A., Katsanakis I., Georgopoulos N. **15:00 - 16:30** Hall: F3 EA-18 Technologies and business solution ŧ≡ Chair: Kutsikos K. EA-18.01 Business opportunity identification through information management in collaborative business ventures Kutsikos K. EA-18.02 A Systemic Contribution of the ERP Systems in the Banking Sector Antoniadis R. ERP Systems Implementation: Chaos or Apocalypsis? A Case EA-18.03 Study Koukios C. Simulation with Jocket and VenSim of a company that fixes EA-18.04 products Alexandridis A. 16:30 – 17:00 Coffee Break with light snacks 17:00 - 18:30 **Professional Round Table** Hall: F1 **PRT** Sustaining **Process** Alignment **Through** Change **Management: A Systems Approach** Chair: Varsos D. **Participants** Varsos D., Midgley G., Psychogios A. 18:30 - 19:00 **Closing of the Conference** Chair: Prof. Assimakopoulos N. 20:30 - 02:30 Gala Conference Dinner with dance

Saturday 13th. July, 2013

11:30 - 13:30 Sight seeing tour



A Message of Welcome and Greeting from the President of the ISSS



A Message of Welcome and Greeting from the President of the ISSS

Alexander Laszlo

President of the International Society for the Systems Sciences (ISSS) http://en.wikipedia.org/wiki/Alexander_Laszlo_(scientist) E-mail: alexander@syntonyquest.org

MESSAGE

"Dr. Alexander Laszlo shares his enthusiasm for the 9th HSSS Conference and urges participants to focus on pragmatic and applicable outcomes.

Laszlo emphasizes the relevance of systemics for process cohesion in both the sciences and the humanities and offers the collaboration between the ISSS and the HSSS as an example of the interpenetration of large-scale systemic initiatives."



Scientific Events



Systems Theory and Methods for Constructive Engagement with Entrenched Value Conflicts

Gerald Midgley

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EXTENDED ABSTRACT

This presentation offers an introduction to the use of systemic dialogue methods for moving beyond value conflicts. A systems theory of value conflict will be presented, and Gerald will argue that different methods usefully address different aspects of a conflict. Case studies of the use of five different methods, employed in the context of dialogue on contentious technological and environmental issues, will be presented to illustrate the argument. The presentation will end with some discussion of the need to connect dialogue with organisational decision making, and the case will be made that systemic methods add considerable value in this respect compared with more traditional qualitative social science approaches.

Keywords: systemic dialogue methods



Diagnosing organizations for viability. Some organizational pathologies

Jose Perez Rios

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EXTENDED ABSTRACT

In the last few decades the world has changed dramatically. The diverse factors that have played their role in the change (globalization, systemic socio-economic crisis, etc.), together with their inter-relationship have led to a formidable complexity implicit in such a situation. At the start of the seventies, Conant and Ashby had argued, in the famous theorem that bears their name, that β€ a good regulator of a system must be a model of the system. The organizational cybernetics field did provide some models like the Viable System Model (VSM) that may help decision takers to tackle the problem facing them. It provides clues to design or diagnose any organization from the point of view of its viability. In this work we will use the VSM to explore some of the most common organizational pathologies that affect todayB's organizations (no matter if they are public or private, big or small, for profit or no-profit). This knowledge will help either to avoid them if we are designing a new organization or to identifying them if we are diagnosing an existing one. As we know from medical practice, detecting a pathology is essential when it comes to prescribing the treatment required for the diagnosed deficiency. In order to list the diverse potential pathologies, I will use a VSM based conceptual outline similar to the one concerning the diagnosis and design of organisations. First of all, we will see pathologies concerning the organisation's structural design in relation to the general environment and the various environments that it contains (Structural Pathologies). Next, we will look at those related to the adequacy of organizations (at all recursion levels) to the prescription made by the VSM about functional subsystems and their relationships (Functional Pathologies). Finally, we will comment some pathologies related to information systems and communication channels

Keywords: VSM, Systemic, Organization



Tobacco Policy Modelling in New Zealand

Bob Cavana

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EXTENDED ABSTRACT

In this presentation I will discuss some of my collaborative system dynamics research related to tobacco policy modelling in New Zealand.

The first paper summarises a system dynamics pilot study analysing the relationship of New Zealand Customs Service (NZCS) outputs to desired government outcomes, in relation to the collection of tobacco excise duties and cigarette smoking in New Zealand. The study was done to demonstrate the utility of system dynamics in answering some questions of a type common in the New Zealand public sector during policy development and review. Group model-building workshops addressed the organising question: "How does price influence the use and consequences of tobacco in New Zealand?" A prototype system dynamics simulation model using the iThink dynamic simulation software was developed. The model simulates values of the model variables on an annual basis from 2000 to 2010. Policy experiments with the model include examining the effects of changes in excise duties.

The next two papers provide an overview of the system dynamics model that has been developed to assist the Ministry of Health to evaluate the dynamic consequences of tobacco control policies in New Zealand. The model is simulated for 20–50 years into the future, and the simulation package used is iThink. A range of illustrative scenarios are provided, including: business as usual; fiscal strategies involving less affordable cigarettes; harm minimization strategies involving either less addictive cigarettes or less toxic cigarettes and combinations of the above policies. The main output variables (performance measures) include current smoking prevalence, tobacco consumption and tobacco attributable mortality. The model generated reliable estimates of the effects on health and on tobacco use of interventions designed to enhance smoking cessation. These results informed a decision announced in May 2007 to increase funding for smoking cessation by NZ\$42 million over 4 years.

Keywords: Tobacco, public sector, dynamic simulation, smoking



Information Object: A Model to Build Web-Based Contents for Sharing

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EXTENDED ABSTRACT

As information grows dramatically and new technologies continuously emerges, information management still remains a challenge. People spend lots of time in searching, retrieving, reading and saving information. However, we still get a sense that much of the information, especially those we got from the Web, is not well-organized. In face of such situations, we proposed the concept of information object to construct a Web-based information sharing system. An information object is an entity that encapsulates the required data and methods in a unit for a particular application. The methods of an information object can be flexibly installed or changed as needed. An information object is a self-contained unit for long-term usage which has the following characteristics: portability, extensibility, and reusability. In this presentation, I will explain the concept and model of the information objects. Some important issues on the design of an information object system will be addressed. I will also explore how the application developers use the Information object model to construct an information sharing system. We have involved in the research and developments on the information object systems for several years. Some of our developments on information objects will be presented.

Keywords: portability, extensibility, re-usability, web-based contents



Video Forgery

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EXTENDED ABSTRACT







The Falsified Video

Video Forgery is a technique for generating fake video by altering, combining, or creating new video contents. We change the behavior of actors in a video. For instance, the outcome of a 100-meter race in the Olympic Game can be falsified. We track objects and segment motions using a modified mean shift mechanism. The resulting video layers can be played in different speeds and at different reference points with respect to the original video. In order to obtain a smooth movement of target objects, a motion interpolation mechanism is proposed based on reference stick figures (i.e., a structure of human skeleton) and video inpainting mechanism. The video inpainting mechanism is performed in a quasi-3D space via guided 3D patch matching. Interpolated target objects and background layers are fused. It is hard to tell whether a falsified video is the original. We demonstrate the original and the falsified videos in our website at http://www.csie.ncu.edu.tw/~tshih. Although video falsifying may create a moral problem, our intension is to create special effects in movie industry.

Keywords: Video Forgery



A Systemic Approach to Analysing Quality Dimensions of Business Processes

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EXTENDED ABSTRACT

In today's business environment of fast change one of the most valuable characteristics of an organization is its ability to adapt to the dynamic environment in which it operates. To this end, organizations strive to be more responsive to changes through a variety of approaches one of which is that of considering business process management, supported by appropriate information and communication technologies (ICT), as a key vehicle to responding to change. The alignment of business processes and ICT, both with emergent properties, is a key factor in the sustainability of most organizations. The analysis and evaluation of requirements for change is carried out using Requirements Engineering (RE) techniques one of which is that of Enterprise Modelling (EM). The scope of this keynote talk is to focus on quality dimensions of business processes and of the ICT systems that support these processes, so that ultimately requirements that have been evaluated against these dimensions will facilitate the development of systems whose utility, adaptability and longevity can be evaluated well in advance of their implementation.

Keywords: ICT, Quality Dimensions, Business Processes



Professional Systemics in the Process of Counter Drugs Criminal Intelligence Analysis

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EXTENDED ABSTRACT

In an epoch of Communion Intelligence, information is such a strategic asset, that governments and multinational-giant corporations, invest huge amounts of capital, time and human resources to obtain it. Taking into consideration crime evolution and its mutation from the traditional forms to modern ones, the practice of agencies dedicated to law enforcement is being reformed as well - focusing on the most transnational crime, that is drug trafficking. Power and advantage of drugs enforcement, is the processed information (intelligence), that is the final product of a complex systemic process, throughout which incoming data are collected, interpreted and analyzed (information), in order to discover their tenor respectively to criminal environment-aspects, to decision making and to determine actions and main scopes. Criminal analysis is a critical aspect for the process of information.

Key elements are data fragmentation and recombination. Based on the outcome knowledge it is categorized as follows: 1) Operational or tactical analysis, focused on short-terms targets within specific operational research, 2) Strategic analysis, focused on the creation of knowledge in order to decisions of strategic nature, with mainly future prospect. According to the level of targeting, it may be: a) descriptive (discovery of general tendencies or types of the narcotics criminality), b) illustrative (recognition of factors which favour the narcotics criminality), c) predictive (predictions for future evolutions in narcotics criminology).

In relation to the applied policing model in drug enforcement (problem-oriented), criminal analysis is the second procedural level. Research (qualitative and quantitative data) is the first step, analysis follows (approximation of the characteristics of crime), response entails the third step (elimination of criminal factors, both for police action and other institutions) and evaluation ends up (assessing the effectiveness of the innervations). Information analysis should not be confined only within the area police activity, due to the fact that the general drug policy derives from the involvement and cooperation of several organizations.

Keywords: Drugs, transnational crime, systemic approach



Systemic Tools for Business Starters

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EXTENDED ABSTRACT

The workshop exposes basic theoretical and practical notions of new business system organisation and the use of the principles of system theory and cybernetics in understanding complex business ecosystems and decision-making. New business systems require the development of a requisite holism that will enforce their quest for viability and selectivity in a competitive ecosystem. Business starters need to understand the physics of the business ecosystem expressed mainly through the laws of cybermetics. They also need to understand the mechanics of business evolution shaped by the driving forces of the business and economic ecosystem.

In the workshop we will apply modelling and simulation methodologies and appropriate software to activate basic business intuition for the business starter. Feedback loops, viability modelling, process development, communication networks, complexity management, entropy, negentropy are some of the topics thar will be discussed in a consructive context.

Keywords: Systems Theory, Cybernetics



Design & Control Systemic Methodology (DCSYM) Case Tool

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EXTENDED ABSTRACT

In this workshop we shall present the Design and Control Systemic Methodology (DCSYM) at the Strategic and at the Procedural Level with real applications. DCSYM is a high-level design language, which enables effective synchronous and asynchronous multi-agent conversation and carries out exactly this task, the system description.

In DCSYM, the elements of a system are: subsystems (rectangular shapes) which are also systems in a recursive manner, individuals (circles) and the relations (lines) between them. A relation represents communication or control between systems – systems – individuals and its quality differentiates according to Ken Bowen notation.

Along with the DCSYM Methodology presentation, we shall present the DCSYM CASE TOOL which is a recently developed as a software application whose purpose is to facilitate systems design according to DCSYM. It represents the whole problem design in a whiteboard or canvas and allows the user to draw systems, subsystems and individuals as well as communication and control links between them. It works like a drawing application in a way that is familiar to the average user but with some extra functionality to support operations related to systems design according only to DCSYM. It supports nesting systems at any level and performs basic, at the moment, calculations on the system, such as its cyclomatic complexity. Since Systems Thinking is applicable to a lot of situations from ecological or social systems to organizational complexity and from strategic planning to developing quality management systems, the DCSYM methodology and the corresponding DCSYM CASE TOOL can be very helpful tools for both the Professional Systemic Analyst and anyone else who is involved in systems approach design.

Keywords: DCSYM, DCSYM CASE TOOL, Cyclomatic Complexity



Digitalization of ideas: Necessary requirement for the democratic [R]evolution

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EXTENDED ABSTRACT

The appearance of new technologies has always marked paradigm shifts and acceleration of development and progress in many domains of our lives. But some inventions have been a lot more influential than others. For example, the digitalization of text revolutionized our ability to store, recall, transmit and process knowledge. Next, the digitalization of sound and the invention of the first digital audio recorder in the late sixties launched a revolution both in communication and in entertainment. Finally, the digitization of images opened tremendous possibilities for human interactions. Within two decades all new texts, all new sounds and all new images are digital. Today, creation, storing, transmission, retrieval and processing of all kinds of information rely on digital computers. The number of digital devices on earth has exceeded the number of people. Virtually everyone on earth is using digitalized text, sound and images to communicate. What is the next challenge? The participants of this co-laboratory will be given and invited to test a prototype of our next generation tool developed by promoters of the science of dialogic design across the world, which facilitates the digitalization of ideas. The basic concept is that by handling human ideas, thoughts or observations as digital entities, we open the possibility to process ideas collectively and therefore harness collective intelligence, collective wisdom and crowd sourcing.

Keywords: Digitalization, Democratic Revolution



Human Resource Development The Synolic model® & the NLP (Neuro Lingusitic Programming) system

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EXTENDED ABSTRACT

The Synolic model $\$ - $\$ hyper-comprehensive approach to human resource development and performance optimization.

The Synolic® model provides for diagnosing and designing with greater accuracy the actions needed to improve individual performance, It examines:

- not only work related factors (abilities/competencies, motivation, role perception),
- but also personal factors (work preferences, personality, life goal plans) that influence people's decisions and account for much of human behavior.

The NLP (Neuro Lingusitic Programming) system in re - sourcing human potential

The way we process the information inside our minds determines whether we survive, whether we are moderately successful or achieve levels of excellence, whether we win or lose in life. Richard Bandler and John Grinder creators of NLP determined that the difference often lies in small refinements in information processing.

The field of NLP coaching and training is about a high level expertise on the structure and process of performance and deal with:

- Depicting how people code the information inside their minds (the structure of a situation or thinking approach).
- Repatterning the path that each one of us uses to achieve what we want to generate new potentials, new resources, and new strengths and create a life orientation that aims for excellence and results.

Keywords: The Synolic model, The NLP (Neuro Lingusitic Programming) system



PP-01

Organizational Project Management Maturity: Can it help Company's Competitive Advantage?

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EXTENDED ABSTRACT

The Organizational Project Management Maturity Model or OPM3 is a globally recognized best-practice standard for assessing and developing capabilities in Portfolio Management, Program Management, and Project Management. It was published by the Project Management Institute (PMI). OPM3 provides a method for organizations to understand their Organizational Project Management processes and measure their capabilities in preparation for improvement. OPM3 then helps organizations develop the roadmap that the company will follow to improve performance. The Second Edition (2008) was recognized by the American National Standards Institute (ANSI) as an American National Standard (ANSI/PMI 08-004-2008). When an organization embraces organizational project management, it embraces a critical driver for business success. Instead of executing projects randomly, the organization is improving its processes and ties projects to the business strategy and needs. Also OPM3 makes sure that the organization focuses on projects and programs that support the organization's goals. And when you do it, you get better performance, better results, and a sustainable competitive advantage in the marketplace. This professional panel will discuss the pros and cons of a company becoming OPM3 certified in order to deliver projects in a better way.

Keywords: PMO, Project Management, OPM3



PP-02

The power of the strategic PMO

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EXTENDED ABSTRACT

In this presentation, active research over the power of the strategic PMO and the OPM3B® is presented. In the same organization and at the same time there were two different organizational assessments being done, by two different teams. One team was composed by three senior consultants that worked inside the PMO organization for three months, producing a report of the actual state of the organization in the Project Management practices, tools, templates, documents and systems. The other assessment was done by one OPM3 Certified Professional that made a Project scoped OPM3B® Assessment; that was done by the Certified Professional alone with a month of work. The results induce that the PMO has to change towards a much more strategic oriented action and it is proved that the apliance of the OPM3B® PMIB® standard is a much more quick, easy and less costly way of doing it.

Keywords: PMO, OPM3



PP-03

CMMIB® or Agile: Embrace Both, They Need Each Other!

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EXTENDED ABSTRACT

Agile development methods and CMMI (Capability Maturity ModelB® Integration) best practices are often perceived to be at odds with each other. In this presentation we discuss the reasons for this discord and why this need not exist. Agile and CMMI can be used both and exploit synergies to improve business performance. Together they complete each other capabilities and can lead to fast, affordable, visible, and long-term benefits.

Keywords: Agile, CMMI



PRT

Sustaining Process Alignment Through Change Management: A Systems Approach

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EXTENDED ABSTRACT

Organizations today operate in a complex business environment, which changes constantly due to social-cultural, legal, economic, political, environmental, ethical, demographic and technological influences. Indeed, increasing uncertainty seems to be the only constant in our turbulent modern world. Successful adaptation to a dynamic environment is as critical to an organization as it is to a biological system. Just like biological systems, organizations encounter changing conditions to which they must effectively respond if they are to survive.

Yet the vast majority of organizations today treat change as an isolated event rather than a process. Change initiatives are developed reactively to environmental disturbances and implemented within strict functional boundaries, with minimum attention given to systemic interaction. Information relative to performance following implementation is generated functionally and processed locally as defined in existing standardized procedures, consistent with the requirements of mandated policies. Business decisions relative to change are derived through analytical methods in the context of a reductionist approach: reducing the whole into its constituent elements (parts), understanding each element separately and aggregating understanding of the elements into an understanding of the whole. But what if the essential features of the whole are embedded not in the elements, but in their interconnectedness? What if the defined function(s) of the whole arises not from the sum of its parts but from their interaction (the manner in which the elements actually relate to and interact with one another)? The very act of reduction disturbs the interconnections of the elements and therefore corrupts the essential features of the whole. Hence, business decisions lack cohesion, and management, the ability to consistently align activities to effectively cascade the change initiative throughout the organization.

Adapting a systems approach enables management to embrace a fact-based approach to decision making relative to change. The organization's processes, assets, culture and politics, employee required and emergent systems, existing and potential customers' needs, suppliers' capacities, competitors' capabilities, and governmental agencies' requirements are all essential elements of a unified system. The product of the interaction of these interdependent elements needs to be approached and understood as a unified whole relevant to change initiatives. Understanding the fundamental systemic relationships which affect the behavior of the system over time augments the organization's capacity to manage the system's complexity, ensuring process alignment throughout the change management process. Further, a systems approach will afford management the ability to deal with change, both from an organizational as well as an individual



level. Finally, a systems approach will enable management to deal with environmental disturbances from a number of different aspects, including: adapting to change, controlling change, and effecting change. A proactive approach to dealing with change is at the core of all three aspects.

The need for a systems approach has never been more imperative, given the realities of the new economic climate impelled by the current credit crisis and the need for organizations to challenge existing paradigms, core values and business assumptions against the dynamic complexity of a volatile economic environment.

The theme of the roundtable discussion will concentrate on the manner through which the modern organization or business can adapt a systems approach to change management. Specifically, the discussion will focus on effective means through which decision makers can proactively respond to both internal as well as environmental influences: identify the interrelated and interdependent elements interacting as a structured functional whole (system); determine the flows between these elements and their systemic relationships, recognizing recurring patterns of the system's behavior over time; align the organization's strategic priorities and tactical planning to the system's operational capabilities, through formal methods, dynamic tools and structured initiatives; and finally, develop and implement monitoring and measurement mechanisms which will provide feedback relative to the system's performance following implementation of change initiatives.

Keywords: Process Alignment, complex business environment, change management



Extended Abstracts



EA-01.01

A Methodological Systemic Scheme for Dynamic Complexity

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EXTENDED ABSTRACT

Twenty-five hundred years ago, Heraclitus of Ephesus argued that "there is nothing permanent except change". The resilience of this argument is certainty more compelling today in light of the dynamic complexity of an interconnected world in which stubborn problems persist despite our noblest efforts to address them. In fact, in the context of today's fluid environment, change may prove to be the key challenge for the modern organization, and its ability to successfully align internal processes and capabilities relative to the various influences to which it is subject, paramount in ensuring the viability of its structures and functions so that they continue to support the organization's purpose.

While the need to address issues that warrant management action is tenant for the modern organization's continued existence, capturing the essence of convoluted problem situations rarely occurs as an objective event. Interpretation of the essential properties of observed phenomena involves observer participation, a reciprocal process in which both the observer and the phenomenon observed constantly form and reform one another. The interdependence between the observer and the observed phenomena enhances the ambiguity of the causal relationships embodied in the perceived phenomena, further increasing the difficulty of framing the issues associated with the problem at hand, studying the variables involved, and formulating actions to achieve a desired state. As dynamic complexity increases, the expected results of management decisions are increasingly difficult to anticipate and the organization's capacity to maintain a competitive advantage diminished unless these decisions reflect a fact-based proactive posture, within the context of a holistic approach.

In this paper, we shall introduce a Methodological Systemic Scheme (MSS) through which the modern organization or business can apply a systems approach to its management paradigm for the purpose of maintaining the cohesion of the various organizational units of which it is comprised, without compromising the required autonomy which enables them to effectively respond to (1) the diverse conditions of the various macro and micro environmental influences to which they are subject, and (2) the emerging inter-organizational oscillatory type of response that results from feedback mechanisms that operate to achieve system homeostasis following system intervention. Specifically, the MSS is designed to serve as the practical means through which to augment management's capacity to align the organization's tactical planning to the system's operational capabilities, by providing a clear understanding of the structural relationships of the various interrelated and interdependent elements interacting as a structured functional whole (system).



The MSS makes use of the schematic representations of the structural elements of which the system is comprised, deploying the Design and Control Systemic Methodology (DCSYM) and determining the causal relationships between the system's elements recognizing recurring patterns of the system's behavior, making use of Causal Loop Diagramming techniques. The MSS aims to serve as the platform on which to bridge the gap between perception (perceived state) and reality (actual state), when planning, implementing, and evaluating the effects of change initiatives.

Keywords: Systems thinking, DCSYM, Methodological Systemic Scheme, Causal loop diagrams



EA-01.02

The Economic Crisis in Spain: A strange case of untapped national resources

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EXTENDED ABSTRACT

The economic crisis in Spain is quite an original crisis since it has nothing to see with the rest of the crisis in the world. The crisis in Spain is not due to the external debt, nor to its public deficit, as everybody say following the criteria of international organisms and the rest of academic established colleagues, most of them ignoring the influence of the "systems of values "on the behavior of societies. Besides, excessive emphasis on neoliberal approaches from one side, and on the other the mimetic approach of economic theories on mathematical developments of other sciences, makes the actual economic studies not a real science, but only an essay for understanding the economy from a scientific point of view. Due to this grave epistemological mistake (not to deal with the performed "systems of values"), there are three main resources in Spain which are strangely unused: first, 25 % unemployed people (about 5 millions) who need to work; second, 4 millions of uncovered jobs to reach the corresponding European level of development; and third, more than 50.000 millions euros which are untapped or wasted each year, enough to finance the cost of these 4 millions of necessary new jobs. Therefore, the Spanish economic problem in 2012 is, mainly, a very strange problem of untapped resources. No other country in the world has such three clear and unbalanced wasted factors together at such a level.

Keywords: Systems Theory, economic crisis, unemployment, untapped resources



EA-01.03

Small hydro power stations, a way to secure electricity supply in Colombia. A policy evaluation using a system dynamics model

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EXTENDED ABSTRACT

After its deregulation in 1994, the Colombian Electricity Market (CEM) has developed satisfactorily in some sectors, especially in terms of generation and sales to large costumers and to household sector. However, around 70 % of its production capacity is based on hydroelectric power stations that are built using one or more dams. The available water in the dam (considered potential electricity) is from time to time affected by severe weather conditions which might reduce the water inflow by up to 50 %. The macroclimate phenomenon called ENSO (El Nipo South Oscillation) is a strong dry season or drought that occurs randomly. Therefore, to secure electricity supply, additional power stations might be required in the face of the upcoming severe weather conditions. Over the last years, and according to expected demand, the Colombian planning unit, UPME, has developed a capacity expansion plan which includes the power stations that should come into operation in the near future. The construction of two main power stations with dams was, however, canceled due to social and environmental concerns.

The main objective of this paper is to evaluate whether these larger projects can be replaced through the construction of small hydro power stations that, each, has a lower generation capacity, but in total have less social and environmental impact. In this paper, we present a System Dynamics model of the CEM including the supply from various competing technologies; hydro and thermal. The thermal fired power plants are used sparsely due to their high costs causing the electricity price to rise. Therefore they will only generate electricity in order to satisfy the demand that is unmet after the hydro scheduling. The future market development will be evaluated under different scenarios that combine variations in the paths of investment in small hydro power stations, expected electricity demand, gas and coal prices, and weather conditions.

Keywords: hydro power stations, thermal power stations, investment, electricity price, weather conditions.



EA-01.04

Using the Design and Control Systemic Methodology to calculate Systems Complexity

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EXTENDED ABSTRACT

This work deals with the systems or models complexity and proposes a method to measure the complexity of a system designed using the Design and Control Systemic Methodology (DCSYM). Although the term "complexity" appears more and more in our everyday conversations, it turns out it is very difficult to define it. However, the majority of definitions relate the term complexity with parts and relations between them, which leads to the concept of the system.

There are many reasons to deal with the complexity all based on the acceptance that we live in a complex world. Almost all phenomena occur due to the interaction between lots of things, forming systems, which result to the situations we face. To understand or to deal with them, we formulate models that usually are abstraction of the reality, still capable to make us able to understand it and/or to design effective interventions. These models are also systems and their complexity relates either to the difficulty to deal with that systems or the value they expose to their environment.

Since a system consists of parts and relations between them, the most proper equivalent is the "graph" as defined in the graph theory. A graph consists of nodes (vertices) and lines (edges). Lines act as links between nodes. DCSYM represents systems employing a specific notation. It uses rectangles to represent systems or subsystems, circles to represent individuals and lines to represent relations between them. A system can contain other subsystems or individuals. That nesting acts as a hierarchy link between the container and the contained element. The whole concept leads directly to a \"graph\" as described previously.

A method to measure the complexity of a graph is McCabe's "Cyclomatic Complexity".

The Cyclomatic Complexity (CC) of a graph is: CC = E - N + 2P

Where:

P = number of disconnected parts of the graph

E = number of edges

N = number of nodes

In a system, there are no disconnected parts (in other case it would not be a system), thus, P=1. After that, the definition of the Cyclomatic Complexity becomes: CC = E - N + 2.

To calculate the Cyclomatic Complexity of a system we use the above definition. N is the total number of systems, subsystems and individuals. E is the total number of relations between all of them. Note that every Edge counts once.



This approach assumes that all relations have the same weight. In actual situations, the meaning of complexity relates also to the variety of a relation between two elements. To include this into the measurement of the complexity we count each Edge (Relation) not only once but by a number which expresses the variety (or difficulty) of this relation. We call the complexity calculated in this way "Extended Cyclomatic Complexity".

An experimental software, titled DCSYM CASE TOOL, is used to design systems according to DCSYM and includes the calculation of the complexity using the above two methods.

Keywords: Systems, Complexity, DCSYM



Business related factors affecting Innovation and Competitive Advantage

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EXTENDED ABSTRACT

In today's modern competitive environment all firms attempt to differentiate parts of their operations in order to obtain a competitive advantage and, thus, maintain their market position or even improve it. In a so called "Knowledge era", firms have to compete based mainly on their Organizational Capabilities, Intellectual Capital, Innovation, Culture, Knowledge Management and Business Strategy. Based on a representative sample of Greek enterprises, this research provides evidences as far as the effect of these factors on the possession of a competitive advantage is concerned.

A new conceptual framework is drawn where all the above mentioned factors are included, with the main emphasis being on the examination of the relations between them. The empirical results have shown that although achieving (or maintaining) a competitive advantage depends on all the factors examined, it is apparent that it is directly related only with their business strategy, organizational culture and (mainly) innovation, while indirectly with intellectual capital, knowledge management and organizational capabilities. It should be stressed that intellectual capital affects all (three) factors that are directly related to competitive advantage; it also affects knowledge management. In turn, knowledge management affects only innovation and organizational capabilities. Finally, organizational capabilities affect competitive advantage only indirectly through innovation.

However, what one should keep in mind is that the mixture of these factors, that determine the success of a firm in the market, is very likely to change, in terms of the weight that is attached to each one of them, but also in terms of the type of factors. This is so because enterprises should be very flexible so as to maintain a competitive advantage and survive in the dynamic environment they are operating in. After all, we have to consider seriously that business people usually "... run so fast so as to keep pace or simply to stay in front of the developments".

Keywords: Sustainable Competitive Advantage, Innovation, Business Strategy, Organisational Culture, Intellectu



Investigating the intention to use e-Government services

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EXTENDED ABSTRACT

According to the EU, e-Government is defined as "the use of ICT in public administration, combined with organizational changes and new skills of the Human Resources. The aim is to improve the quality of public services as well as to reinforce the democratic processes and support public policies." (EC, 2003).

The TAM model (Davis, 1989), the DoI model, the Trustworthiness model (Belanger and Carter, 2005) and the Unified Theory of Acceptance and Use of Technology model (UTAUT) (Venkatesh et al. 2003) have been used as the theoretical foundations of the proposed conceptual framework.

The main aim of this research is to build this new conceptual framework incorporating factors that influence the adoption of e-Government by Greek citizens, and then to empirically evaluate its validity. The final determination of the factors affecting the use of e-Government systems, as well as the way these factors affect each other, constitutes the main part of the empirical tests that has been performed in order to identify the best possible way of adopting e-Government services.

This research utilizes a structured questionnaire for measuring the intention to use e-Government systems. A series of multiple items (questions) were used for measuring each complex factor included in the proposed model. The questionnaire is consisted of 12 parts and 68 questions. The selection of these items were based on bibliography (results of relevant previous studies), and were measured using the Likert 5 point conceptual scale. The questionnaire was answered by a sample of 566 Greek citizens who were randomly selected. The questionnaire was uploaded in electronic format in a specific social network forum. For the statistical analysis, both simple descriptive statistics and exploratory analysis were employed using the statistical package SPSS. Confirmatory factor analysis was also performed using the Structural Equation Modeling method.

The analysis of the results has shown that perceived usefulness is the most important factor directly influencing the intention of use of e-Government services. In addition, trust, experience in the use of Internet , peer influence, the capability using the PC and the perceived risk should also be considered when implementing e-Government services since it was found that they also (directly or indirectly) affect citizens' intention to adopt them.

Keywords: e-Government, Intention to Use, Empirical Research, Structural Equation Modeling



Structured Democratic Dialogue Process applied in SMEs

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EXTENDED ABSTRACT

The systemic approach for the administration, planning and expansion of both small and medium scale enterprises has become more and more a necessity, owed to the significant complexity inherent to their inner and outer environment. In this work, we perform a systemic approach by implementing the structured democratic dialogue methodology in an SME. With this systemic approach we try to understand the "Problematique" and to realize the interdependencies between subsystems in the company. Given the enhanced competition and need for constant improvement of quality and productivity this leads to an inevitable increase of complexity.

The system under consideration is thesweb which is a small company with core business web development but also active involvement in the fields of Web marketing, Graphic Design, IT services and Sales. We are dealing with the complexity of organizing and extending the company. The purpose of this work is twofold: i) the reformation and constant improvement of the company and ii) the expansion of the company.

True dialogue is difficult in the Information Age – complexity demands that we address issues collaboratively, systematically, and systemically that'As why we need a structured process in order to have a systemic approach in our case. With the SDD we can reveal the collective wisdom of the stakeholders and engage them in the co-laboratory of democracy. The SDD methodology is specifically suitable for identifying the problems of the company and subsequently pinpointing potential solutions.

As far as the Ashby's Law of Requisite Variety the stakeholders analysis was made in order to have the diversity of perspectives. In the current work we employ the Cogniscope software in order to avoid the cognitive overload of the participant in the dialogue. Firstly in the process we had focused on a triggering question "What are the steps to be made in the company in order to improve and expand it". Secondly we had a brainstorming phase to articulate the observations. After that we had the clarification of the meaning. The next step is to cluster the generated ideas inductively. After these steps we had accomplished to build a shared language. After that we vote and rank the ideas with an influence voting question "Supposing that in our case the participants were able to implement idea 1 Will this SIGNIFICANTLY enhance their capacity to implement idea 2" and the help of the software cogniscope; subsequently, based on the strong majority we implement a tree with the root ideas and all the interconnections and interdependencies. This approach leads to an optimal solution about the problem and to consensus among the stakeholders.

Keywords: Systemic, structured, democratic, dialogue, consensus



The effect of Information Sharing Planning on cost, schedule and quality uncertainty reduction

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EXTENDED ABSTRACT

In our paper we aim to illustrate the importance of ISP (Information Sharing Planning) in order to achieve cost, schedule and quality uncertainty reduction for organizations and their goals. Information Sharing is crucial for making effective emergency management decisions and coordinating operations in a crisis. Planners must ensure that information flows effectively between stakeholders who need to co-operate their operations. Engaging stakeholders in a systematic planning process is the key to ensure that information will flow as needed in a crisis. Planning the flow of information and mitigating information sharing issues is integral to effective emergency preparedness and response.

Factors that affect the reliability of communications and effectiveness of collaboration are considered "issues." Issues such as delays, information overload, single points of failure, bottleneck or non-compliant processes and gaps in information sharing procedures undermine the flow of essential information inputs to decisions. By creating communication protocols, there is increased likelihood that agents can execute their assigned tasks and meet their commitments.

Information Sharing Planning ensures that by:

- Defining protocols with your partners and establishing commitments to share information and inform each other in cases of issues that trigger events, tasks, information needs, information you can and will provide, how quickly, by what means of communication.
- Specifying issues currently or potential likely to impede effective collaboration.
- Prioritizing approaches (solutions) rationally, based on how many issues they will resolve, and the importance of the issues.

you will be able to collaborate better, providing:

- Reliability of the information flow the likelihood of the communication happening at all.
- Speed will the person get the information at the right time?
- Definition of required information will the person get the right/relevant information?
- Cost reduction by making these improvements.

The topic will become more comprehensible with a simulation, developed with Forio Business Simulations platform, that dynamically illustrates the value of collaboration design and information flow planning to provide insight through analysis and dynamic visualizations, on the essential outputs that effective collaboration between stakeholders affects.

Keywords: ISP, collaboration, certainty, information, flows, simulation



The use of DCSYM (Design and control systemic methodology) of the seafarers' identity documents issuing process

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EXTENDED ABSTRACT

The project deals with common failures and the resulting poor performance of a specific department in the Greek administration system. The department has as its main functional purpose to issue and provide Greek seafarers with the necessary identity documents needed, i.e. seaman's books. We describe the present situation of the Organization, in particular the legal framework, current procedures, the modes of control and communication among the different departments and –finally- the quality of services provided. We also attempt to depict the way certain departments communicate with different Agencies such as Medical Services, Justice and Military Authorities, Citizens' Information Centers and Naval Schools.

Summarizing the everyday problems regarding the Organization's function, the most important ones are:

- Large number of citizens visit this department every day, to ask for information and submit applications in person.
- Applications must be accompanied by a large number of documents.
- Access to competent Authorities buildings is problematic due to their spatial dispersal.
- Communication with other Authorities is fraught with considerable delays.
- Rates of response times to applications are notoriously low.
- All the steps of known procedures need improvement.

Using DCSYM we describe the outlines of the system (the Directorate and the external environment in this case are), the subsystems (i.e. the Departments with their specific code numbers) and, lastly, the individuals (staff members such as the Directors, Heads of Departments and employees). The external environment includes the immediate stakeholders (seafarers) and all the competent Authorities. This process gives us an overall picture of the system and its components.

Following, we check all relationships (control, ordinary communication, problematic communication) from the main system (Organization, Departments, Directorates) to the external environment. (stakeholders-seafarers, competent Authorities).

This procedure concludes:

- Bureaucracy reduction.
- Ensuring citizens' direct access to competent Authorities (Medical Services)
- Improvement in the quality of communication between:
 - I. The Department and other Authorities.
 - II. The stakeholders and the Department.



- Services to be provided in a shorter time span-Simplification of current procedures.
- Reduction of the number of people who visit the Agency every day to file applications. Saving time/resources for interested parties.

The above- mentioned actions led us to the beneath improvement suggestions:

- Establishment of e-communication among competent Authorities and appropriate web applications to deal with the bureaucratic aspect of everyday department operations and applications handling.
- Spatial/digital restructuring of the Department, planning and training staff to deal effectively with prospective applicants.
- Provision of staff training/information.
- Availability and distribution of resources.
- Legislation amendments in order to minimize necessary documents to accompany applications.

Conclusions

Deployment of DCSYM assisted us in plotting the active area of the system (the Organization)-obtain information that is necessary for understanding the environment of the Organization and its functions/procedures/practices as well as their complexity. Moreover we identify all interested parties-stakeholders that are involved in the functions and the operations of the Organization.

Keywords: seafarers, documents, failure, improvement, plotting area



The use of DCSYM Systemic Methodology in Operating a Headquarters of the Army

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EXTENDED ABSTRACT

In this paper we study the organizational structure of a Headquarters of an Army, called Ω , where each address consists of members that serve a specific purpose and set of tasks and functions under a coordinator (the Director). With the use of the systemic methodology DCSYM and its coded forms, we designed the first level imaging of the system, subsystems and the individuals who compose it. In the second level the DCSYM design depicts the communications' level for knowledge and information exchange and immediately after the third level display depicts for the control flows. New service requirements and obligations required the cooperation and coordination of Headquarters Ω with Headquarters Δ and companies Suppliers. Especially in the Army where coordination effects, all kinds of communication, control and collaboration between departments are necessary components to fulfill any mission and the DCSYM systemic methodology enhances all of the above. We properly matched the three systems together by flows of communication and control, where appropriate, after consideration of aggregating data from questionnaires - interviews, to cooperate and coordinate so to fulfill their mission. In addition to the use of this flexible DCSYM methodology design, we are in an advantageous position, so that in the future to expand and improve the flow of communication and control of Headquarters Ω , correcting any problem areas and also have the additional ability to connect effectively Headquarters Ω and new Chiefs or existing authorities. Finally, we shall present clearly the conclusions of this study.

Keywords: DCSYM, Systemic Methodology, Army



United States of Europe: A systemic approach

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EXTENDED ABSTRACT

The United States of Europe is a name given to several similar hypothetical scenarios of the unification of Europe, as a single country and a single federation of states, similar to the United States of America, both as projected by writers of speculative fiction and science fiction, and by political scientists, politicians, geographers, historians, and futurologists.

Main fields of the systemic analysis and process cohesion:

- Banking, with a Central European Agency for banking supervision and credit rating, eliminating the current whims of various "rating agencies" and especially those of American interests.
- Financial, with reinforced control mechanisms regarding the budgets of each state and the financial capacity at a European level. Owner of a single European Ministry of Finance, which will have control of the financial data and financial responsibility, in accordance with the specific needs of each state separately, through transparent and merit-based procedures.
- Economics, in which the decisions will involve economic, fiscal and social policies, taken by a single authority, with key objective to complete the liberalization of trade and labor, tax evasion and corruption.
- General Policy, with common internal and external strategy and the establishment of a federal Constitution forms. Single central democratic governance, in which all States will participate on an equal footing, with indirect election process, but also with while direct capacity, through simultaneous referendums on major issues.
- Military-Police, a joint military border security code land and sea which will be commonly accepted, protected and guaranteed, while having a unique immigration policy. With a single criminal - civil law, focusing on ensuring human rights, religious freedoms and all kinds peculiarities.
- Energy, creation of single holding, management and disposal of all forms of energy production, with an emphasis on renewable energy - recyclable forms.
 Priority in this area should be to create a B«Point SystemB» mechanism, which will reward variously B«Green GrowthB» and the contribution of each State in this effort separately.
- Academics, towards the full and immediate disposal of all the available technological achievements - expertise and research activity, through a centralized single channel.
- Solidarity, a common policy in the sensitive areas of health, employment and social benefits. Main purpose should be to protect the socially vulnerable groups, to maintain the coherence of the B«healthyB» humanitarian structures of the European tissue, and terminate the current wide divergences between social strata.

Which factors define this federal unification?
An in-depth look into the possible scenarios through systemic analysis.

Keywords: federal unification, systemic analysis, process cohesion



A Systemic Approach for Process Cohesion in Justice Dispensation

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EXTENDED ABSTRACT

In this paper we examine the use of the systemic methodology Design and Control Systemic Methodology (DCSYM) for Process Cohesion in Justice Dispensation for the modernization of Greek Court and Independent Administrative Principles including organizational and computer applications design logical level.

The basic modules for the above problem are: on the one hand the Justice on the other hand the Independent Authorities. In regards to Justice referred to the Civil Courts, Civil and Criminal, and Administrative Courts in instances, namely: Administrative Court (D.P), Administrative Court (CI), Council of State (STE), ECA (ELS). On this issue the Independent Authorities are at random for the purposes of this part of this paper and because the scopes are closer to those under consideration in this paper issues by the statutory today Independent Authorities in Greece here refers to the Consumer Ombudsman (S.t.K), the Independent Authority for the Protection of Personal Data (A.A.P.D.P.CH) and the Authority Communication Security and Privacy (Appointing Authority). At the base of the DCSYM design will show the first two-way relationship with the vector X, Public or Private (D or I), the Electronic Transactions, which indicated strong bidirectional arrow.

For the implementation of proposed modernizing approaches remain the institutional regulations and the growth of relative informative systems for its procedures.

The improvement proposed changes and innovative solutions proposed in this paper to solve the above problems are:

- Building and continuing maintenance Courts Information System (MIS)
- Creating Atomic Magnetic Card Secure communications between the lawyer and the Courts Information System (MIS).
- Establishment position Prosecutor GSN per court and district operations.
- Creation of Electronic Envelope Case Records (EHR) soon filed the original case by case application of the lawyer or by the competent prosecutor or the police authority in the cases provided strictly limited by law the possibility of bringing the case by the Prosecutor or other authority.
- Full email integration, reporting and monitoring of elements of EHR by the parties involved, i.e. judges, lawyers and of the Secretariat of the Court, the statutory relatively where deadlines.
- All documents scanned (scanning), will be sent to the EHR and held in paper form by the lawyer to show per search at the hearing.



- Establishment controller positions and Meta Data Controller. These jobs will occupy Judicial Officers who have specialized knowledge of modern technology and its application in the field of Courts.
- Thorough study and support the implementation of electronic procedures for MIS per case.
- Stronger legislative vesting of attempted extrajudicial dispute resolution and institutionalization of conduct by electronic transfer.
- Legislative provision for the award of a fixed number of cases to each judge at the German model.

Keywords: DCSYM, Process Cohesion, Justice Dispensation



EA-04.01

"Proactive vs Reactive Management" with the Usage of the DCSYM

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EXTENDED ABSTRACT

Although safety has always been considered in every activity into shipping industry, every major convention or revision of a convention has been the result of a disaster that catches the attention of the media, the public sector and other stakeholders. The history of International maritime safety regulation has been reactive for the most part of it.

Modern shipping management make clear that a proactive approach is a cornerstone for many risk-related decisions, particularly for decisions involving uncertainty & deviations from standard practices.

Decisions made everyday into shipping industry are based upon risk. It is vital for a shipping operator the risk assessment implementation that provides a structured basis to identify hazards and to ensure risks have been reduced to appropriate levels in a cost-effective manner.

The purpose of this presentation is to collect, analyze, summarize diagnostic data within DCSYM tool & to develop a workable proposal for organizational changeable factors related to risk management implementation into a shipping company.

The five steps in Formal Safety assessment are briefly presented. Within the DCSYM tool it is presented the way risk assessment results can be used to provide input to a decision-making process.

Also, provides insights into a shipping company's environment (International – National) & to shipping company modeling (Headquarters-Fleet).

Moreover, this framework can help other shipping operators to materialize the transaction from the reactive to proactive management within a detailed system thinking approach.

Keywords: proactive, reactive, management, risk, FSA, DCSYM



EA-04.02

Strategic entrepreneurship in Greek countryside: Critical factors and skills for sustainable business development

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EXTENDED ABSTRACT

In the proposed paper, with the term "sustainable entrepreneurship" we specify the development of local or supralocal economic activities by individuals or mixed business ventures with the participation of private investors, public agencies and social organizations that may have the form of networks who, in a long term, can contribute to the Sustainable local Development. This is the result of choices regarding the format, structure, organization and management of the organisations, their strategy for the achievement of competitive advantage and their contribution (through business and other results) to the local social and economic well-being.

The study focuses on a certain Greek territory, namely the Regional Union of Pella. The Regional Union of Pella is characterized by the coexistence of high biological diversity in its mountains and intense environmental pressures at the plains where it is produced and processed 17% of the national rural product. The natural capital of the region combined with the significant cultural heritage (the birthplace of Alexander the Great), creates ideal conditions for the development of many different economic activities, while their contribution to the sustainable local development is a quest.

The aim of the empirical research presented in the proposed paper is to identify the critical, important factors, the main conditions and, most importantly, the skills that affect the strategic development of sustainable entrepreneurship in Greece.

The methodology adopted includes conducting personal interviews with a dozen of local businessmen who activate in a wide range of different sectors (biological crops, winery, traditional quality products, alternative tourism, recycling, etc.). In the frame of their business development and through various innovations, the specific entrepreneurs take advantage of the local natural environment and resources, providing, thus, competitive advantages for their business. For many years now, they hold an important share of the local and international market showing satisfactory profitability.

In the context of the empirical research and through the technique of "in-depth" interview using a structured questionnaire, the participants gave us information on the current situation as well as their estimations for the future with respect to the real prospects of the sustainable entrepreneurship in Greece. Regarding the skills which are important for the education and human resource development, there were examined areas such as new communication technologies and information, foreign languages and management of cultural diversity, integrated



environmental management and implementation of total quality management tools, business ethics and corporate social responsibility, etc. The transcript text of the interviews was analyzed using the classic techniques of qualitative research, and, specifically, through the content analysis. These views, positions and estimations of the participants were classified and interpreted with the help of a semantic system of thematic analysis including all the essential dimensions of the concerned subject.

By processing the responses of the participants in the survey, they emerged documented results about the current tendencies, the perspectives and the training needs for sustainable entrepreneurship development in Pella. These elements can be used by the Greek state, policy formation institutions and corporate bodies which are interested for the future of small- and medium-sized Greek businesses, to design actions of awareness raising and training, in the frame of Sustainable local Development.

Keywords: Entrepreneurship, Sustainable Development, human resource skills, Small- and medium-sized enterprise



EA-04.03

Knowledge Management as a New Enabler for Improved Managerial Performance in the New Industrial Era.

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EXTENDED ABSTRACT

Globalization, technological evolution as well as knowledge revolution have forced firms to re-examine the traditional methods in obtaining a sustainable competitive advantage that enhance firm value. A number of researchers support that the creation of value has its roots mainly in intangible sources, such as knowledge. This paper aims to provide a critical review of the interrelations between knowledge management and competitive advantage that lead to increased managerial performance. Knowledge represents one of the fundamental constituent parts of any competitive organization. Knowledge management can be considered as a collection of activities that are organized and systematized in order to meet corporate objectives. Under this process, knowledge has become an essential resource to create value within organizations. Thus, knowledge management is at the core of firm's business growth, being considered as a process, which encompasses creating, capturing, and applying knowledge to achieve firm's objectives. In other words, the effective knowledge management provides a coordinating mechanism to enhance the conversion of resources into capabilities, grounding a superior managerial performance. Business success is based on encouraging continuous innovation approaches and commitment in encountering the real approach of the knowledge creating company.

Keywords: knowledge management, managerial performance, competitive advantage



EA-04.04

A Systemic Approach to Knowledge Management (KM)

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EXTENDED ABSTRACT

In our modern and complex business environment the problems are many and the solutions are getting far less. Older business risks and obstacles in the development of projects have evolved within and beyond the iron triangle of restrictions. Time cannot be precisely calculated nor duration on the other hand be predicted. Variable costs have over-scaled fixed on disproportional level and both quality and scope are either difficult to be conceived or underestimated. Globalization has been the scape goat in the recent decades but the real foundations of the problem lay on the same unpredictable aspects of the human behavior. The inability to conceive a situation as the interrelated variables of the interior and exterior environment has concentrated the efforts of scholars and analysts on individual solutions with no long-term effects. management and the learning agent within a corporation are the rising stars in the toolkit of modern manager. This paper explores the world of knowledge management and its contribution on nowadays projects. However the use of knowledge management theories and methodologies are presented under the spectrum of systems thinking and its holistic approach. The first chapter explores the origins of systems thinking in human history and introduces a different perspective in the games theory as decision making model. The following chapter are engulfing the various knowledge management theories and their overlapping common ground. Whereas in the final chapter a new framework is presented regarding knowledge creation, management and organizational learning, which new challenges are met and which persist?

Keywords: Systems Thinking, Knowledge management, Organizational Learning



Use of DCSYM in BASF Hellas SA

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EXTENDED ABSTRACT

1. Introduction

The topic of this case study is the use of the Design and Control Systemic Methodology (DCSYM) in the division of crop protection products of BASF Hellas SA. Its purpose is to identify areas of improvement, through extended analysis of the structure and the function of the company looking at the communication and interaction between its different departments.

Firstly, it is presented the organizational chart and described the functional structure of the company. The current structure is also designed in a diagram using the DCSYM methodology and the DCSYM application as a graphical tool. Through studying the diagram, some distorted communications are found and potential improvement is emerged out of these communications.

Then, the proposed improvement is described, which relates to a redefinition of the essential parts of the company and the employees'A roles, as well as of a new communication channels'A structure. The new structure is redrawn with DCSYM, as modeled after the implementation of the proposed improvement.

Finally, findings and conclusions by the use of the DCSYM methodology are presented.

2. Methodology

The Design and Control Systemic Methodology (DCSYM) is capable to include the components of a system, to integrate them into a hierarchical order in a bottom-up approach and to lead to the visualization of the structure and function of the system. It depicts in detail the systems and their subsystems, the individuals, and their qualitative interactions; this means the channel, the direction, and the type of communication between them. The methodology additionally introduces the concept of control.

The description of current status using DCSYM enables the observer to highlight the parts of the system'As structure that require intervention. Then the observer can provide targeted changes to this structure and act as necessary to improve the system. DCSYM largely supports the study of "soft" systems, where the human factor plays a starring role, and with the capability to reproduce diversity found in such a system, it may lead to a viable solution of complex and multidimensional problems.



3. Findings and Results

In this case study, the communication among the commercial departments of the company is found to be distorted. Also, there is a heavy communication flow between all the departments and the General Director due to the need for information and control. These facts have sometimes an impact on the implementation of commercial processes and procedures and cause difficulties in planning and monitoring of sales.

The company needs dedicated support for the planning, coordination and control of integrated operational processes. So, an organizational unit must be developed, which will collect, evaluate, process and analyze financial data coming from the company's data-systems, taking into account both information and trends of the customers and the market in general.

The proposed improvement is to establish a Systemic Analyst, who will be the focal point of knowledge in the company. Also, a credible CRM system is necessary in order to enhance the information flow among the entire internal network.

4. Conclusion

DCSYM is a powerful tool for defining, analyzing and processing systems'A structures. It makes easy to identify and transform the interaction among the essential parts of a system, as a simplifier of complexity.

Keywords: DCSYM, BASF, Systemic Analyst, Knowledge, Complexity



Construction Company Processes Using Design and Control SYstemic Methodology (DCSYM)

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EXTENDED ABSTRACT

The following paper indicates the analysis of a construction company and the existing problems in the operation and the production cycle. This company is a big construction firm dealing with private and public construction projects while in parallel operates two industrial units. The first one is a ready – mixed concrete industrial unit and the second is a quarry. The above units produce materials for selling in the market and for own use in the company's projects. It is one of the biggest construction companies in Greece with about 200 employees and a big number of trucks, machinery and construction equipment.

The management of the company is under the orders of one of the three owners. The company is divided in seven discrete departments, but three of them who are the productions departments, have a great interaction in their functions. There comes the point where the problems begin for the company. There are a lot of mistakes, misunderstandings, responsibilities overlap which leads to big problems in time schedule and quality matters. The communications between different departments are many times distorted and unuseful. The manager enlarges the above problems with his general philosophy of the way the company should operate.

Initially we are studying the existing condition of the considered company. We are analyzing the existing operation of the company. Thereafter design and analysis of the company is attempted using Design and Control SYstemic Methodology (DCSYM). The use of this method makes clear the existing problems in the communication between the departments.

Improvement of the existing situation is being proposed in order to achieve an optimal operational structure. A new design of the company operations is being described after the improvement proposals using the DSCYM. The results of the above proposals are very clearly showed through the analysis with the DCSYM, where we can see the new and more structured way of the operation and control between the departments of the company, which is saving time and inducts a way of quality control in the projects, operation and products.

Conclusions for the appliance of the above optimization proposals are being presented. Furthermore thoughts about further improvement of the procedures and the operation of the company are proposed.

Keywords: Systemic analysis, Construction, DCSYM, Quality control.



DCSYM METHODOLOGY - Implementation to the technical department in a road assistant company

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EXTENDED ABSTRACT

This project is a real assignment, running to the road assistant company in the technical department, to improve the organizational structure of the technical administration by using the systemic methodology of DCSYM. In this thoroughly analyzed both the technical department and company that focused on Greek territory, as a member of a global network with the values that govern it, by presenting the current situation with all its pathogenesis. Also is being made a brief reference to the theory of systemic thinking. Afterwards, we analyzed the problems of management structure based on the systemic methodology, by examine the pathogenesis and proposed improvements. Those are being made in two different phases, using the methodology of DCSYM to illustrate the current and the final situation. Finally we analyze the concerns raised by this study, given certain future interventions that could be made in order to develop the DCSYM methodology in a project execution phase. We come up with some conclusions generally, both for the analysis and the implementation of DCSYM.

Keywords: Systemic Methodology, DCSYM, Systemic Thinking



Use of DCSYM Methodology in the Re-Developing of the Department of Operations of the X Ltd Company in Greece

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EXTENDED ABSTRACT

X Ltd is a consulting company that focuses on the area of Health Care and specialises in: Organising Medical Conferences for Practitioners and Business Executives, Project Management, Communications, Marketing, Public Relations, and Advertising. Additionally, it publishes Scientific Journals and Books which target Scientific Companies, again, in Health Care area. The Company consists of three departments that are functioning under the supervision of the General Manager. The department that is going to be examined in this presentation is the Operations Department. This particular department may be the most important one for the company, as it gathers and executes the majority of the Projects in the company's portfolio.

The problem that has been identified within the department has several different dimensions. There is misplaced communication among Operations, HR and the Partners, as well as between Operations and the General Manager. There have been delays in delivering certain projects as well as withdrawal of specific actions, due to misdirected communication. For example, the same project may be assigned to more than one people and the people that are involved in it are not aware of the fact.

The central idea of this presentation is to apply, through DCSYM, a systemic approach in order to identify all processes required to ensure the company's capability to consistently meet customer and project requirements. The depiction of the types of communication in the Operations Department revealed in the best possible way the problematic situation that exists among individuals and between departments. The majority of the type of communication that has been revealed is that of Type D, which means Distorted Communication and has to be restored immediately for the benefit of the company. Finally, this analysis demonstrated that the System which has been under study is a case of Soft System because there is large degree of subjectivity involved which manifests itself via different perspectives, involvement of personnel and different agendas.

The outline of the use of DCSYM Methodology developed has presented the author with useful arguments for the improvement of the current situation in the Operations Department. The main target of the suggested improvements must be the change of the type of communication in the flow of information from D (Distorted Communication) to C (Communication). Secondly, the future projects need to be delivered on time with efficiency and the individuals involved need not lose many working hours. Finally, it's imperative that the ISO 9000 will be implemented in order for the company to be able to function efficiently and



effectively; this will be completed with the appointment of a Quality Officer to coordinate different projects and procedures.

To conclude, a report with SMART objectives will be presented to the General Manager as well as arguments about the need of Control in order for the structure of the company to be re-established and through that, to enhance customer loyalty and the satisfaction of all interested parties.

Keywords: DCSYM, Systemic Approach, System, Communication, Distorted Communication, Control, ISO 9000.



EA-06.01

Evaluation of Regional Units using the Fuzzy Analytical Hierarchy Process: The case of the Central Macedonia Region in Greece

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EXTENDED ABSTRACT

Multicriteria Analysis is one of the most important tools for the decision-making process and is applied in many areas such as economy, management, technology and social sectors. Multicriteria Analysis facilitates the representation of multidimensional problems and simplifies the decision-making process due to its flexibility.

The well-known Analytical Hierarchy Process (AHP) and its extension to fuzzy logic - the Fuzzy Analytical Hierarchy Process (Fuzzy AHP)- are among the most popular multicriteria methods and have been applied to treat complex decisionmaking problems. Two variations of the Fuzzy AHP method have been presented: the Fuzzy Extended AHP and the Constrained Fuzzy AHP. The latter, which is applied in this study, consists of two slightly different methodologies. Our research for this study is taking place in the Region of Central Macedonia which is divided into seven regional units; Thessaloniki, Serres, Imathia, Chalkidiki, Pella, Pieria and Kilkis. In the analysis of these counties are included demographic, geographic, urban, social, environmental and economic data. Also, the model that is used to evaluate the regional units, is presented. The scale used to apply the evaluation and the pairwise comparisons is the well-known Lamata scale. Next, a hierarchy consisting of four levels is developed. The first level represents the purpose of the research, which is the evaluation of regional units belonging to Central Macedonia. The second level includes the four criteria, used to apply the evaluation. The criteria referring to the units are: the productivity, the social characteristics, the technical characteristics and the environmental and geographical characteristics. At the third level, the sub-criteria of the above criteria are set. Each criterion is analyzed into six sub-criteria. Finally, the fourth level consists of the seven units of the Central Macedonia Region.

According to the results of this paper for the first criterion of productivity, the regional units of Pieria and Serres appeared the lower results than the others. For the second criterion, the social characteristics of the units, Chalkidiki is the one that is inferior to the others. For the third criterion, which is the technical characteristics of the units, Pella has the lower results and finally for the fourth criterion, the environmental and geographical characteristics, the regional units of Kilkis and Thessaloniki face major problems. The regional unit that has the greatest deficiencies is Chalkidiki while the unit of Kilkis has been more developed than the others and presents the fewer failures.



The extracted results from the application of Fuzzy AHP to the above hierarchical model indicate the lacks and the superiorities of each regional unit, which help to demonstrate the capabilities and requirements of the Region of Central Macedonia both as a whole as much as at a county level. It is believed that these results could be a useful indicator that can be used by the investment programs operators of Greek public sector, as well as the operators and investors of private sector.

Keywords: Regional Evaluation, Central Macedonia, Multicriteria Analysis, Fuzzy AHP, Fuzzy Extended AHP, Const



EA-06.02

Applying STAMP on safety standards of bipedal robotic systems

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EXTENDED ABSTRACT

Systems-Theoretic Accident Modelling and Processes (STAMP) represent a new model of accident causation and can be described as a foundation of accidents that combines diverse factors of accident analysis, taking account of structural, complex decision-making, social and physical features. In particular, accidents arise from interconnections among system elements that violate the necessary system safety constraints rather than viewing accidents as the result of a root cause in a chain of events leading up to an unacceptable hazard. The model that uses chain-of-events does not take account of systemic factors in accidents such as safety-critical issues and defective decision-making.

STAMP, which is based on systems thinking comprises non-linear, indirect and feedback loops that could definitely manage the levels of complexity and technical automations in these mechatronic systems than conventional causality and accident analysis. STAMP considers components of systems as an integrated whole and as a result it offers a more comprehensive view of accident modelling than it was previously achievable. Bipedal robotic systems could be viewed as a group of interrelated elements maintained in a dynamic engineering design in terms of adaptive feedback function of actuators, sensors and automation. The robotic system is not preserved as a static artefact, but as a dynamic equilibrium that is constantly adjusting to fulfil its task and to adapt in performance changes that occur in itself and its domestic environment. Constructing standards for preventing accidents in domestic environment requires designing a control structure, modelling the entire socio-technical system that will enforce the fundamental requirements on development. Inefficient control result from neglecting safety standards or from standards that are not applied properly at a lower level. In this paper, the authors apply STAMP on safety standards of bipedal robotic systems that are used in domestic environment.

According to ISO 8373: a robotic system is a "system comprising robot, end-effector, any equipment, devices, or sensors required for the robot to perform its task, and any communication interface that is operating and monitoring the robot, equipment, or sensors, as far as these peripheral, devices are supervised by the robot control system". Safety requirements of these robots arise from interaction among people who live in the house across diverse constraints. This has major effect on the respective safety standards since it is broadening the boundaries of the entire socio-technical system with examining the system of elements or elements' properties that need to be considered on the design stage of mechatronic products such as bipedal robots that are discussed here.



In addition, customers have a critical role to the safety of robotic products provided to them, which turn out to be a complex issue, since they can affect safety through their behaviours. Safety could be treated as a systemic problem by the manufacturers. Prior to the product's launching to the market, in-depth testing takes place, to ensure a system's is safety. With the aim to support the objective of this study, i.e. apply a systemic method dealing with robotic system's technical and non-technical aspects.

Keywords: STAMP; safety standards; bipedal robots; sociotechnical system; human-robot interaction.



EA-06.03

Modeling Services based on the Abstraction Hierarchy

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EXTENDED ABSTRACT

The design and development of services has received in the past years increased attention leading to the establishment of Service Design as a new academic discipline. The discipline of Service Design has drawn heavily of existing design disciplines by adopting methods for user research. Yet, it seems that the design and development of services lacks a coherent framework for representing the diverse stakeholders, be they markets, service organizations, clients, human resources, and their aims, technologies and practices and their interactions. In a similar vein therefore, the design and development of services can draw from system disciplines in developing a coherent model of stakeholders, objectives, functions, technologies, and physical implements at diverse levels of abstraction as a means-ends hierarchy. A primary means of implementing this is the Abstraction Hierarchy. The Abstraction Hierarchy (AH) is a multileveled representation framework, consisting of physical and functional system models, which has been proposed as a useful framework for developing representations of complex work environments. This paper aims to demonstrate how the application of the Abstraction Hierarchy to services adequately serves as a coherent model of the diverse elements involved in services and their interactions and can be used as a new method to identify and generate possible solutions to service problems. AH consists of the following levels: The Functional Purpose (FP) level describes the goals and purposes of the system including potential trade-offs and constraints within the work domain of the provided service. The Abstract Function (AF) level describes the underlying laws and principles that govern the goals of the system, such as mass, energy or information flows, laws, and economic principles. Abstract functions are, in turn, implemented at the Generalized Function (GF) level by the provision of service functions throughout the customer journey, information services, economic transactions, etc. The next level, the Physical Function (PFn) level, reveals the physical components or equipment associated with the processes identified at the GF level. Finally, the Physical Form (PFo) level describes the condition, location, and physical appearance of the components shown at the PFn level. To test the application of the AH in modeling and developing new services, the AH was used in the design of new services for the visitors of the town of Kastoria in northwestern Greece. A preliminary model encompasses purposes (increase of the number of visitors; branding), abstract functions (access, navigation, and departure; educational functions; aesthetics), generic functions (provision of information, educational tours, promotion of sites of cultural interest), physical functions (managing tourist groups, information media, restorations), and physical forms (electronic guides, maps, websites, structures). To validate the suitability of the model in representing the elements involved in services and informing the development of new services test will be conducted to show if the diverse methods of service design can be adequately supported by the use of the AH as a model of the service of interest.

Keywords: service, service design, Abstraction Hierarchy, modeling



EA-06.04

System Dynamics in New Product Development Process

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EXTENDED ABSTRACT

This project aims to explain how System Dynamics can be applied into the planning, control and management processes of Research & Development (R&D) of a new product development. To improve project performance it is vital to understand the relationships that constrain the sequencing of tasks, the effects of the interactions with the resources, project scope and targets, because all new product developments involve a wide range of factors in the company, like technical, human and organizational, which interacts in a complex way. Complexity and how important is an interfunctional team in order to overcome all the issues that will appear, will be presented using the tools DCSYM and VENSIM.

Keywords: product development, system dynamics, vensim, dcsym



The use of DCSYM Systemic Methodology and Digital Marketing Actions in real environment

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EXTENDED ABSTRACT

This paper focuses on the use of the modern social networking technologies for the small to medium business as a means of improving the financial activities. We review the fundamental aspects of a small to medium entrepreneurs to incorporate in order to make better use of such tools. First, we introduce and review the Design & Control Systemic Methodology (DCSYM). This serves as the main monitoring tool for our case study, "Alpha Plastics Ltd" and it allows us effective use of dynamic monitoring. In this way, a systemic analyst could effectively address large scale non-trivial data. Then, we present some key digital marketing fundamentals to introduce electronic tools for the development of SMEs. Finally, we shall review the state of the art in social media developments and we emphasize on their use as means of efficient marketing development.

Keywords: DCSYM, Digital Marketing



Systems Thinking and Strategic Marketing

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EXTENDED ABSTRACT

Strategic Marketing although considered as the tactical branch of the general corporate strategy, itself has emerged as a major challenge for modern consultants, analysts and managers. The continually changing business environment engulfed in the recent crisis has sparked the need for a new approach a more holistic one. Systems thinking has enriched both the tools and techniques (through simulation programs) but also in theoretical level. Many aspects of human behavior considered irrelevant or of minor importance are revised and more light is shed on the interrelation of marketing with the other sectors of the firm. Although considered as a pure service this doesn'At affect the approach of marketing strategy as a project with crucial tangible deliverables. Time and change management emerge as vital parts of this analysis. This paper explores the world of Strategic Marketing and its system and introduces solutions through systems thinking and dynamics.

Keywords: Strategic Marketing, systems thinking, DCSYM



A Systemic approach of calculating Consumer Price Index for Marketing Research enterprise

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EXTENDED ABSTRACT

The Marketing Research enterprise presented in this paper helps organizations across all industries realize the full potential of their greatest asset which is data. Their basic aim is to transform data about customers, performance, financial, production and more into information and predictive insight that support the groundwork of every organization for solid, coherent and innovative decisions. They record, identify and analyze all aspects of business environment as far as services and marketing products and publicize the results to social media and individuals.

This paper is focusing of how to calculate the Cost of Living Index using Systemic Methodologies Approach. The methodologies' target are to correctly analyze and form the model and in parallel to improve it. The systemic methodologies concentrate on the human factor that is evolving in those systems and they constitute a very valuable tool helping us to understand and define the system functions. Thus the model's usability and agility is improved, having a reduced abstraction level and giving the business high and realizable functionality.

In this paper calculation of the Consumer Price Index is systemically approached. Several methodologies were implied, although the approach with DCSYM Methodology provided more accurate and viewable results to the issue aforementioned. Along with the SWOT analysis of the recent model as well as with DCSYM, a new model of calculation is described with the results and benefits of the usage of Systemic Analysis.

Keywords: DCSYM, Marketing Research, SAS, SWOT Analysis, Systemic Methodology, Consumer Price Index,



A systemic model regarding customer satisfaction from e-services

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EXTENDED ABSTRACT

A few decades back, financial and commercial transactions were completed in conventional fashion differing but a little from those operated a few millennia ago. The dominant feature in those purchases was the actual presence of both interested parties in the same physical place. However entering the 80As and 90'As the revolution of new technology innovations altered the services environment significantly. Time and space were becoming less influential on the completion of consumer services abroad but also in Greece. The birth of e-commerce was a fact. In Greece although e-commerce started as a major innovation in both internal and external corporate environment with the creation of e-shops and e-services, the progression with which conventional trading is replaced is much slower. The changes also influenced major aspects in internal functions such as logistics, manufacturing etc. In the current paper, following the management principles such as quality of monitoring and controlling in the eservices provided, a major research was conducted from a list of the most popular e-shops in the Greek market. The systemic model presented, utilizes the DCSYM and VSM methodologies in order to visualize the business environment under study and in the same time to inquire on the ground of possible improvements. The emerging conclusions of the research could be useful instruments in the re-organization of e-shops and in the improvement of the e-services provided so far. Additionally following the principles of the servqual model many of the future problems could be proactively resolved and many customer groups better supported.

Keywords: Systemic Evaluation Model, management, e-commerce, servqual, VSM, DCSYM.



EA-08.01

Strategic Systems Approach of a Travel Agency on the island of Corfu during Economic Crisis - The case of Corfu Sunspots Travel

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EXTENDED ABSTRACT

In the time of crisis and uncertainty the basic philosophy of enterprise's management is to prepare a strategy for a shorter period and to modify this strategy based on changes in market conditions, i.e. to prepare a flexible model and to deploy a strategy of a fast and dynamic change. Enterprises need to create and gain out of opportunities deriving from the crisis and to adjust to the new environment.

The systemic methodologies concentrate on the human factor that is evolving in those systems and they constitute a very valuable tool helping us to understand and define the system functions. Thus the model's usability and agility is improved, having a reduced abstraction level and giving the business high and realizable functionality. The proposed approach combines well-known systemic methodologies, such as DCSYM and SAST, providing this way a scientific and productive tool in order to detect and solve organizational problems.

Sunspots Tourist Enterprises, a Corfiot local tourist agent, is specializing in all aspects of destination management for individuals, groups, travel agents and international tour operators. It operates an on-line holiday booking services for individual travelers, where all requirements can be pre-booked and confirmed making the arrival in a foreign country very simple for the traveler. Since 1986 provides a large choice of hotels, apartments and villas, daily tours, transfers, car rental and airline or ferry ticketing in Corfu.

Focus of this paper is to provide a comprehensive definition of the tourist agency's business process reengineering using systemic methodologies and tools, such as use of Viproce multi-methodology and Joget business process design software. Aim of this approach is to create an enterprise strategy flexible in terms of business and stable in terms of production, leading to success in dynamically changing conditions and concentrate onto customers needs.

Keywords: Systemic Methodologies, SME, Economic Crisis, Travel Agency, Corfu, Tourism



EA-08.02

A Systemic Approach to Virtual Collaboration: Developing Collaboration Rooms and Scientific Events Management Software (Sc.E.Ma.S.)

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EXTENDED ABSTRACT

Embedding and expanding ICT usage in scientific events management is a complex issue that goes well beyond mere technological realization. Scientists seem to operate in very diverse technological, educational and research ecosystems making it hard for central decision makers to promote uniform ICT policies and cumulative norms.

Virtual scientific communities are new type of organizations that have been emerging as autonomous systems in the scientific scheme. Their scope is to expand the application of ICT beyond the default usage that is promoted by the traditional scientific community. Initiated by technology champions who drive and administer their technological infrastructure, these communities gradually create a new ICT culture based on informal well focused learning conversations. In this thesis a systemic exegesis of these conversations is attempted by modeling them in a cybernetic context.

To further expand the above line of thought a case study about the formation of a scientific virtual community is presented. This community addresses all scientific based issues. Each issue is realized as a learning conversation and is being conducted either in specially developed thematic collaboration rooms in thematic conferences or other relevant scientific events. Furthermore a software was implemented for the systemic management of scientific events.

The implementation of the Scientific Events Management Software (Sc.E.Ma.S.) of this virtual community is driven by a systemic intervention multi-methodology. The application of the systemic context for the modulation of diverse boundary and value critiques concerning the scope, the processes and the technological implementation of the software shall be demonstrated.

The technological basis for most of the scientific virtual communities is open source CMS and LMS systems. Open source software was also used exclusively for the implementation of Sc.E.Ma.S. In this thesis functionality, security, administration and viability issues of open source powered software for scientific event management and virtual collaboration will be addressed.

Keywords: scientific events management, virtual communities, collaboration



EA-08.03

3d SightSeeing

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EXTENDED ABSTRACT

The rapid evolution of technology has created a healthy competition in the labor market, but also beautiful, useful or simply stunning, new ideas in its world. This fact has inspired me and gave me the motivation to develop an innovative application for android smarthphones wich is able to guide users and show a city's monuments in 3d view.

The application is called 3d Tourist Guide and it concerns a system which combines location based services and augemented reality technologies. More specifically, 3d Tourist Guide is an android application which gives the opportunity to user to discover the word around them. When a smartphone, android user opens this application, the first thing they see is a satellite google map. Simultaneously, the GPS of the mobile device, attempts to detect the latitude and longitude of the point on which the user is located. When that action is completed, application zooms the map and places a Marker at this point. Subsequently, the user will receive an informative message about what is the address of the location. So, application so far has identified only the user's location. This information as simple as it may seem, is crucial for the continued operation of the application, because it has to know what monument it must put on user's camera.

The piece of location based services was over, and the time has come for augmented reality to start. Location Based Services gathered a unique information; the user's location. Application knows now where the user is, and additionally it has the locations of some monuments. So, it will start to calculate again and again the user's distance from all monuments, until one of these distances become less than 100 meters.

When the user reaches the appropriate distance from one of the stored monuments, the camera of their mobile phone it will open and wait for the appropriate marker (qrcode) to scan. Finally, if the user provides the right market the 3d model of the nearest monument will be displayed in the camera. And that is augmented reality. It enhances the reality that exists in our environment. One may be near a monument but in reality it can not be seen, even with these properties can be viewed from mobile with this perspective, details etc. When the show starts, the user can edit the model through a handy menu, that gives four options; translate, rotate, scale and take screenshot. The first menu option, (translate) gives user the opportunity to move the 3d model from the marker with their finger! The next option (rotate) allows users to rotate a 3d model and observe from different angles, the scale option allows user to shorten or enlarge model's scale. Last, but not least the option "take screenshot" gives



the opportunity to user to "remember" what they see in front of their eyes every moment.

Augmented reality is a really revolutionary technology, which creates in the word of technology great expectations and dreams to make our word easier and more amusing.

Keywords: augmented reality, android, location based services, gps, 3d objects



EA-08.04

Effective Leadership Implementation as Driver for Competitive Advantage in Contemporary Tourism Entrepreneurial Initiatives.

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EXTENDED ABSTRACT

Leadership is an essential component of management that deals with the coordination of people activities, influence their behavior and direct their efforts towards continuous success and progress. Effective leadership results in functional behavior and requires the development of several abilities, while the basic one seems to be empathy, without which none of the other abilities will ever be fully developed. Leadership requires the analysis of circumstances in order to select the proper and effective style of its implementation. A successful leader has to be flexible enough to move through different styles according to the situation, while disharmonious leadership may lead to toxic working environments with catastrophic results for the firm or the organization.

This paper attempts to prove how leadership ensures a competitive advantage for a tourism company. When leadership is effective, it develops trends and tendencies for creativity and innovation, it leads to continuous success, it inspires people to believe in the impossible and finally creates value. Especially for the tourism industry, leadership can drive to greater results, since tourism is a person-oriented industry and its own critical asset is human capital. In order to comprehend whether hotel managers implement leadership characteristics in their companies and how strong those characteristics are, a research took place, based on a questionnaire concerning leadership characteristics, which was delivered to four and five star Athens hotels during the year 2012.

The results showed that the academic background, emotional intelligence or empathy and the size of the company have direct impact on the presence of those characteristics. Also the findings support the idea that most managers are between the ages of 30 to 40, university graduates without any postgraduate diplomas and with working experience from seven to nine years in their current position.

Finally, what is concluded is that by preserving and developing leadership modern tourism firms may be led to a sustainable competitive advantage while lack of effective leadership equals loss of any competitive advantage towards competition.

Keywords: effective leadership, competitive advantage, tourism companies



The role of Corporate Social Responsibility in Higher Education: A pilot survey form Greece

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EXTENDED ABSTRACT

Over the last decades Corporate Social Responsibility (CSR) has evolved into a topic of vital importance for the corporate and academic world. In this vein, institutions of Higher Education have changed the way of their operation worldwide and they began to embrace with a more systematic way CSR practices, first, by introducing in their curriculum courses on CSR and Business Ethics in an effort to acknowledge their wider social role and provide to society a more socially responsible workforce. The purpose of this paper is to explore how students perceive CSR and value its application for their personal career development and the sustainability of their educational institution. To this end, we employed a questionnaire survey addressed to students from a Greek University located in the prefecture of Attiki. Our first findings, derived from the pilot study which was undertaken during June and July 2012, indicate that there are differences in CSR perception and understanding from the part of the surveyed students. It is worth to mention that the majority of the participants had no knowledge of the actual meaning and purpose of CSR, along with the potential benefits that arise from its implementation. However, as reported by the students who had attended CSR classes during their education at the University, awareness and knowledge on CSR has altered their approach to moral issues. Higher Educational Institutions (HEIs) seem to share a critical role in forming the socially responsible behavior of the future leaders and in this context more has to be done from their part and the policy makers. For this reason, further research is in progress in order to capture the perception and attitude of a wider sample of students and assess the relative response from the HEIs'A administration. This could lead our research to more generalized results.

Keywords: Corporate Social Responsibility, higher education institutions, sustainable growth, responsible work



Entrepreneurship at the University level

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EXTENDED ABSTRACT

In recent years a consecutive increase of unemployment is observed. This status could be mitigated by entrepreneurship development. Thus, a large number of actions that relate, directly or indirectly, to the youth entrepreneurship have been implemented in different levels of education. Towards this direction University of Ioannina has introduced into the study guide of School of Science and Technology, School of Education (Department of Early Childhood), School of Science and Department of Economics the courses "Introduction to Entrepreneurship" and "Special Topics in Entrepreneurship" as optional in the winter and spring semester respectively.

In parallel, an Innovation and Entrepreneurship Unit operates. This unit is addressed to entrepreneurs, investors and students. Its objective is to support entrepreneurship and entrepreneurial initiatives by students. However, apart from the culture of entrepreneurship, developing entrepreneurship requires from individuals trying or linked in some way to entrepreneurship to have certain skills such as collecting, processing and analyzing data. Skills directly related to Statistics.

The present study examines firstly the composition of undergraduate students who choose these courses and secondly the variations in the number of students visiting the Innovation and Entrepreneurship Unit. The attitudes of students who studied the Statistics course in School of Education, Department of Early Childhood Education at the University of Ioannina is also studied. Specifically, the change of attitude / opinion towards the usefulness of statistics in both daily and future professional life in relation to its application to entrepreneurship is considered.

Results show that every academic year on average 306 students from University of Ioannina choose course Introduction to Entrepreneurship and 146 the course Special Topics in Entrepreneurship. The majority of these students belong in Department of Economics. Furthermore students who visited Innovation and Entrepreneurship Unit for advising are increased by 83% and the total number of visits is increased by 64% last year.

Finally, students appear to agree to a small extend that Statistics is useful in both daily and future professional life (mean value = 5,09 + 0,94).

Keywords: Entrepreneurship, Statistics, University



Adoption of Information and Communication Technologies in Higher Education Institutions

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EXTENDED ABSTRACT

All innovations applied in all education levels of a country originate from higher education system as it is the main research area for knowledge creativity and communication. Thus Information and Communication Technologies significantly affect apart from educational process the full administrative operation. The wide use of ICT contributes to human and economic resources savings.

The present work is a case study. Specifically the adoption of ICT from the University of Ioannina is investigated and their performance by examining their influence on the university'As services and work flow is evaluated. Particularly the following administration departments/sections of University were examined: Library, Payroll Office, Administrative Personnel Office. The changes in the operation of the Library for the procedure and the required time for book search were evaluated. In the Administrative Personnel Office and the Payroll Office, the type of ICT and the advantages of its use were examined. Also we tried to explore the impact of ICT in teaching and the communication between academic staff and students.

Results show that in Library the search procedure for books or papers is simplified as all visitors can access a desktop pc, search for themselves and in a minimum time their search results are available. Concerning the Payroll Office, the use of payroll software decreases the requested work time by 98%. Finally the use of Enterprise Resource Planning (ERP) and Human Resources Management System (HRMS) improve the evaluation procedure. Furthermore employees from all departments emphasized in the large amount of advantages that come from the extend use of ICT, especially concerning the facilitation of communication among the departments of the administration. Regarding the learning process most of the students prefer to submit their project with the use of ICT. Noteworthy is that more than the 70% of the Professor'As of the University have their own site where notified their research interests.

Keywords: ICT, influence, Higher Education Institutions, communication



Informal learning: How Greek high school teachers use on line learning. A case study.

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EXTENDED ABSTRACT

The notion of formal, informal, non-formal learning, and life long learning has recently formed in Greece under the 3879/2010 law. Other EU countries have already done a lot of projects on this matter and mainly on accreditation of prior learning in non-formal and informal settings. In Greece we do not have any evaluation system for prior learning yet. Additionally, the use of ICT for a life-long learning process has not been mandatory an obligation for educators and especially for high school teachers. According to recent studies not many teachers take online programs for their own learning needs. Some difficulties, which may hinder the recognition of non-formal and informal education under the 3879/2010 Greek law concerning online programs, have been identified.

The aim of this case study is to present how Greek high school teachers use informal learning, the information they have concerning the 3879/10 Greek law and their preferences of online courses. In this study we also demonstrate how these courses could be adapted by educators of different disciplines. Furthermore we present how can high school teachers plan and promote self-regulated learning to their students and how can they support student's development and use of this learning process.

A group of fifty (50) high school teachers took part in this study. For this research a questionnaire was used in order a) to identify how informed in informal learning, non-formal learning and lifelong learning high school teachers are b) to determine their ability to detect differences between informal learning, non-formal learning and lifelong learning, c) to study their familiarity in using on line programs and their participation in such lifelong learning programs to improve their teaching skills, d) to formulate concise suggestions that may improve and corroborate the educational process through implementation of the 3879/2010 law for adult education.

Keywords: lifelong learning, informal learning



Use of Systemic Methodologies for Research & Development in energy matters with energiaproject - INTRODUCTION

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EXTENDED ABSTRACT

In the energiaproject introduction are presented the basics of our project, philosophy, purpose, aim, mission, target and challenges that every innovation globally and locally, along with some useful methodologies. Everything that has to do with energy in an innovation approach that can be greener or more friendly with more efficiency is good enough to get be study by energiaproject. In an ideal world we could be rich with this approach, but not in real world, what we get is the pleasure of inventing new technology approaches in everyday life that do not cost a fortune and the challenge to present the other side of Hellas, the one we need to workout at this time to survive and keep up our magnificent history. Few scientific researches has been found that could assist us in our project and it is rather difficult to have a lab with state of the art equipment to achieve the result we need. But where there is a will always there is a way. Furthermore behind the lab issues how ready is a society that keep behaving with certain way and consume only what the main system supports or endorses? This is the most challenged issue of the project and it is going to be studied deeply before we extract the results. At this point we are acquiring the results of these innovation technologies while we try to see how the system reacts with this new reality. This approach might seem apparently simple, however it hides facts about problems of all kinds that all stakeholders face and which are noticeable since they can prove to be detrimental in the end. This project was based on true facts from the real world along with the scientific facts that are approachable at this time. The whole picture will be traced with the use of the DCSYM platform, which is a systemic methodology with powerful mathematical and semantic infrastructure, sufficient for the effective guidance of dialectical processes of designing (multi agent) which concern structures, processes and interferences. After that, the sustainability of the system will be monitoring using Beer'As Viability Systems Model (VSM). Finally the system will be depicted with Vensim systemic dynamic simulation software of Ventana Systems Inc. (Harvard, Massachusetts), a software aiming at finding the best possible solution in cases needing analysis, and wherever needed, at finding all the possible scenarios for future decisions and applications.

The project is structured in the following way:

- Presentation of the system under analysis
- Modeling in DCSYM, Vensim and Anylogic
- Monitoring sustainability using Beer's method
- Use of DCSYM as a problem solving tool
- Suggested improvements Design of suggested improvements with DCSYM
- Benefits of study

Keywords: Systemic Methodologies, energiaproject, innovation, energy, electric fields.



Use of Systemic Methodologies for the Research & Development and Implementation of electric fields in water and Viability of Aqua Soft innovation

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EXTENDED ABSTRACT

In the energiaproject is presented a Systemic approach of the implications of electric fields in water and how market is looking at it. This research is still going and this is the first official presentation on this level. The system has been studied from Agricultural University of Athens too. HILTON Hotel Athens has been using this as Coca Cola. CORE MARINE-MAJESTY ship is another happy customer with this innovation. There are indications that can be used in Medical science too, but it needs the right connections to initiate the adequate procedure so it can be approved later on. Water is just what we think or it is much more? Is this the reason that average human body is 70% or more filled with water? With this presentation you will discover with us hidden secrets of the power of water and a new approach of looking at it. Few scientific researches has been found that could assist us in our project and it is rather difficult to have a lab with state of the art equipment to achieve the result we need. But where there is a will always there is a way. Furthermore behind the lab issues how ready is a society that keep behaving with certain way and consume only what the global system supports or endorses? This approach might seem apparently simple, however it hides facts about problems of all kinds that all stakeholders face and which are noticeable since they can prove to be detrimental in the end. This project was based on true facts from the real world along with the scientific facts that are approachable at this time. The whole picture will be traced with the use of the DCSYM platform, which is a systemic methodology with powerful mathematical and semantic infrastructure, sufficient for the effective guidance of dialectical processes of designing (multi agent) which concern structures, processes and interferences. After that, the sustainability of the system will be using BeerAs Viability Systems Model (VSM). Finally the system will be depicted with Vensim systemic dynamic simulation software of Ventana Systems Inc. (Harvard, Massachusetts), a software aiming at finding the best possible solution in cases needing analysis, and wherever needed, at finding all the possible scenarios for future decisions and applications.

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- Suggested improvements Design of suggested improvements with DCSYM
- Benefits of study

Keywords: Systemic Methodologies, energiaproject, AquaSoft, electric fields in water, vibration, Tesla.



Use of Systemic Methodologies for the Research & Development, Implementation and Viability of electric fields in fuel, BENS case: Booster Economy Natural System

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EXTENDED ABSTRACT

In the energiaproject is presented a Systemic approach of the implications of electric fields in fuel. This project is old enough to have lots of data from gasoline and diesel fuel for cars up to marine diesel and ships fuel oil. During that time a lot of official and unofficial experiments have been done, in National Metsovian Polytechnic, FIAT Italy, VENEZIA ship extended study even in jet engine and of course in a lot of everyday vehicles. As in all innovations behind the lab issues there is a society that keeps behaving with certain way and consumes only what the global system supports or endorses. This is the most complicated issue to resolve than to invent a new technology, and the reason is simple: the society has been trained to accept information from certain resources. Most of the research part is already delivered and it is assumed that it is possible to have drasticall reduction in fuel consumption in ships, in a range up to 25% or even more. What it seems the problem now is not how improving the technology and gain more in the near future but how this technology is going to be accepted from the interest party. Many stakeholders in the system that resist in this change and this is the most difficult part of the study that still going on and will be discussed further in the next conference. This approach might seem apparently simple, however it hides facts about problems of all kinds that all stakeholders face and which are noticeable since they can prove to be detrimental in the end. This project was based on true facts from the real world along with the scientific facts that are approachable at this time. The whole picture will be traced with the use of the DCSYM platform, which is a systemic methodology with powerful mathematical and semantic infrastructure, sufficient for the effective guidance of dialectical processes of designing (multi agent) which concern structures, processes and interferences. After that, the sustainability of the system will be monitoring using Beer'As Viability Systems Model (VSM). Finally the system will be depicted with Vensim systemic dynamic simulation software of Ventana Systems Inc. (Harvard, Massachusetts), a software aiming at finding the best possible solution in cases needing analysis, and wherever needed, at finding all the possible scenarios for future decisions and applications.

The project is structured in the following way:

- Presentation of the system under analysis
- Modeling in DCSYM, Vensim and Anylogic
- Monitoring sustainability using Beer'As method
- Use of DCSYM as a problem solving tool
- Suggested improvements Design of suggested improvements with DCSYM
- Benefits of study

Keywords: energiaproject, electric fields in fuel, agenda 21, Kyoto Protocol, UNFCCC (United Nations Framework



Use of Systemic Methodologies for the Research & development, Implementation and Viability in amendment of ICE's (Internal combustion engines & burners)

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EXTENDED ABSTRACT

After the Agenda 21 and Kyoto Protocol, governments want to save our planet so what is their first priority is to reduce emissions of greenhouse gases. I do not know if finally we will be smart enough to save our planet that we continue destroy but from our side we need to try. As in all innovations behind the lab issues there is a society that keeps behaving with certain way and consumes only what the global system supports or endorses. This is the most complicated issue to resolve than to invent a new technology, and the reason is simple: the society has been trained to accept information from certain resources. Besides these straits we have achieved spectacularly results and we like to share them in the scientific community and we still believe that it can go better. During the process of this project, more than three years, we found unbelievable information and discover a new approach of looking to energy matters. We accomplished to extend normal vehicle mileages up to 60% and reduce consumption of a regular burner more than 70%! Along with that study we discover what is really going on in fuel distribution network. We would like to share these information with the world but this is the hard job and here is where systemic approach needed most because the profit is way too big and people'As interest do not come along with most stakeholders. This approach might seem apparently simple, however it hides facts about problems of all kinds that all stakeholders face and which are noticeable since they can prove to be detrimental in the end. This project was based on true facts from the real world along with the scientific facts that are approachable at this time. The whole picture will be traced with the use of the DCSYM platform, which is a systemic methodology with powerful mathematical and semantic infrastructure, sufficient for the effective guidance of dialectical processes of designing (multi agent) which concern structures, processes and interferences. After that, the sustainability of the system will be monitoring using Beer'As Viability Systems Model (VSM). Finally the system will be depicted with Vensim systemic dynamic simulation software of Ventana Systems Inc. (Harvard, Massachusetts), a software aiming at finding the best possible solution in cases needing analysis, and wherever needed, at finding all the possible scenarios for future decisions and applications.

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- Monitoring sustainability using Beer'As method
- Use of DCSYM as a problem solving tool
- Suggested improvements Design of suggested improvements with DCSYM
- Benefits of study

Keywords: Fuel molecule organizer, water as fuel, water electrolysis, water fission, internal combustion engin



Systemic Approach of Organizing and Managing a School Unit

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EXTENDED ABSTRACT

The administration of a school has always been a painful process involving various factors that sometimes facilitate or impede its conduct. Due to the fact that the school unit is actually a public service, it is governed by rules and obeys to specific legislation. Despite the evolution of technology, issues such as bureaucracy and difficulty in communication between public sector bodies still exist and have not been resolved yet. In the current study, Systemic Methodologies such as the DCSYM and the Beer\'s VSM are used in order to redesign the school unit. It can be concluded that using these Systemic Methodologies the problematic communication areas among agencies can be improved. Also, an e-business application is created in order to be applied to the school units and exempt them from bureaucracy. Additionally, the management of this educational project is being carried out at the same time with the market analysis. Finally, the implementation of this application is presented by using tools such as Joomla and SQLServer.

Keywords: school unit, Systemic Methodologies, DCSYM, Beer's VSM, E-business Solution, Joomla, SQLServer



Management and Control of a Foreign Language School from the Systemic Point of View

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EXTENDED ABSTRACT

The foreign language education field in Greece has an almost independent course in the wider educational market. In our country there are more than 6500 foreign language schools attended by 500.000 students and employ almost 22.000 teachers. These SMB's in their vast majority are family run and many language school owners also work as teachers at the same time. This case study, focusing on such a language school, aims to implement systemic methodologies and tools to redesign and optimize the management procedures and controls applied by the company. This means trying to keep the current customers and finding new ones. To achieve this goal it has to grow beyond the local market and develop and promote innovative forms of e-business. From the systemic point of view, the problems or important issues are viewed as part of an overall system composed of a large diversity of elements linked together by strong interactions. This presentation begins exposing the specifics of the field of foreign language education and market data because they will lead us to the strategic and operational planning. In this way we will be able to develop an action plan which highlights the competitive advantages of our enterprise. The systemic methodology DCSYM will be applied for the mapping and the evaluation of the current situation in order to assess the proper functioning of our system. Another systemic tool that is going to be used to assess the viability of the company is the Viable System Model (V.S.M.) V.S.M. can identify problematic points and especially the survival of the company. The V.S.M. is a tool that helps the company to adapt to its continuously changing external environment. Next, the existing processes and procedures will be presented in a table form. They will be evaluated in relation with their profitability regarding the viability of the system. Finally there is a detailed analysis of the study results and the reached conclusions of the suggestions of improvement.

Keywords: SWOT, PEST, Systemic Methodologies, DCSYM, VSM



A Systemic Analysis of Sustainable School Award

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EXTENDED ABSTRACT

This paper examines the attempt of the Sustainable School Award to disrupt the Greek environmental education in order to introduce the many facets of sustainable development and create sustainability-aware individuals by studying the Award's stages of implementation. The time period studied includes the time of inception and pilot, the second year of implementation and new ideas for future use. The study' research strategy utilizes systemic methodologies in order to reflect the Award's situation in its various stages of implementation. DCSYM systemic methodology is used to capture all the stakeholders and pinpoint problematic states and communication. Vensim modelling is also used in conjunction with data mined from the Award's IT structure in order to isolate loops and find similarities with existing system archetypes. The systemic methodologies and tools aid us to create a school evaluation mechanism that covers the ecological, political and cultural facets of sustainable development while preventing abuse and point-hunting. They also enable us to identify underutilized communication channels and problematic flows in order to acquire additional expertise, attract sponsors and boost students' and teachers' engagement with the Award's frontend environment.

Keywords: DCSYM, Sustainability, Education, School evaluation, Vensim



Application of systemic analysis and dynamic simulation in the private Educational unit "European standard"

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EXTENDED ABSTRACT

The current research-study concerns the lessons Systemic analysis and Simulation of Informatics Department of Piraeus University. The methodology used in this study is the DCSYM and the software used are the Dcsym case tool and VENSIM simulation. This current research concerns company's analysis starting from its general point of view and reaching at its specific one. The general point of view concerns the consideration of the following company's subsystems:

- a) Organizational sub-systems,
- b) Managerial sub-systems, and
- c) Communicational sub-system.

Cultural sub-system has been examined through organizational sub-system, managerial sub-system and communicational sub-system. Our particular case study concerns a private educational unit, a pre-basic (Kinden garden) and basic elementary educational level. We searched and determined the way that the organizational, managerial and communicational sub-systems were functioned. The particular educational organization provides daily the following products:

- a) In the morning formal educational product
- b) In the afternoon
 - i) formal educational activities (foreign languages)
 - ii) Non formal educational activities

Further to these educational activities, the particular educational organization provides additional no educational activities. School transportation and feeding the Kinden-garden and the elementary children at school restaurant. The goals of our research were:

- a) The determination and registration of the structure and the particular applied functions of the organizational, managerial and communicational sub-systems. b) The determination of whether the quality of this educational organization
- satisfies the needs of its clients.

research, based on the below-mentioned criteria, a) Criterion efficiency of the structure of organization sub-system. The organization structure is fogy with consequences absent of distinguished roles of employees, condition which results at confusion b) Criterion theory upon which is based the managerial practices. The managerial sub-system is based on x-theories (authoritarian and goal oriented,) centralized on the position of general manager. This managerial point of view burdens the position of general manager with duties which he cannot handle them efficiently. This fact stimulates confusion and disappointment among employees.



c) Criterion efficiency of communication: Communicational sub-systems is a result of the interaction between the organizational and managerial sub-systems. The company's communicational sub-system, suffers by the weaknesses of its organizational and managerial sub-systems.

The effects on the employees are:

- i) low morale
- ii) idisappointment,
- iii) low productivity.

Regarding the criterion of whether the quality of the product of this educational organization satisfies the needs of its clients, our research through questioners concluded that the decrease of the quality of the product with simultaneous decrease of the cost and the prices will not affect the number of the clients.

From the other side, an increase of the quality of the product, fact that will result at an increase of the cost, but with not increase of the price, will affect positively the number of the clients. However we did not examined whether the increase of the company's income will cover, at least the increase of the cost.

Keywords: Systemic analysis, Dcsym, Simulation, corporate subsystem



EA-12.01

Monitoring implementation and compliance with the instructions of the Safety Engineer for line 2&3 of Athens Metro

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EXTENDED ABSTRACT

The "STASY S.A.." company was established on the 17th June 2011. The new company included the Athens-Piraeus Electric Railway, the Athens Metro Operation Company (AMEL) and TRAM. Primary concern and mission of the company is to transfer citizens with safety, reliability, comfort, passenger-oriented philosophy and respect to the environment, while ensuring the continuous improvement of the quality of service provided.

The organization chart of former AMEL: Chairman of the Board and CEO, shared with Metro, HSAP and Tram consists of 2 general directorates. The Operation and Maintenance General Management, in which there are six directorates, and the Administration and Finance General Management with 2 directorates. Also departments which report directly to the Chairman & CEO are the Legal services, the Public Relations and the Quality Service. Finally, independent of the hierarchy with an advisory nature under law N.3850/2010 is the Safety Engineer and the Labor Doctor but whose actions/recommendations are recorded in special records, which are controlled by public authority. The current situation with the management of the recommendations of the Security Engineer (imprinting with DCSYM)

Having in between of the communications the employer with the departmental officials, safety engineer, the workers'A health & safety committee and the unions, many problems in the communication are created. Also the result of the final objective, which is to comply with the recommendations of the Safety Engineer with the required interventions and corrective actions, is not satisfactory. Procrastination, misunderstandings occur as an individual project manager (or team) to monitor implementation of the necessary actions regarding the indications of the Safety Engineer is not clearly defined. Conflicts are induced that cause procrastination in regards to compliance actions which in turn increase the cost, and finally the safety of the working conditions of workers is not safeguarded.

Suggested improvement (imprinting with DCSYM)

- Recognizing these problems, a procedure was written that brings a representative of the employer at the center of communications, and not the employer himself.
- Also, the responsibilities and actions of departmental officials are specifically defined with a schedule of cost and application implementation.

The features that were missing in the previous situation were the control and post-control. These two elements are reflected and defined accurately in the process.



CONCLUSIONS

- The impaired implementation of the recommendations of the Safety Engineer was found by successive organizational chart changes made in AMEL, STASY/AMEL in the last 3 years, as well as the different policies on work safety that were exerted by every administration, brought confusion in the responsibilities (imprinting in the first plan with DCSYM).
- The need to redesign the process was immediate, and so it was done.
- The design of the process with DSCYM highlighted areas for improvement of the redesigned process:
 - a) in the communication channel of EYAE, which was restricted to Safety Engineer and employer'As representative.
 - b) in the communication channel of Safety Engineers with the employer'As representative with the jointly written commitment of the actions (in the correction form of unsafe conditions or practices).
- The re-imprinting through shape and differentiations made (which emerged through DCSYM) are promising, the approval and implementation is pending.

Keywords: safety engineer, suggestions, DCSYM, control, post-control



EA-12.02

Improvement of Facilities Management Service Providers for a Logistic Warehouse Center

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EXTENDED ABSTRACT

In a modern logistic center there are four ways of procuring facilities management services. The first involves the employment of a managing agent under contract to the organization. The second is the appointment of a managing contractor. The third type is a managed budget, which is a variation on the former two approaches and hands the burden of multiple transactions to a managing contractor. The last type is where a single point of responsibility is established, with one contractor providing all services.

The scope of this dissertation is to analyze the current situation of Maintenance Procedures for Warehouse Facilities in a multinational company using the Design and Control Systemic Methodology (DCSYM) as well as the Viable System Model (VSM).

The best approach for the logistic center facilities will be the one that is most closely aligned to its needs as well as the one that delivers best values. The choice of which approach works best for the warehouse will depend on many factors. If the precedures retaining services inhouse or outsourcing have been followed the company should be able to see which approach is best and proceed with confidence.

Total facilities management has obvious attractions. Due the flexibility of the business environment there is a high need to develop the DCSYM model in oder to improve the communication channels and the relationship between the organization, the sub-contractors and the suppliers in order to ensure that internal customers needs are fully addressed and control the maintenance costs. The company will need to adopt appropriate controls and incentives. The warehouse facilities management has to devide relationships with individual suppliers that are more closely aligned with the needs of both parties.

On the other hand with the Viable System Model of Stafford Beer we will design a model which will help us to understand the organization of the maintenance department and the relationship to the sub-contractors as well as for external partners and find processes for improvement the quality for facilities services as well as reduce the down time and minimize the maintenance costs. Flexibility is a factor that has to be taken into account along with the attendant cost and risk. The VSM Model will help us to find ways to add incentives for both sides to ensure the satisfactory performance of a service or supply. This model will help us to set targets as part of a programme of continual improvement.



To conclude, in order to meet the maintenance facilities needs of the logistic centre in a dynamic business environment there is a need to improve the relationship with external suppliers and partners continuously. Moreover, it is necessary to use longer term partnering relationships which can envolve targets and maintain an acceptable level of competitions between different service providers. The initial service provider selection process and subsequent negotiations are crucial in order to help to identify performance criteria. Engaging the skills of the suppliers and sub-contractors in the warehouse maintenance facilities processes is going to lead us to better ways of delivering internal customers satisfaction at lower cost.

Keywords: Logistic Center Facilities, Service Providers, DCSYM, VSM.



EA-12.03

Strategic positioning and pricing policy in a small firm.

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EXTENDED ABSTRACT

The "B.K. LTD" is a small firm in the retail sale of bakery. It owns 3 stores and in short term it will integrate 2 new ones, extending in new activities like fast food services.

The complexity is detected at the following levels:

- 1. Organizational: The company is stuffed by: 9 vendors, 1 roaster, 1 Assistant Accountantand 1 Procurement Manager. The whole team is supported by 2 people in the Project Finance Division and 1 more having undefined role who is called "silent partner". Procurement Managerhas significant inexperience in organizational and operational issues and, as a result, he affects the corporate culture development and reduces the number of collisions. Moreover, the2 new branches will be staffed by 10 more people and will create new needs for liquidity andorganizational issues (materials procurement, product quality, service quality etc) resulting extra degree of complexity.
- 2. Strategic orientation and tactics: The company's philosophy is having small shops selling asmall number of products. The small number of products which is less than 50 to mark up 25% 30% and the placement in fresh daily products which have wastage about 25% determine the pricing policy followed. Moreover, the delineation of the stores and the corresponding target group (local segmentation)increases the need for specialized pricing and marketing policy.

Systemic Intervention

A holistic approach using systemic methodologies will clarify the roles of each person involved in company's operations from the high level management to every day operations and will produce a strategy for business viability. A number of professional systemics tools are used to describe the current situation and to form and implement the proposed improvement to company's structure and operations. Project management techniques are used to manage the implementation of the proposed changes. The DCSYM systemic methodology is used to model the existing and the proposed organizational structure and to show the impact of the Procurement Manager in the company's corporateculture. Dynamic modeling using Vensim is used to explore the consumption complexity and to determine an efficient and viable pricing policy.

Keywords: DSCYM, Business Dynamics, Project management



EA-13.01

A systemic approach to the impact of pharmaceutical manufacturing and production on the environment, human and animals, in order to assure process cohesion towards green manufacturing.

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EXTENDED ABSTRACT

In recent years our understanding of the interaction between health and the environment is gaining ground. A safe environment is a precondition for good public and animal health. In this environment Pharmaceutical Industry is a highly developing sector which apart from offering to patients safe, qualitative and efficient Pharmaceutical Products contributes through its operating activities to environmental contamination. Taking under consideration that Pharmaceutical Products, their active ingredients as well as their excipients, metabolites and residuals are highly active substances and that they are consumed in high amounts, becomes evident that risks to environment due to the quantity and quality of their emissions during their life cycle are raising. Drug residues of various categories (hormones, anti-cancer, antidepressants, antibiotics, etc) have been detected in all environmental compartments, including sewage, surface water, groundwater, soil, air and biota.

Therefore, nowadays, pharmaceutical companies need to take bold initiatives to minimize the use of potentially hazardous substances in producing Pharmaceutical Products, reduce the generation of waste and operate in other environmentally friendly ways. In addition, EU legislation is required to acknowledge that the pollution of waters and soils with pharmaceutical residues is an emerging environmental issue. It calls upon the European Commission, based inter alia, on data received from the European Pharmaceuticals Agency, the European Environmental Agency and the EU Member States, to insert regulations for environmental control among pharmaceutical production regulations.

In the present study, the scale and the trends of the described issue are presented from a systemic perspective. Systemic interaction of the legislative and non-legislative factors influencing the issue is deployed. The goals are to understand if the environmental and health issues related to the presence of Pharmaceutical Products in the environment are considered in the current legislation and current practice and to identify options to ameliorate the current framework and discuss their feasibility. Good manufacturing practice is a component of the quality assurance that is intended to make sure that the products are always produced and monitored in such a manner that they satisfy quality requirements that are appropriate for their intended use. By inserting the regulations for environmental control among production regulations within the framework of GMP, inspection rules will also apply to checking that environmental requirements are being observed. In this way, the gap between theory and practice towards green manufacturing could be bridged.



Additionally, systemic measures are proposed (including all interested parties: pharmaceutical industry, EU Member states, European Commission, healthcare professionals, citizens) in order to achieve the objective of sustainable development for Pharmaceutical Products, thereby attaining production that is environmentally, economically, and socially defensible wherever in the world it occurs.

Keywords: Public health, GMP, Systems, Process cohesion



EA-13.02

A Systemic approach to Good Manufacturing Practice (GMP) Inspections: Process cohesion of Cleaning Validation in Pharmaceutical Manufacturing Sites.

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EXTENDED ABSTRACT

In the present study an example of the importance of systemic approach of process cohesion in order to achieve the intended goal is demonstrated using the field of Pharmaceutical Products production. Good Manufacturing Practices (GMP) provide for systems that assure proper design, monitoring, and control of manufacturing processes and facilities.

Adherence to the GMP regulations assures the identity, strength, quality, and purity of drug products by requiring that manufacturers of medications adequately control manufacturing operations. This includes establishing strong quality management systems, obtaining appropriate quality raw materials, establishing robust operating procedures, detecting and investigating product quality deviations, and maintaining reliable testing laboratories. This formal system of controls at a pharmaceutical company, if adequately put into practice, helps to prevent instances of contamination, mix-ups, deviations, failures, and errors and it assures that Pharmaceutical Products meet their quality standards. During production Pharmaceutical Products and active pharmaceutical ingredients (APIs) can be contaminated by other pharmaceutical products or APIs, by cleaning agents, by micro-organisms or by other material (e.g. air-borne particles, dust, lubricants, raw materials, intermediates, auxiliaries). In many cases, the same equipment may be used for processing different products. To avoid contamination of the following pharmaceutical product, adequate cleaning procedures are essential.

Cleaning process must strictly follow carefully established and validated procedures and methods of execution and manufacturing processes have to be designed and carried out in a way that contamination is reduced to an acceptable level.

Cleaning Validation is documented evidence that an approved cleaning process will provide equipment that is suitable for processing of pharmaceutical products or active pharmaceutical ingredients (APIs). Experience and global statistics during GMP inspections show that Pharmaceutical companies face difficulties in the implementation of the theoretical cleaning validation protocol. Therefore, different manufacturing processes should be streamlined using systemic approach and process cohesion is critical in order to ensure that cleaning validation is accurate and it is fulfilling its aim to ensure that cleaning process is performed efficiently and effectively.

Keywords: Systemic approach, Process cohesion, GMP



EA-13.03

Implementation of Systemic Polymethologion in In-House Pharmaceutical Warehouse of Multinational Company

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EXTENDED ABSTRACT

Economic debt crisis of 2008 undoubtedly was a trigger for radical changes in business environment in a global level. The expected decrease of incoming profits in worldwide pharmaceutical companies and in parallel the expansion of crisis from USA to European Union contributed to the creation of an extreme complexity background. Greek economy was highly affected and pharmaceutical companies performing in Greek market faced a new and very unstable situation. Loss of profitability, new law enforcements and regulations in pharmaceutical market, alignment with European Union regulations for marketing and distribution during past years, create new needs and rules in all functions of affiliate level. Logistics department as an active part of the organizational structure was highly affected from all these radical changes. Compliance with the new environment and immediate response to the challenges determine a new approach towards established status quo. Warehouse Manager must seek for solution in new methods which will refine the existing processes, create new patterns of thought, increase quality level, inspire and leverage resources.

A systemic approach to this problem derives as a unique solution in a high complexity environment. The appropriate use of systemic tools can satisfy every need in order of analyzing, managing and offering solution to this extremely demanding momentum. Systemics is not only a theory but a group of certain tools which can contribute in an effective and timely manner way to handle complex situations. One of main principles of systemic theory is to approach every organizational scheme as a part of the whole organization. Thus, results of systemic approach are wider and affect larger scales inside the organization even though they may be applied to a certain part of it, as for example in this abstract in the internal warehouse facility. Certain useful results and conclusions might reflect in larger scale climax inside the organization as recursiveness appears in functional and structural level.

From the majority of systemic tools for the purposes of this project the following have been selected:

- DSCYM for screening recognizing and imprinting the current situation
- VSMOD for checking viability of the existing structure
- VENSYM for checking processes and stock and flows structure
- DIKW Knowledge management theory to expand knowledge and manage data and information among the organization
- SWOT analysis in the warehouse department at the beginning of the project.



To recapitulate, systemic approach to this project is trying not only to give accurate and immediate solutions in complicated problems deriving from structural and economical vulnerabilities of current status, but to give an alternative for those managers who want to execute high level performance projects of intense complexity. Systemics is nothing more than a well documented revolutionary way of rethink and reproach patterns of thought in a broader and "out of the box" way of thinking.

Keywords: logistics, systemic, DCSYM, pharmaceutical market, complexity



EA-13.04

SDD Methodology a tool for operational solution in MSD organisation (middle management will be involved)

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EXTENDED ABSTRACT

INTRODUCTION

The purpose of the study was to employ systemic approach for MSD, a global pharmaceutical of which foundation in Greece suspended its rendering of services during the second half of the previous year. According to IOBE studies, the pharmaceutical market in Greece from 2002 to 2009 was consistently moving upwards to its progress been characterized as an outstanding one. A recent study (2012) coming from SFEE (pharmaceutical Greek business association) demonstrated that the last three years the financial field of the pharmaceutics industry has been charged, reflecting on sales decline and appearance of damaging effects. Though, the support for the pharmaceutical industry is an issue of high importance because of its consequence for the national economy, as demonstrated in the IOBE study (2013), which regarded to the development perspective of this field.

METHODOLOGY

The aim was the identification of the problems incurring in the operation of MSD, which lead to the decision of suspension on behalf of the company. The systemic methodology of Science of Dialogic Design (SDD) was chosen. The Dialogue took place in a conference room of the company including 12 members, the researcher and 6 sales managers & 5 marketing directors. SDD is applied in the form of interactive participatory workshops named co-laboratories, which are called Structured Dialogic Design Process (SDDP). SDDPs engage stakeholders in participative democracy through disciplined dialogue. Workshops using SDD enable people to harness their collective wisdom and empower them to construct their future together. Structured dialogue represents a class of dialogue practices developed as a means of orienting the dialogic discourse toward problem understanding and consensual action. A disciplined form of dialogue, where participants agree to follow a framework or facilitation, enables groups to address complex problems shared in common. This rigorous bottom-up democratic form of dialogue ensures that a sufficient variety of stakeholders represents the problem system of concern, and that their voices and contributions are equally balanced in the dialogic process. In this essay, SDD will be applied so that the stakeholders in this case, MSDAs sales managers and marketing directors, will participate in a Structured Democratic Dialogue Process, where they will answer in some triggering questions. The wicked problem on which the dialogue will be based upon is company'As decision to suspend their rendering of services. The triggering question is about the way that this decision affects the vision of the company and its employees.



RESULTS

Applying SDD revealed the impact of the decision of suspension on sales but also on the clients'A mindset about MSD. The recovery of company products and the regaining of leading positions in sales such as the formation of a positive or strengthening image on behalf of the customers about the company, will be a top priority for the stakeholders in this case.

DISCUSSION

Through this process the roots of the problem but also the key to its solution are exposed offering a new perspective for the future of the company, restoring the vision of the company and its employees.

Keywords: pharmaceutics, SDDP, MSD, stakeholders, triggering questions, wicked problem



Enabling e-Government via Document Workflow Management and e-Collaboration Systems

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EXTENDED ABSTRACT

In this paper, we discuss and present in an integrated way a number of main ebusiness and IS approaches as tools for enabling and leveraging the e-Government of modern public domain organizations.

E-Government can be considered as a crucial success factor for the improvement of public domain administration operation in nowadays. Towards this direction, e-Government must be dimensioned through a number of main functionality modules, such interoperability between public organizations, document workflow management, digital certificates, adaptive case management, intra-organizational helpdesk, access to information through digital libraries, mobile technologies and so on.

Indeed, the new service provision pattern of modern organizations drive the need for paperless environments including among others capabilities of document workflow control and monitoring. These capabilities impose that the documents of various types must be appropriately created and filed, while their circulation from one working position to another must take place in efficient and effective manner. In addition, all documents must be circulated in a specific context meaningfully regarding the completeness of a task. This means that document workflows must follow and support corresponding organizational cases and services. For the purpose of integration of tasks in a broader governmental manner, documents must can be circulated not only within a organization but also between different ones. In other words, bridging between the systems of different organizations must be possible. This can easily take place by developing respective interfaces between these systems, as for examples, web services, XML-based document interchange, etc.

On the other hand, e-government can not be any more too much document-oriented and bounded. The bureaucratic model must be minimized. In other words, the satisfaction of requests per case must be prioritized. This needs domain knowledge in order specific business logic to be incorporated in software applications and services. Furthermore, the collaboration between the various departments within an organization must be facilitated by helpdesk systems where the request flows must be adapted to the various operational structures and processed. The requests of one department to another can follow hierarchical, flat or hybrid paths depending on the request scope. For example, a request which concern a department could be directed to the director of the department, while within a working group the requests can directly be from one member to another. This collaboration must be supported by an electronic system via supplementary supporting software tools, such as close or open user group



modules, forums, micro-blogging (e.g. per department or direction or organization), on-line help via chatting, digital libraries and wiki's, directory and discovery services, etc. Furthermore, social networking features could be proved very beneficial for the employees and staff in some cases and some types of jobs, such as marketing and advertising.

Last but not least, modern mobile and wireless technologies can further leverage the overall performance of the organizations. Mobile applications and microbrowsing can transfer the above mentioned functionality to mobile employees and trustees improving in such a way extremely the connectivity of them and their accessibility to services and systems.

Keywords: E-Government, Document Management, Collaboration, Mobile Applications



Extreme Computing

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EXTENDED ABSTRACT

In this paper we overview the existing technologies and cloud computing services that could be used to offer an infrastructure of a specific distributed file system. We provide an analysis of the design considerations that are relevant for such services. Moreover, in the following report we provide a description of the environment that will be used to evaluate alternative designs. Finally, we propose a solution that can provide most of the required services. We need a distributed file system to reduce dramatically the amount of data being stored. A distributed file system with specific requirements should be built that will combine technologies from the most known distributed file systems. For the purpose of this paper we will call it ECFS (Extreme Computing File System). Different kind of distributed file systems have been proposed over the years. Some of the most known, that we think should be studied for the purpose of our paper are AFS, Coda, Chep, Lustre, OpenAFS with Object Storage. We observed that a classification of these systems can be made by looking at the used data primitive and by the handling of metadata. Our challenge is to provide a system that can use different functionalities independent of the size and complexity of the distributed system.

This paper consists of four major parts: a brief design analysis and an identification of the key design techniques in use today, alternatives designs with their advantages and disadvantages, a proposed solution and an examination of research issues that are likely to challenge us in the next years. It is concluded that the design of a distributed file system which follows a set of rough specifications and requirements, requires significant considerations regarding related technologies and key factors. We studied a number of different distributed systems and it was concluded that every one of them should be evaluated on a case by case basis. We presented a method for metadata storage that provides extensionibility and easy searching while still maintaining the goal of overall space-efficiency. Although we believe that the solution we gave to the problem may fit to the use case, however it cannot be considered as a general solution because the cost of computational power is much more expensive that the storage cost. Finally, we believe that further research needs to be conducted in the area of metadata manipulation in distributed systems, as current general solutions cannot be considered adequate and require further studying.

Keywords: Databases, ECFS



Life expectancy at birth-a global analysis

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EXTENDED ABSTRACT

In this paper we explore the life expectancy at birth in countries over the five continents. Life expectancy at birth is simply the average number of years to be lived by a group of people born in the same year, if mortality at each age remains constant in the future. It is a measure of overall quality of life in a country and summarizes the mortality at all ages. We use the annual data from 1995 to 2008 sourced by the World Bank Database concerning the life expectancy at birth in each country and some of the most important factors that determine its rates. Such factors are the GDP per capita, Prevalence of HIV (% of population ages 15-49), CO2 emissions (metric tons per capita), Immunization – DPT (% of children ages 12-23 months) and Total health expenditure as percentage of GDP. In order to show this impact, we have conducted an appropriate non-linear regression analysis that we have developed in E-Views.

For our analysis we use data referring to a total number of 44 countries (ten countries from North and South America, another ten countries from Africa, eleven countries from Asia, eleven from Europe and another two countries from Australia/Oceania). The countries chosen in each continent are in our point of view representative of the other countries, in terms of economic growth, population etc. For example, Greece is chosen as a similar country to Spain and Portugal, whereas Finland is chosen as a representative of the Scandinavian countries. In each regression concerning a different continent, the results are importantly different as expected. In general though, the factors that have impact on life expectancy seem to be statistically significant. The analysis results in concluding that the life expectancy at birth is higher in countries of North America, Europe and Australia, where the economic growth and development, and the living conditions in general are in the highest levels. On the contrary, in Asia and Africa lower rates prevail mainly due to poverty and difficult living conditions.

Keywords: Life expectancy, DPT



HIGH YIELD MUNICIPAL BONDS REGARDED AS AN ATTRACTIVE INVESTMENT

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EXTENDED ABSTRACT

The hunt for yield has been one of the pervasive themes throughout the global financial markets in 2012. Fixed-income investors, hungry for yield in a low-interest-rate environment, have been pouring money into high-yield municipal debt, a small but highly lucrative niche of the muni market. The question is whether the high-yield municipal bonds, being securities with ratings below investment grade, are still an attractive investment nowadays.

This paper analyses the U.S. municipal bonds market in comparison with the corporate bonds, as well as the high yield bonds. It emphasizes the U.S. High Yield Municipals, referring to their attributes of tax-exemption and high rates of absolute return, as well as to their inherent risks, anomalies and default rates. A High Yield Municipal Bond (so-called Munis) is a bond issued by states or local governmental entities acting as a conduit to finance economic or industrial development or housing, healthcare and environmental projects. Such a bond is either non-rated or rated below investment grade (BB+ or below for both S&P and Fitch, and below Ba1 for Moody's). As a result of their lower or nonexistent ratings, high yield municipal bonds are priced with an additional yield premium to compensate investors of their perceiving higher credit risk.

The approach followed is the comparison of high-yield municipal bonds indices with several other asset classes of the U.S. market, in terms of historical return and volatility, taking into account the tax bracket of each type of investors. In addition, discussion is made about the benefits of investing in a high yield municipal bond fund rather than adding one or two individual high yield bonds to a higher quality municipal bond portfolio.

As a result, the combination of the tax benefit of high yield municipal bonds and the low default rates relative to corporate bonds with similar credit ratings is a major draw for tax-paying investors that are seeking tax relief.

Keywords: Municipal Bond, Munis, investment



EA-15.01

Sustainable energy management in the transportation sector: A Systemic Approach related to the materials' transportation in an industrial complex

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EXTENDED ABSTRACT

In this work, an industrial complex is considered to be a viable organization so that the energy management problem of the inter transportation of the raw materials and final products in the company can be solved, using the systemic approach. In previous studies, a systemic approach was adapted to energy systems in the industrial and residential sector (two of the three major sectors of energy consumption). It has been proven that it is possible to detect gaps in the structure of energy systems and to choose appropriate interventions that can lead to sustainable energy management. A similar approach is presented as a framework for the energy management in the inter-transportation of an industrial complex. To this end, the goals of the industrial complex are defined and the evaluation criteria for the alternative solutions and the limitations of the system were determined. For each criterion, the sustainability factors are defined and they are employed to perform a multi-criteria analysis. The cost of investment is calculated for each one of the alternative solutions as well as the energy savings and the impacts to the environment, to the workers and to the society. The alternative solutions are evaluated and classified according to the level of viability and the given limitations of the system. An Action Plan is proposed to the Management and a new state of operations is designed for the company.

The work was focused on:

- Recognizing the existing situation of the energy management in the transportation sector and more specifically evaluating the situation in the inter transportation of an industrial complex.
- Analyzing the methods used in energy management related to transportation and assessing the level of their efficiency.
- Creating a framework for a completely new approach (theoretical basis and managerial tools) which will aim the decision makers of the industrial plants in making decisions on the way to the sustainable energy management for the transportation.

The findings of the research ensure the existence of a gap between the existing and the desired state based on the principles of sustainable development. By using the suggested innovative measures this gap can be reduced in order to make the energy consumption more efficient and to ensure the industry's larger profits. Concluding, the need for interventions which will lead to sustainable energy management in the transportation as well as the need for enriched tools for the decision makers are recognized and a new approach based on the systemic theory is proposed.

Keywords: Energy Management, Systemic approach, transportation sector



EA-15.02

Sustainable water management in buildings. A systemic approach for the improvement of water management in buildings

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EXTENDED ABSTRACT

Water management in the context of Sustainable Development is a multidimensional problem that needs to be approached with a similar scientific methodology. This paper shows that the methodologies developed in the past for water management both from the perspective of society and that of consumers, did not yield the expected results and according to the predictions it appears that the long-term goals of Sustainable Development will not be achieved. As a result, there is a need to use an effective methodology that can be applied in similar complex socio-technical problems and simple, scientifically documented and socially acceptable in the form of a tool accessible to the users, which will cover the well-known inability of existing methodologies. The systemic approach supports all these attributes and is recognized as the framework for water management of socio-technical building blocks, which constitute one of the three categories of water consumers. More specifically, this paper deals with the systemic interventions that are required for the formation, implementation and continuous improvement of the water management of building systems on their way towards their sustainability as determined in the prism of the socio-technical approach. This work is an innovative effort focused on the detection of weaknesses of complex systems, their appropriate solutions and the selection of the most suitable ones to transition from the current water management situation to a new that will lead to Sustainable Development. The goal of this paper is to identify, examine, synthesize and incorporate all the disparate and disconnected until today - methods that have not yet been applied in a systematic way and finally to support them with new, original tools in order to advance sustainable water management and through it, Sustainable Development as well.

The paper focuses on the creation of a general framework related to:

- the process of identifying the causes of weaknesses of a building complex to manage the water system in accordance with the principles of Sustainable Development,
- the methodology of selecting an action plan based on the constraints and criteria laid down either by the consumer or the society and are being accepted by the consumer, which if it is put into practice it leads the consumer towards Sustainable Development

The paper concludes to a proposed best interventions plan for the water management in buildings which in a general framework could be used from the decision makers as a tool in order to create the policies towards the Sustainable Development.

Keywords: sustainable water management, systemic approach, building



EA-15.03

Waste management in Greece: "Unavoidable need or imposed challenge"

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EXTENDED ABSTRACT

As Giorgos Seferis wrote in the poem "Days IV" years ago, "If we are going to learn a lesson from all that we have suffered and will suffer it should, I imagine be this: everyone from the antipodes, throughout the whole of the earth until deepest China is responsible for the injustice done to man, even the youngest most insignificant man. We are all paying for the injustice, there is no means of escape, this is our fate, and of this I am afraid, our fate will be knocking on our doors until the end of time, we forget, always forget, and the evil that circulates in our blood knows no boundaries. Taking into consideration the lyrics of our award-winning poet, our turn has come to pay our dues to the injustice that has been done at the expense of the environment. The difficulty in the rescue operation of our environment today comes through the spinning of the words discount and haircut. Citizens' demand and look towards the State to secure a better standard of living for them, to assist the weak and increase benefits.

The cost of maintaining a balance within our environment comes back to us and we pay the price directly and indirectly by raising product prices, taxing income and risking our health. By identifying the root causes we found that the lack of infrastructure dominates the main branches of administration, namely in the municipalities and municipal districts, the confusion and the opacity roles between institutions, incomplete and selective information, the delay in the harmonization of European directives, the lack of incentive for private investment are the root of evil that our national performance in recycling diverge significantly from the midst of the euro zone in accordance with the applicable EU directive. As we will see losses were more pronounced during the previous two year period 2010-2011, while they moved at more satisfactory levels for the years 2009 and 2010. The green growth was a \"project on paper\" after successive crises intensified worldwide changing the attitude and behavior of people. This study contained information and data derived from personal communication with departments of companies in the private sector that operate directly with the waste management industry. The recording of the problem with the usage of systemic methodologies SAST, SWOT analysis, Pareto rule 5th Discipline on what has been done so far or what remains highlights the areas in which the system stumbles e.g. illegal trading of scrap, either deliberately (corruption) or due to the indifference of everyday people. Significant support in depicting the above structure of the recycling system operation offered the methodology DCSYM and the simulation with VENSIM.

In conclusion the environmental cost is becoming a profit at the hands of the people who are engaged with collateral activity (some illegal) overloading the system with higher prices, making recycling more expensive, ineffective and rendering the theory "pay as I throw away", the final costs make a full circle and return.

Keywords: Waste management, DCSYM, SWOT, SAST



EA-16.01

Systemics for Process Cohesion: Developing a National System for the Prevention & Management of Overweight and Obesity in Childhood and Adolescence in Greece

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EXTENDED ABSTRACT

Childhood obesity is a condition characterized by excess body fat accumulation, which may have adverse effects on health. Overweight and obesity in childhood are known to have significant impact on both physical and psychological health. Environmental factors, lifestyle preferences, and cultural environment play pivotal roles in the rising prevalence of obesity worldwide.

Due to its rising prevalence and its many adverse effects on health, obesity is being recognized as a serious public health concern. Research studies have clearly demonstrated that prevention could be the key strategy for controlling the current epidemic of obesity. In order to prevent or treat obesity in children it is necessary to perform a population wide reassessment of the calorie intake, as well as activity recommendation due to the sedimentary lifestyle of children nowadays. Prevention may be achieved through a variety of interventions targeting built environment, physical activity, and diet.

This is the main scope of the Program "Development of a National System for the Prevention & Management of Overweight and Obesity in Childhood and Adolescence in Greece", sponsored by the National Strategic Reference Framework (NSRF) 2007–2013. The NSRF (National Strategic Reference Framework) 2007–2013 constitutes the reference document for the programming of European Union Funds at national level for the 2007–2013 period. It was elaborated within the framework of the new strategic approach to the Cohesion Policy of the European Union, according to which NSRF "...ensures that the assistance from the Funds is consistent with the Community strategic guidelines on cohesion and identifies the link between Community priorities, on the one hand, and the national reform program, on the other."

The program has the endorsement of the Ministry of Health and the Research Center of the National & Kapodistrian University of Athens, Greece. The Division of Endocrinology, Metabolism & Diabetes, of the First Department of Pediatrics, at "Aghia Sophia" Children's Hospital, serving as a Center for Control and Prevention of Overweight and Obesity in Childhood and Adolescence, has undertaken the responsibility to plan, organize, lead, implement and control all the necessary actions for the development of the Prevention System.

Through the deployment of systemic approaches and program & project management processes, we will try to improve the Strategic Planning & Operations, i.e. better understanding of the Centre in relation both to its internal and external environment (the main hospital, other hospitals, Pediatricians,

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partners, collaborating organizations and societies and others), identification of inconsistencies and needs regarding procurement (equipment, materials, reagents) and personnel issues, indication of ways for improving marketing processes and plans to inform and aware doctors all over Greece for the great need in participating in registering overweight or/and obese children.

Keywords: Childhood obesity, Overweight, National Strategic Reference Framework (NSRF), Prevention Management, Systemic approaches, program & project management processes



EA-16.02

Systemic Approach to the Greek Organization for Health Care Services Provision System EOPYY: Guidance System to Beneficiaries of Health Services (Insured - Uninsured)

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EXTENDED ABSTRACT

INTRODUCTION

This paper focuses on improving a process within the Greek Organization for Health Care Services Provision using Systemic Methodologies and tools. Emphasis was given to the identification of the weaknesses of the current situation among the two main structural health systems of EOPYY, the SDZYY and KEPA.

METHODOLOGY

Strategic Planning

It included strategy development (who we are, where we want to be, how to get there) and strategy implementation (specific actions and results).

Systemic Approach

Among the many systemic methodologies, the methodology of the Design and Control Systemic Methodology (DCSYM) and the Soft Systems Methodology (SSM) were chosen. Furthermore, in our attempt to analyse the dynamics of our systems we simulated our model by Vensim.DCSYM is a systemic methodology with a robust mathematical and semantic understructure capable of effectively guiding multi-agent dialectic design processes concerning boundary critiques, structures, procedures and interventions. Soft systems methodology (SSM) is a systemic approach for tackling real-world problematic situations. SSM lends itself particularly well to dealing with complex situations, where those involved lack a common agreement on what constitutes the problem, and that needs to be addressed. It develops a comprehensive understanding of interrelationships between the various aspects of the problem situation. Vensim is a simulation software for improving the performance of real systems. Is used for developing, analyzing, and packaging dynamic feedback models by emphasizing to high quality, with dimensional consistency and reality checks\(\beta_n\)'A, connections to data and sophisticated calibration methods, instant output with continuous simulation, model analysis, including optimization and Monte Carlo

RESULTS

By deploying DCSYM we identified the problems incurring in the operation of the Guidance System to Beneficiaries of Health Services (Insured - Uninsured) of EOPYY that obstacle the improvement of the service provided to the society, i.e. delays in booking appointments and so patients are turned to reach a Doctor on a privately basis, no adequate recording on patient medical file, ect



SSM assisted us in expressing the problems/deficiencies, defining changes that are desirable and feasible and proposing actions to be taken to improve the system. Modeling the development for patient service operation Management System in the context of demand of health services (SDZYY) through Vensim we extracted crucial information/data for improving systems performance.

SUGGESTIONS

For resolving the problematic situations and improving the operations within EOPPY the beneath actions are briefly suggested:

- Needs forcasting regarding specialities required around Greece
- Establishment of Electronic Patient File and Health Insurance Card
- Development of a Management Quality Assurance System Benchmarking
- Proper Budgeting and Cost Saving
- Update of Contractual Agreements signed with private healthcare providers (e.g. hospitals, laboratories)
- Criteria evaluation regarding healthcare providers
- Re-pricing of clinical investigation and special laboratory testing costs
- Adaptation of the patient porpotion based on socio-economical criteria
- Digitalization programming

Consequently the management of EOPPY will become more effective, the medical perspectives will be constantly updated and hence will contribute significantly to the enhancement of the quality of life of the patients and their families.

Keywords: EOPYY, Healthcare Management, DCSYM, SSM, VENSIM



EA-16.03

Systemic analysis and simulation of a healthcare clinic

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EXTENDED ABSTRACT

This specific paper aims to provide a systemic approach through a systemic analysis and simulation of the system and environment of a private clinic. The analysis is based on the systemic analysis of the system with the use of the DCSYM methodology, using the DCSYM Case Tool software. The implementation of the system's simulation is achieved by using the Vensim software. In a first step, a detailed description of the clinic's environment is implemented and the structural elements, the departments the clinic is divided, the subsystems of these departments and the staff of the clinic are being analyzed. Furthermore, the systemic approach with the DCSYM methodology is being presented. A short description of the DCSYM Case Tool is being given, its main functions and its features. In addition, through the systemic approach with the DCSYM methodology, the wholeness, the system, the external environment of the clinic, the subsystems, the employees and the interactions between them as well as the control which is practiced on the clinic are being reenacted. Moreover, we describe certain capabilities and functions of the Vensim software that we used to implement the simulation of the system. The calculation procedure of the profits the clinic brings in is displayed through simulation by using the Vensim software. At this point, the variables stepwise addition is being presented as well as the variables' mathematical background and the variables' hierarchy. The analysis ends by presenting two realistic scenarios where some variables receive extreme values or are omitted from the model and possible improvement actions in order to reduce the decline of the profits' value are made. The first scenario describes a crisis where the general diagnosis department malfunctions and the second one describes a situation where the incoming patients are critically reduced. Finally, the conclusions that resulted from the use of the DCSYM methodology and Vensim software are presented.

Keywords: systemic analysis, stimulation, variables, DCSYM, Vensim



EA-16.04

A systemic overview for preventing infection by Genital human papillomavirus (HPV)

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EXTENDED ABSTRACT

Genital human papilloma virus (HPV) is the most common sexually transmitted virus. Until today about 100 types of HPV have been identified. More than half of sexually active men and women are infected with HPV at some time in their lives. Most people who become infected with HPV do not know they have it. HPV is not the same as herpes or HIV (the virus that causes AIDS). These are all viruses that can be transmitted during sex, but they cause different symptoms and health problems. Most HPV infections don't cause any symptoms, and go away on their own. But HPV can cause cervical cancer in women. Cervical cancer is the 2nd leading cause of cancer deaths among women around the world. HPV is also associated with several less common cancers, such as vaginal and vulvar cancers in women, and anal and oropharyngeal (back of the throat, including base of tongue and tonsils) cancers in both men and women. HPV can also cause genital warts and warts in the throat. Hence, it is a virus that concerns everyone.

In our country, about three in four Greeks are infected with HPV, as proven by a Pap test, which covers all types of virus. Furthermore, 600 to 700 women are diagnosed with cervical cancer annually, while 30% of them, i.e., 200 to 250 women, die of the disease. Finally, it is worth noting the increased incidence of cancer of the oropharynx, given that the virus type 16 is responsible for 40% of cases of oral cancer.

Approaching disease prevention systemically, there are ways that can lower the chances of getting HPV.

- Vaccines can protect males and females against some of the most common types of HPV. HPV vaccines are safe and effective. They are given in three doses over six months. It is important to get all three doses to get the best protection. The vaccines are most effective when given at 11 or 12 years old.
- For those who are sexually active, condoms may lower the risk of HPV infection. Condoms may also lower the risk of developing HPV-related diseases, such as genital warts and cervical cancer. However, HPV can infect areas that are not covered by a condom, therefore, condoms may not fully protect against HPV infection.
- People may also lower their chances of getting HPV by being in a stable relationship with one partner; limiting their number of sex partners; and being with a partner who has had no or few prior sex partners. However, even



people who had only one sex partner in their life can get HPV. Also, it may not be possible to determine if a partner who has been sexually active in the past is currently infected.

Additionally, deployment of simulation models, assists in better understanding system dynamics, i.e. frequency in age ranges, geographical areas, correlation with educational level, lifestyle.

Keywords: Genital human papillomavirus, infection, prevention, System dynamics



Co-opetition strategy and innovation: positive and negative effects

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EXTENDED ABSTRACT

Co-opetition strategy constitutes an emerging mindset which emphasizes on both cooperative and competitive relations between two or more firms. As the business world become more dynamic and uncertain, competing firms cooperate with each other by combining their complementary strengths in order to develop innovative products, services and technologies. In other words, firms initiate collective actions with their competitors to create value in the market and at the same time they compete to capture the created value individually. The high level of technological advancement of products, the technological convergence, the rising R&D costs, as well as the limited resources and capabilities available to firms, enable them to pursue innovations with their competitors. The extant literature provides evidence that in some cases co-opetition strategy can have a positive effect on innovation outcomes, while in some others co-opetition is a risky strategy which can be harmful for a firm's innovation performance. Most of these studies were conducted in a specific industry and they generated different results with respect to the type of innovations produced in coopetition. For example, some of them suggest that co-opetition in knowledge-intensive sectors is a successful strategy in terms of innovation, while other studies show that coopetition in less knowledge-intensive sectors, such as manufacturing, may have negative outcomes in terms of innovation. The present study reviews the literature on co-opetition strategy and innovation and examines under which circumstances the integration of these concepts is beneficial or harmful for firms. More specifically, the definitions and types of co-opetition strategy are discussed and various examples of co-opetitive relationships are given. Moreover, the various definitions of innovation are discussed as well as the most important innovation dimensions which can be indicated as dualisms; technological versus administrative, product versus process, and incremental versus radical. After a thorough literature review of co-opetition strategy and innovation, the purpose of this study is to examine the external factors such as the industry dynamics as well as the internal factors (firm-specific factors) which are important for determining the implications of co-opetition strategy on innovation output.

Keywords: co-opetition strategy, innovation, value creation



The COBIT Framework: A Systemic Approach for the Evaluation of Information Systems

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EXTENDED ABSTRACT

The use of Information Systems has become a primary enabler to an organization'As long term survival and success, acting as an important factor for the development of competitive advantages. Recognizing its vital contribution, organizations spend excessive amounts of money for the development of Information Systems (IS) and Information and Communication Technology (ICT) infrastructure. Consequently, the need for the evaluation of Information Systems has emerged, and has become a critical issue within organizations. Information Systems Evaluation is the process which allows organizations to assess the impact of Information Systems on organizational performance. Many methods and techniques have been developed for the appraisal and justification of Information Systems's contribution at strategic, operational and tactical levels. This study aims to examine the COBIT Framework, a systemic framework developed for the governance and management of Information Systems. The COBIT Framework provides globally accepted principles, practices, analytical tools and models for the successful development and evaluation of Information Systems. The latest version of COBIT Framework (Version 5), which is analysed in this study, is based on the previous COBIT Framework (Version 4.1), and has integrated other major frameworks, standards and resources, such as Val IT, Risk IT, Information Technology Infrastructure Library (ITIL), and related standards from the International Organization for Standardization (ISO) (e.g. ISO/IEC 15504). This study presents the main principles, tools and models which are used in this framework under the prism of systemic theory. Moreover, it thoroughly examines the processes which are required for the successful evaluation of Information Systems.

Keywords: Evaluation, Information Systems, COBIT Framework



Tourism Clustering approach in Greece. The Contribution of the Financial Crisis in the Dissolution of the Business Model. Case study: Leading Tourism Cluster S.A.

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EXTENDED ABSTRACT

This paper attempts to fill one of the research gaps in the business networking in tourism. In such a global economical turmoil, the need for synergy among tourism businesses aiming a competitive advantage and economies of scale, has led to a worldwide spread of business clusters. A tourism cluster is a group of important tourist destinations in a specific geographic region, in which high quality services are provided. The relations between enterprises and institutions and a tourism cluster can be understood in two ways, horizontal by the creation of strategic alliances, or vertical by the creation of strategic nets. A tourism cluster is one of the strongest tools for promoting innovation and enhancing the competitiveness of enterprises and economies. In Greece, the tourism cluster particularly is considered necessary during the economic crisis. This paper is an attempt to present the framework in which clusters develop, and focuses on the first tourism cluster, Leading Tourism Cluster S.A. (L.T.C S.A.). L.T.C. S.A. is the first synergy of joint procurement in order to achieve bulk purchase prices in tourism sector. Finally, a survey was held in hotel - cluster members aiming to study the existence of a business in a tourism cluster. The purpose of this research is to identify the reasons for the rejection of this business model by Greek hoteliers.

Keywords: Tourism Cluster, Strategic Management, Business Networking, Synergies, Network, Economies of Scale.



E-Business and CRM Strategy: The case of FMCG companies in Greece

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EXTENDED ABSTRACT

In the current era of intense competition and the new economy, quality, personalization, innovation and flexibility are essential features of success, especially in the new era of E-business that the rate of change and rapid developments require constant renewal and adaptation. Therefore, the implementation of the appropriate technology to successfully manage an organization's relationships with its customers (Customer Relationship Management - CRM) is a very important factor for the effective implementation of E-business.

In order to acquire and retain their customers, organizations that are using E-business should focus on the fast and efficient creation of new distribution channels, and on concentrating a large amount of information about customers, and to combine these to create competitive advantages. The process of placing the customer at the heart of the business requires CRM systems able to help organizations to determine the actual cost of acquisition and maintenance of individual customers and increases customer loyalty. This allows the organizatio8n to shift the time and resources needed to keep their most profitable customers.

The present study reviews the literature on strategic issues in E-business and CRM and examines the strategic value of E-business and CRM. Moreover, it presents the results of the research conducted with the use of questionnaires in the field of FMCG (Fast Moving Consumer Goods) companies, an industry with continuous challenges that is posed constantly to consumers'A criticism in terms of quality and product innovation. These results demonstrate the extent to which the under examination companies implement E-business and CRM, the strategic value of this implementation and whether it leads to competitive advantages.

Keywords: E-Business Strategy, CRM Strategy, Strategic Management



EA-18.01

Business opportunity identification through dynamic information management in collaborative business ventures

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EXTENDED ABSTRACT

Globalization, technological change and an increasing demand for specialization has led to new economic activities, new business models and new value propositions. As enterprises struggle to react to these changes, they realize that they need to increase their engagement in new venture development. This, in turn, entails the development of collaboration capabilities with business partners, leading to the creation of collaboration networks for exploiting new opportunities and engaging in value innovation. Hence, the capability to seamlessly interoperate and co-create with other enterprises is increasingly becoming a key business asset for promoting entrepreneurship within an ecosystem of business entities. The raison d' etre for such an ecosystem is the exchange and use of resources among partners through service interfaces, in order to collectively assess and exploit a business opportunity. In this context, a number of challenges emerge: a) how can participants control dissemination of their resources? b) how can they design services for contributing controlled resources to the collaborative venture? c) how can they assess the potential value created in such a network, before fully engaging? In order to address these challenges, we developed and present in this paper a service classification framework for value co-creation activities. The major contribution of this framework is that it can help a service provider to: a) understand its options when engaging in a collaborative relationship for exploiting new business opportunities; b) assess the infrastructure gaps (organizational, business, technical) between what an option requires and what the provider already has; c) identify a service development roadmap based on a structure (service profile) that encompasses key requirements and prerequisites for successful provision.

Keywords: value co-creation, service science, information management



EA-18.02

A Systemic Contribution of the ERP Systems in the Banking Sector

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EXTENDED ABSTRACT

Banking industry has progressed greatly and is still growing exponentially covering an entire range of transactions offering combined sales of banking products in order to meet the growing demands of customers. Due to Globalization, booming IT industry and consolidation of industries, the Banking sector is facing tougher competition and demands rapid change. Regulatory and legal requirements require information to be accurate, transparent and timely.

Financial institutions are facing numerous challenges in terms of increasing customer expectations on ease of product use, integrated customer information management, and long term data sustainability. The very competitive climate for banks under the ongoing mergers of them and their sophisticated and well informed customer base form tough circumstances in which they have to maintain their market share. For a bank to succeed it has to be innovative, customeroriented and cost-effective. These goals can only be achieved if its managers are empowered and its employees are provided with the right information, applications, and services to increase overall productivity. The need for systems with the characteristics of the enterprise resource planning (ERP) software banks use for their back-office activities is evident. Enterprise Resource Planning (ERP) technologies are a widely preferred choice when replacing legacy technologies since they allow a company to integrate part or all of its other data systems into one system, they make more efficient use of its resources and, when implemented correctly, they provide a company with numerous benefits. They have a significant impact on the efficiency of the entire business, as they allow the Bank'As management team, from the top-level executives to the line managers, to make better-informed decisions faster, try out new processes and measure the results.

In short, the ERP system acts as the backbone of the bank, whilst the application extensions provide the ribs and the Banking Sector has huge potential for of **ERP** due its vast data oriented However, if an organization is to maintain viability within its environment, and management is to continue to steer the organization, then the Law of Requisite Variety suggests that the variety of responses displayed by the organization should at least equal that emerging from its environment, and the variety of responses of management should at least equal that of the organization. The criteria of viability require that organizations are or become ultra-stable, that are capable of adapting appropriately to their chosen environment, or that they adapt their environment to suit themselves. Beer developed his Viable System Model (VSM) on the concept of variety. The VSM models the structures of the organization and the relationships between them. VSM is first applied in a general



form of a banking system. Then, it is explained what the systemic contribution of an ERP is to the sustainability of a bank under the requirements of the VSM model since in an industry where complexity in core banking systems can result in almost 30 percent to 40 percent overhead on total operating costs, banking executives who embrace transformation can differentiate their bank from the competition.

Keywords: ERP, Banking, Systemic, VSM, Viability, Financial



EA-18.03

ERP Systems Implementation: Chaos or Apocalypsis? A Case Study

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EXTENDED ABSTRACT

The increasing rate of complexity of the contemporary environment within a business has to operate necessitate the need for inventing ways of coping with new states of operation, handling arising problems and avoiding collapse. Systems Thinking via the Systemic approach offers the conceptual framework for understanding the content of the business organization and the interrelationship of the parts that has been composed of. On the other hand Cybernetics offers the conceptual framework for understanding how this organization functions in terms of control and communication. In addition the ERP (Enterprise Resources Planning) system is the neural network of a business since it integrates the functional units of the organization, transmits instructions, supports feedback loops, imposes interdepartmental code of communication, controls procedures, alerts for occurrences, clustering data, supports data mining, connects the organization with its environment etc. The study develops a case study of an organization in the public sector which is the transformational outcome of the merger of two public companies in the contemporary turbulent environment. It enquiries the pros and cons of an ERP system implementation on the business organization from a systems thinking perspective. The above conceptual framework is formulated with the Design and Control Systemic Methodology (DCSYM) and the organizational cybernetics' Viable System Model (VSM). The first validates the quote 'A problem well put is half solved' (John Dewey) by defining the problem. The latter depicts the way that the organization manages the factor of complexity from the ERP perspective thus controls its operation and consequently maintains its viability.

Keywords: Systems Thinking, Organizational Cybernetics, ERP, DCSYM, Viable System Model



EA-18.04

Simulation with Jocket and VenSim of a company that fixes products

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EXTENDED ABSTRACT

The project aims to show the function of a company that fixes products. In this paper will be presented the stages that a repaired object passes until it reaches the hands of the owner in a good functional status. The presentation will start with an analysis of the company using the methodology DCSim. In addition, the automation of the procedures with a Jocket tool will be presented. Furthermore, a part of the procedure will be simulated with VenSim program. After all, the Jocket tools will be compared with BizSmart tools as far as its function and usability are concerned. Through this project it becomes conspicuous how important the automation of the procedures is for a company or a part of a company. In parallel, we are going to see how a controlled but also quick development of the procedures is succeeded with a help of this kind of automation.

Keywords: Simulation, DCSim, BizSmart, Jocket, VenSim, Procedures



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