Hellenic Society for Systemic Studies (HSSS)

Full member of IFSR

7th National & International Conference

Professional Systemics in Action

PROGRAM & ABSTRACTS

4-7 MAY 2011
Athens, Greece
Stratos Vassilikos Hotel

IN COLLABORATION WITH

University of Piraeus

Panteio University

www.hsss2011.gr

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Welcome Message

On behalf of the Hellenic Society for Systemic Studies (HSSS) we would like to invite you to the 2011 HSSS 7th. National & International Conference, organized in collaboration with the University of Piraeus and the Panteio University, which will take place in Athens, Greece.

The main theme of the Conference, is to present the dynamic scientific area of Professional Systemics applied effectively in organizations and enterprises across a wide spectrum of both service and production industry sectors.

Given the dynamic nature of this challenging discipline, Professional Systemics in Action 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.

Our interdisciplinary international community has the scientific systemic tools and powerful specialized software to tackle up-to-date multi-dimensional 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 and 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.

Athens is renown through the ages as the city of dialogue, wisdom and democracy. Therefore it 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 enhancing the arsenal made available to both organizations and enterprises in effectively meeting the needs of a challenging international community.

Chair of the Organizing Committee
Assoc. Professor Vicky Pekka-Economou
University of Piraeus

Chair of the Scientific Committee
Professor Anastasios Tasopoulos
Panteio University

HSSS President
Professor Nikitas Assimakopoulos
University of Piraeus

Acknowledgements

The Board of Directors of the
Hellenic Society for Systemic Studies
&
the Organizing Committee of the
7th 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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15:30 – 16:00 Coffee Break
16:00 – 17:30 Workshop 03 & Parallel Sessions
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18:00 – 19:30 Professional Panel on Health Care Management

Thursday 5th. May, 2011

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17:00 – 18:30 Professional Panel on Project Management

Friday 6th. May, 2011

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16:30 – 17:00 Coffee Break with light snacks
17:00 – 18:30 Professional Round Table on e-Business Solutions
18:30 – 19:00 Closing of the Conference
20:30 – 02:30 Gala Conference Dinner with dance

Saturday 7th. May, 2011

11:30 – 13:30 Sight seeing tour in the New Acropolis Museum

Program Timetable

Wednesday 4th. May, 2011

09:30 – 18:00 **Registrations Open**

10:30 – 12:30 **Opening Ceremony**

Hall: OLYMPIA

Opening by the Bishop of Athens

Music Program by Ralleios School Chorus

Salutation by the President of the HSSS,
Professor N. Assimakopoulos

Salutation by the Dean Authorities of the University of Pireaus

Salutation by the Dean Authorities of the Panteion University

Salutation by the Chair of the Organising Committee,
Professor V. Pekka-Economou

HSSS Awards

CSAP Certification Projects: Distinction

Best Student Paper Award

Curriculum presentation of the Choosen Keynote Speaker
Professor Alexander N. Christakis

KN-O1 ***Keynote Address***
Professional Systemics Acting Beyond Borders: Co-Laboratories of Democracy on the Israeli-Palestinian Co-Existence and on the Future of Education in Michigan
Prof Alexander N. Christakis & Jeff Diedrich

12:30 – 14:00 **Welcome Reception**

14:00 – 15:30 **Workshop 01 & Parallel Sessions**

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18:00 – 19:30 Professional Panel on Health Care Management
Hall: OLYMPIA

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Thursday 5th. May, 2011

09:30 – 18:00 Registrations Open

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12:30 – 14:00 **Keynote Addresses**

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15:00 – 16:30 **Workshop 02 & Parallel Sessions**

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16:30 – 17:00 Coffee Break with light snacks

17:00 – 18:30 Professional Panel on Project Management
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Friday 6th. May, 2011

09:30 – 18:00 Registrations Open

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EA-17.02 Developing a safety culture into a high risk organization utilizing aviation safety methods
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EA-19.02 Applied systemic approach in the banking sector: the case of credit scoring through network analysis
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12:30 – 14:00 **Keynote Addresses**

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Chair: José Pérez Ríos

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Prof Matjaz Mulej

KN-O5 A Systemic View of the Global Corporation: A Conceptualization, an Opinion
Prof John Thanopoulos

KN-O6 Professional systemics in action: the case of 'Human Recourse Development in Turbulent Times'
Dr. John Kalogerakis

14:00 – 15:00 **Light snacks with soft drinks**

15:00 – 16:30 **Workshop 04 & Parallel Sessions**

15:00 – 16:30 **Hall: OLYMPIA**
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EA-21.02 Rumor as Communication: A systemic approach
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EA-24.02 The diverse meanings of risk through a historical approach
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PRT-02	Professional Systemics through Applied Visual Analytics ***Maniatis A.***
PRT-03	Implementation of eCommerce applications in Middle and Medium Size Companies ***Kanellopoulos V.***
18:30 – 19:00	**Closing of the Conference** ***Chair: Prof. Assimakopoulos N.***
20:30 – 02:30	**Gala Conference Dinner with dance**

Saturday 7th. May, 2011

11:30 – 13:30 Sight seeing tour in the New Acropolis Museum













Scientific Events

KN-01

Professional Systemics Acting Beyond Borders: Co-Laboratories of Democracy on the Israeli-Palestinian Co-Existence and on the Future of Education in Michigan

Alexander N. Christakis
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This plenary session will start with a presentation of an Israeli/Palestinian Co-Laboratory of democracy, conducted in July of 2010, focusing on the Israeli-Palestinian coexistence (http://www.actbeyondborders.net/). The design and development frame applied is a balanced combination of idealism and pragmatism. It deliberately transcends the traditional inductive and deductive logics that have been historically used by diplomats and scholars in inquiries about complex situations, such as the Israeli-Palestinian coexistence. Neither of these two types of logic will work for creating the Israeli-Palestinian future of co-existence. We need to apply the retroductive logic, invented by Charles Saunders Peirce, the American philosopher of pragmatism. Peirce proposes that retroductive reasoning can and must operate over and above induction and deduction to "open up new ground" in processes of theorizing. All three types of logic are espoused and practiced by the science of Dialogic Design (See: http://dialogicdesignscience.wikispaces.com/). Similar logical fallacies have been applied in addressing the designing of other social systems, such as creating the future of education. In order to avoid these logical fallacies and open new ground for theorizing, the same type of retroductive reasoning framework presented was applied in ten Co-Laboratories engaging Michigan stakeholders in visioning desirable educational futures for their students. These Co-Laboratories enable the stakeholders to transcend the extrapolation of the current situation and to create desirable futures by focusing their dialogue on carefully framed triggering questions, such as: "What do you think Michigan teachers and schools ought to do for all students to learn math?" In response to the triggering question the Michigan stakeholders proposed seventy vision requirements. Having completed the idealization of a desirable future in Co-Laboratory I, the Michigan stakeholders were focused in Co-laboratory II in discovering the barriers that they must overcome in an effort to approximate the "Tree of Vision." They were asked to focus their structured dialogue on the following triggering question:"What are barriers to what "ought to be done" for all students to learn math?" In response to the triggering question the stakeholders proposed sixty-three barriers. The participants constructed the "Wall of Barriers." This work corresponds to the pragmatic component of the "retroductive framework," and more specifically to "what can be done." By engaging the stakeholders in "what ought to be done,"

prior to engaging them in the dialogue about "what can be done," we minimize the plausibility of having "the can be done implying the ought to be done." The retroductive logic of the idealization helps the participants in closing the planning gap, and as a consequence to transcend the perpetuation of the present. In Co-Laboratory III, which was implemented virtually employing the wiki platform (see for example www.mimi2010.wikispaces.com), the stakeholders focused on "what will be done" by means of the triggering question: "WHAT are action options which, if adopted and implemented, will overcome barriers and help us align initiatives to sustain the ideal model for learning mathematics by ALL students?" The participants responded virtually to the triggering question from different places at different times, and proposed twenty-three action options. The participants applied the science of Dialogic Design to explore the affinity and influence relationships among the proposed action options. They finally converged on an Action Agenda, founded on the subset of actions with the maximum leverage in terms of tearing down the "Wall of Barriers" and approximating the "Tree of Vision.". This plenary session will start with a presentation of an Israeli/Palestinian Co-Laboratory of democracy, conducted in July of 2010, focusing on the Israeli-Palestinian coexistence (http://www.actbeyondborders.net/). The design and development frame applied is a balanced combination of idealism and pragmatism. It deliberately transcends the traditional inductive and deductive logics that have been historically used by diplomats and scholars in inquiries about complex situations, such as the Israeli-Palestinian coexistence. Neither of these two types of logic will work for creating the Israeli-Palestinian future of co-existence. We need to apply the retroductive logic, invented by Charles Saunders Peirce, the American philosopher of pragmatism. Peirce proposes that retroductive reasoning can and must operate over and above induction and deduction to "open up new ground" in processes of theorizing. All three types of logic are espoused and practiced by the science of Dialogic Design (See: http://dialogicdesignscience.wikispaces.com/). Similar logical fallacies have been applied in addressing the designing of other social systems, such as creating the future of education. In order to avoid these logical fallacies and open new ground for theorizing, the same type of retroductive reasoning framework presented was applied in ten Co-Laboratories engaging Michigan stakeholders in visioning desirable educational futures for their students. These Co-Laboratories enable the stakeholders to transcend the extrapolation of the current situation and to create desirable futures by focusing their dialogue on carefully framed triggering questions, such as: "What do you think Michigan teachers and schools ought to do for all students to learn math?" In response to the triggering question the Michigan stakeholders proposed seventy vision requirements. Having completed the idealization of a desirable future in Co-Laboratory I, the Michigan stakeholders were focused in Co-laboratory II in discovering the barriers that they must overcome in an effort to approximate the "Tree of Vision." They were asked to focus their structured dialogue on the following triggering question:"What are barriers to what "ought to be done" for all students to learn math?" In response to the triggering question the stakeholders proposed sixty-three barriers. The participants constructed the "Wall of Barriers." This work corresponds to the pragmatic component of the "retroductive framework," and more specifically to "what can be done." By engaging the stakeholders in "what ought to be done," prior to engaging them in the dialogue about "what can be done," we minimize the plausibility of having "the can be

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Keywords: Structured Dialogic Design, Co-Laboratory of democracy, Stakeholder, Decision Making, Consensus

KN-02

Moving Forward: Recollections of a Professional Systemist

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This contribution is an invitation not only to look, but to move forward. Even if we are looking at what has been achieved in the systems community, we should take the samples collected as an inspiration for our further moves. I am choosing to report on one systemic intervention: The case is about a systemic study that was crucial for saving a whole valley in Austria. The Austrian "Gasteinertal", one of the most beautiful valleys of the Alps, was threatened by a plan of building a high-speed railway transversal across the Alps. Leading through the Gastein Valley and opening a high speed connection along the north-south axis Salzburg - Villach, it would also open links towards Italy (Udine) and Slovenia (Ljubljana). This was a mandatory project, directly derived from the membership contracts of Austria with the European Union. It was clearly discernable that the project would not only entail strong immissions but also lead to incisive socio-economic and ecological impacts. Since the beginning of the planning phase, two camps of stakeholderes confronted each other im-placably. One group favoured an open (uncovered) and thereby inexpensive track layout. The second demanded a completely closed and therewith immission-minimal, however costly variant. There was an urgent need to resolve this conflict and eventually to move toward a consensus in order to reach a sustainable solution. This led to the initiation of a mediation process. The leaders of the mediation forum asked me to develop what they called "economic assessment", to serve as a foundation for the decision process. This study would have to help the forum in taking its final decision. The study was accomplished as a qualitative study followed by a quantitative analysis, synthesized in a System Dynamics model. The process of inquiry involved about 20 members of the mediation forum (local agents, members of the state, federal ministry, Austrian railways, etc.) and two external experts. The final recommendation of our study ended up being integrated into the official railway plan of the Austrian Ministry of Transport, Technology and Innovation. So much about this instance of complex systems modeling for sustainability, with tangible results and strong political impact. It illustrates that professional work based on a systemic framework can make a big difference for the better, and that is what should matter to us: We are here to change the world. Not at once, but step by step.

Keywords: Systemic Practice; Systems Analysis; System Study; Sustainability; Mediation Project; Socio-Economic System; Policy Design

KN-03

Professional Systemics in Urban Planning: The case of the University of A Coruna

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The need for a systemic approach has been accentuated due to the changes happening in the world in the last decades of the 20th century and the beginnings of the 21st, some of them, notably the current economic and financial crisis, quite virulent. The qualification of this crisis as "systemic" by analysts may be linked to the fact that the concepts of systemic thinking and systemic management are being adopted increasingly. But there is still a gap between the conceptual depth of some systemic methodologies, as for example Beer´s Organizational Cybernetics, and the need managers have for a structured facilitated process that can guide its application. The work that we present is aimed at showing an example of application of one of those systemic approaches, namely Organizational Cybernetics (OC) and the Viable System Model (VSM), at the top management level of a highly complex organization – a public University, specifically A Coruña University (UDC) situated in Galicia, Spain. A conceptual framework, based on OC, has been used (and still is being used) by the Vice-Rector of Infrastructures and Environmental Management of that University (also co-author of this contribution) to translate its visión of the University into strategic, tactical and operational policies and actions. The process of aplication of this conceptual frame work is structured in four main steps, which can be facilitated with the help of specialized software as VSMod® (www.vsmod.org). In the first step we identify the identity and purpose of the organization. In a second step we see how the organization faces its total environmental complexity (variety) by means of creating a vertical structure made up of sub-organizations, where each should be in charge of the different sub-environments of the entire context. In a third step we check that for each of those organizations (in which we have unfolded the initial organization) all the necessary and sufficient elements identified as such by OC and the VSM, are adequately represented. The fourth step entails checking the degree of coupling among all organizations, sub-organizations, etc., at all recursión levels, with respect to the coherence among their respectiveidentities and purposes. The case that we present here shows how the need to redesign the various University campuses can be used as an exceptional opportunity to produce a major impact, notonly within the University spaces, but also in the wider environment. The area of influence of the UDC, which includes the two cities of A Coruña and Ferrol and many villages and towns between them, configure an urban region of around 650.000 people and 60 KM

wide. This geographical area was unfolded (from the point of view of the UDC intervention) into six different levels, which correspond to different urban planning and architectural scales: L0/ the authonomous community of Galicia; L1/ the urban región A Coruña-Ferrol; L2/ the urban áreas of A Coruña and Ferrol; L3/ the cities of A Coruña and Ferrol; L4/ the campuses of the UDC; and L5/ the individual buildings / centres / facilities in each campus. At each level were identified: the purpose (framed by that of the UDC), the specific environment and the key factors relevant for the case (town-planning legislation, administrative structures, etc.). Also for each level we rededicided specificactions on pertinent issues as, among others: L0/ housing, L1/ accesibility-transportation and socio-economicdevelopment, L2/ mobility, L3/ relations with the city quarters, L4/ functional complexity, L5/ a reference on sustainability. We can summarize this university urban planning and desing intervention saying that the use of this systemic framework helped the UDC top management to the diagnosis, the design and the implementation of multiple actions at the different levels, while keeping always control of the degree of coherence of the key issues (purposes, actions, etc.) between all of them, and contributing also doing it to convert systemic theory into systemic practice.

Keywords: Systemic Practice, University Urban Planning, Sustainability, Organizational Cybernetics

KN-04

Professional systemics in action – The case of innovation of values, culture, ethics and norms

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Innovation of values, culture, ethics, and norms toward more/requisite holism is badly needed for the way out from the current crisis to be found and built, after humankind used to grow 3 (three) % per millennium until 1820, but 5500% over the recent two centuries; in last six decades world has seen growth of 2.5 times in number of population and 7 times in consumption of natural resources for production of – often unnecessary – products. Thus, humankind emits four million tons of CO2 an hour by burning fossil fuels, cuts down 1.500 hectares of woods, and puts 1,7 million tons of nitrogen by dunging with mineral manure in the soil, every one hour now; this is killing our the current civilization. The law of requisite holism should be applied instead of one-sidedness of so far, life cycle of needs should be considered, the urgent need for transition from the consuming to the saving society, shorter working time, bringing more creativity in life contents, social responsibility (without its limitation to charity), ethics of interdependence and sustainable future – for humans and economy to be healthy. New technologies enable solving of all current social and production problems, if humans decide to replace the habits of so far with the new ones. This depends on values, culture, ethics, and norms that must stop being so one-sided and become more systemic than so far. Success measures need innovation to be added to GDP and NYpc, and so do human habits. According to UNO and European Union, as well as associations of important enterprises, social responsibility means values, culture, ethics, and norms making the end of the owners' right to use and abuse their property, including dependent humans and nature. This is a next step after the owners have introduced the 'process owners' concept giving their employees the right to use with no right to abuse their work process and equipment. Wellbeing and hence improved efficiency, sufficiency, and happiness may result rather than a crucial destruction of human civilization. The Planet Earth can live without humans, but humans cannot live without a healthy nature. Humans can neither live on the basis of one-sidedness, which neither an imperfect market nor a government based on out-voting rather than reconciliation can overcome. This fact makes social responsibility a crucial precondition reaching far beyond charity toward the Law of Requisite Holism, thus the next socio-economic model. Social responsibility is an informal way of systemic behavior that enables inter-disciplinary cooperation of humans as beings and professionals, because their values, culture, ethics and norms enable them to be (requisitely) systemic. Thus, they make less crucial oversights and attain more efficiency and effectiveness, success and happiness. Knowledge alone cannot

provide the latter, because use of knowledge depends on values, culture, ethics and norms.

Keywords: 2008-crisis, innovation, sustainability, neo-liberalism, liberalism, affluent society, management, values, culture, ethics, norms

KN-05

A Systemic View of the Global Corporation: A Conceptualization, an Opinion

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There have been several great books prophesying future events. However, in a systemic conference, we need to begin by repeating the relativity of our existence; the known universe is measured in millions of light-years. This is a system infinitely larger of our conception. Therefore, in our micro-micro-micro-cosmos, in itself systemic, we need to accept some initial working hypotheses: (a) The framework of analysis is a function of the knowledge we posses at a specific time; it constantly evolves. (b) The quality of data is critical. Without data we can not draw conclusions. (c) Leaders' competence is questionable. Are the most competent persons chosen to lead? Thus, due to the leadership and its abilities, do we sub-optimize our potential? (d) Have we studied the trends that will shape the decades to come? Who are (truly) listening—nations or corporations? My intention is to focus on the role of the large global corporation: What it used to be before the industrial revolution, how it changes now and what will be its future. These considerations apply both to non- and to for-profit organizations. The important buildings, but also the wars, arts and technological discoveries, that past civilizations left us are forms of business activities that required vision, planning, means of production, goal organization and appropriate control procedures. The implementation force was human activity, quite often that of submissive slaves. After the industrial revolution, the engine and the corresponding use of energy, multiplied the productive entrepreneurial potential of human creativity. In this presentation, we visualize the before-and-after the industrial revolution business realities through two 'models' the first having at its center the people of power, the Pharaohs, the Kings and the Emperors, whereas the second focuses on the individual. At the same time the corporation is changing and becomes able to rapidly mutate in accordance to time and region-specific societal patterns. The basic generator of social change is person-driven social systems of philosophy, ethics, regulations, laws and justice. In essence, in our opinion, we are in front of a global village which unifies procedures and replaces the country-state authority by a corporate-driven reality. The proposed model is an optimistic perception of a future state that capitalizes on individual talents and deeper psychological constructs. However, the main thrust of this speech is the transitional period of the corporation, about a century long, starting at about the end of World War II. This transitional period, requiring re-formatting of the global socio-economic thought, touches many aspects of the existing ways, including abandonment of the (mostly European) 'model' of frugality; acceptance of a modified capitalist ideal and of harmonic symbiotic relations (concepts that originate in Far East); change of present status quo, reasoning of being, regulations and laws; capitalization of the IT potential, and so on. The bottom line

of this effort is the creation of an educational system that focuses on life-long learning, balanced development, proven values, self-actualization, and depth of ideas as well as the exact skills required for the tasks education is sought to satisfy.

Keywords: Systemic Global Corporation, Person-driven social systems, Global socio-economic thought

KN-06

Professional systemics in action: the case of 'Human Recourse Development in Turbulent Times'

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Today we live in 'turbulent times'. But didn't we ever ! Change is the norm and that appears to be the only constant ! (Great philosophers and great scholars repeatedly reminded us of this – Heraclitus, Einstein etc). Our organizations and jobs will never be the same. Over the years they developed to a very high degree of sophistication but that was usually done unidirectionally. Today we need to take a more holistic approach to the problems we face, to the problems that we ourselves created with narrow-mind-ness. There is no doubt that the current economic crisis is the result of an Ethics & Values crisis. Changes are mandatory and are caused by the global economy, on changing technology, on our changing work force, by cultural and demographic changes, and by the changing nature of work itself. To be successful in the current rapidly-changing world, we need to maximize the productivity of all of our resources: physical, financial, information, and human (HR). Maximising the 'Human Resource' is to constantly develop it to a higher level. We need to learn new skills and develop new abilities, to respond to the changes in our lives, our careers, and our organizations. We can deal with these systemically and constructively, using change for our competitive advantage and as opportunities for personal and organizational growth, or we can be overwhelmed by them. The goal of HRD is to improve the performance of our organizations by maximizing the efficiency & performance of our people. We are forced to develop our knowledge and skills, our actions and standards, our motivation, incentives, attitudes and work environment. This however can be most effectively implemented by adopting a systemic approach to the problems we face as every issue is not single-sided but is interrelated with a number of other issues. Successful HRD has been proven in practice to comprise of a set of systematic and planned activities designed by the organization to provide its members with the necessary skills to meet current and future job demands. Organisations that adopted a holistic approach to HRD, have provided their workforce with the thinking required to concur the difficult times we go through and thus perform to a level of work ethic and work performance that secures a sustainable future.

Keywords: HRD (Human Resource Development); Turbulent times; Holistic approach; Systemics in HRD; Crisis; Principles, Values, Ethics, Economic; Change.

PP-01

Professional Systemics in Healthcare Management: Building a viable partnership between Health-Care Professionals, Government Agencies and the Patient

Coordinator: **Dimitrios Varsos**
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An effective health care system requires the implementation of integrated systems intended to ensure public health protection, ensure adequately staffed and equipped health-care institutions, provide equal access for all patients to safe, efficient and cost-effective medication, improve patients' quality of life, ensure budgetary stability, promote efficient use of resources, and support domestic production of products and services associated with health care service delivery.

Traditionally, health care delivery is highly fragmented with little integration of health services across levels of care. Policies are defined and controlled within strict organizational boundaries, with minimum attention given to systemic interaction. Information relative to performance is generated functionally and processed locally as defined in standardized procedures, consistent with the requirements of mandated policies. Decisions are derived through analytical methods which involve the determination of the meaning and significance of what is studied in the context of a reductionist approach: reducing the whole into its constituent elements, understand each element separately and aggregating understanding of the elements into an understanding of the whole. Given the dynamic complexity of the health care system and the continual exchange of its parts, application of the reductionist method typically results in the loss of the essential properties of both the system studied and its parts. Hence, policies lack cohesion, and health care professionals, the ability to align activities to effectively achieve a sustained performance consistent with social needs.

By adapting a systemic approach to health care management, the key players will be able to cope with the increasing pressure on resource utilisation and to meet the challenges of orienting their approaches to be more customer-focused; to consolidate individual effort and embrace a team based approach within their policy boundaries; and to continuously improve on existing systems by making use of available technologies, while preparing for future challenges.

PP-02

Professional Systemics in Project Management: Stakeholders Management for Project Success

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Looking back in project success statistics published by various sources in the last two decades, the project success rates are not doing well. According to Standish Group, in 2009, 32% of the projects finished successfully, 24% of the projects failed and 44% of the projects faced major challenges (over time, over budget, less scope or less quality). Also KPMG states: "unclear/change of scope requirements" is the number one reason for project failures. This means that some ingredients are missing from the recipe of successful stakeholders' management.

Project Stakeholders play a key role in project success. Worldwide, project success and project failure is directly related to stakeholders' needs, requirements, expectations and perceptions of the value created by the product of the project. Also conflict in inevitable between project stakeholders. Project managers and team members must manage stakeholders effectively throughout the project life cycle for successful project delivery.

According to Project Management Body of Knowledge (PMBOK® Guide) Fourth Edition, Project Management Institute (PMI®), 2008, "Stakeholders are persons or organizations that are actively involved in the project, or whose interests may be positively or negatively affected by the performance or completion of the project!"

Stakeholder engagement, stakeholder management and stakeholder decision making is a continuous headache for the project management team. Most projects fail because of bad stakeholder management.

By adapting a systemic approach to Project Stakeholders Management:

- all interested parties will be easily identified
- project stakeholder management will become a more structured approach
- project stakeholder engagement will be a more smooth process
- stakeholder decision making will be more productive using Structured Dialogic Design (SDD)
- able to co-operate more efficiently, make

More specifically, a systemic approach to Project Stakeholders Management, is about advancing stakeholder engagement, stakeholder management and stakeholder decision making for improving project delivery results.

PRT

Managing complexity in e-business solutions

Coordinator: **Assistant Professor Kostas Kutsikos**
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This Professional Round Table will focus on the following key areas:

Infrastructure and new technologies, including Cloud Computing, software for e-business applications and high speed networks. Implemented applications will be presented and discussed.

Following the discussion, participants' questions will be addressed.

PRT-01

Building value-adding banking services: improving customer experience in a multi-channel environment

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Every financial institution utilizes a series of alternative channels to offer their customers self-service options and remote access to their products. ATMs, cash payment terminals, phone banking, web banking, mobile banking are channels offered by practically all banks and are used by the majority of the customers. Customers that use these channels are definitely more satisfied than customers that use the branches while the transaction cost is much lower giving banks the opportunity to reduce their operating expenses while reducing charges to their customers. What becomes a challenge for the banks is how to create new, added-value, multi-channel services which they will offer to their customers in order to improve their customer experience. Listening to the "voice of the customer", building a creative environment and having all eBusiness activities under the same organizational unit are the most important factors that allow for the creation of useful new services. Such an example is alerts, i.e. text messages and emails sent to customers when specific events occur on their financial products. Listening to the customers tells us that they need prepaid cards for their purchases on the web to overcome their fear to use a credit card or a debit card. Looking for new ways for customers to send money, it seems that ATMs are the best network to offer to the customers allowing them to withdraw small cash amounts without a card. When a bank owns all these networks, it should try to find more virtual goods to distribute through these networks. Intermediation for airtime top-up seems like a natural for a bank through all of its channels. At the same time, the local market situation reveals specific opportunities for banks, especially in the ever-changing payments arena. For example, when merchants don't offer electronic payments facilities, it shows an opportunity for a consolidated payments portal to allow all companies to accept payments by all consumers. Linking the internet portal with the cash payment terminals allows for building on the existing business development and multiplying the benefit for the bank. Eventually, all such services enhance the relationship of a bank with its customers and increases the value of such relationships.

PRT-02

Professional Systemics through Applied Visual Analytics

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In the last few years, two key factors have dramatically transformed the approach business analysts have towards data exploration and analysis as a practice for applying professional systemics:

- Available data volumes have exponentially increased, as they have been fed from additional, massive sources of new and complex information such as the search engines and social media environments, and
- Business analysts have introduced new systematic approaches to the process of decision making across the organization, emphasizing in questions such as "why" and "what next", as opposed to the simpler "what" and "who", answered by contemporary Business Intelligence tools.

This convergence of data and analysis is ushering in a new business analytics model that also redefines the functional specifications supporting tools must possess, so as to answer within split seconds questions that lead to mission critical decisions. Predictive Business Analytics, a term that eloquently describes this new paradigm, are largely based on the most recent advances in the Information Visualization and the Human-Computer Interaction areas.

Visual Interactive Analytics Platforms that have been recently introduced constitute a state-of-the-art framework that drives data exploration to a completely new level in terms of usability, accuracy and on time delivery of answers. In this paper we argue that the adoption and effective use of such platforms and methodologies in every aspect of modern management and leadership constitutes an indispensible tool in the hands of decision makers. Visual analytics tools greatly enhance forecasting and prediction capabilities, therefore allowing high rank executives to more effectively govern their complex organizations in a competitive and international environment.

Keywords: Visual Analytics, Information Representation, Applied Systemics

PRT-03

Implementation of eCommerce applications in Middle and Medium Size Companies

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During the last two years there is a rapid increase of eCommerce Applications in Small and Medium Size Companies (SMEs) worldwide but also in Greece. The main driving force is the growing size of eCommerce sales in comparison with other selling channels.

On the other hand IT suppliers provide at the same period a large number of integrated solutions in this market segment. More important is that relevant investments in these integrated solutions are very attractive for SMEs. By the term integrated solution is meant not only ecommerce solutions but also backbone systems like ERP, SCM & CRM.

Alexander Moore and myself have extensive experience in exactly these subjects by providing Ecommerce solutions in SMEs in Greece and recently abroad. Our portfolio of solutions include: Joomla (VirtueMart), SAP Business One and Goldmine CRM. It is important to notice that the period 1997-2009 I was a co owner of "Franchise Business Magazine" and www.franchise.gr that gives me the commercial perspective of relevant eCommerce Applications.

As a result we have acumulated significant experience and expertise in the implementation of eCommerce solutions in SMEs. There is also a deep understanding of critical success factors as well as obstacles that SMEs may face.

WS-01

Tools for Professional Systemics

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In this workshop we will demonstrate the following systemic software tools in the business context:

a) DCSYM structure modeling tool. This is a versatile structure modeling tool that utilizes DCSYM's graphical power

b) Vensim CLD Modeling software. The academic standard in CLD modeling can be applied to enhance understanding of complex feedback and archetypal systemic behaviors

c) Consideo SF Modeler. Created with the ability to model and simulate data from modern ERP this software can generate real time stack and flow simulations

d) MyStrategy Strategy Modeler. This software enhances strategy focused thinking and decision making

e) Anylogic SD, agent based and discreet event simulator. This integrated simulator is a powerful visual tool capable of simulating practically any aspect of contemporary business structures

f) Jped process modeler. This XPDL based process modeler can visually generate and optimize processes

WS-02

The application of structured dialogic design to conduct risk analysis of threats before project implementation

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The application of the science of dialogic design as a means to perform sensitivity analysis will be demonstrated in the context of two pan-European projects, and through a real-time application conducted as a mini workshop.

MobLang (www.moblang.eu) is an innovative foreign language teaching and learning tool aiming at delivering second language mini learning courses via mobile phones, funded by the Life Long Learning (KA2) program of the European Commission. It applies Mobile Assisted Language Learning (MALL) to support the following less frequently used and taught languages, therefore facilitating the closure of social gaps: Basque in the Basque country, Turkish and Greek in the separate parts of Cyprus, Albanian and Turkish in Greece, and Irish in Northern Ireland. The goal is to develop the mobile learning environment 'MobLang' embedded in a social and cultural context to teach basic phrases in several minority and/or less-frequently used and less-taught European languages with the aim to promote intercultural dialogue in the participating countries and regions. The consortium used the SDD process to perform sensitivity analysis to possible threats. In response to the Triggering Question "What are the obstacles that might prevent potential end-users using Moblang," the Consortium produced 47 possible obstacles/threats. The SDD process revealed greatest sensitivity to three.

The CARDIAC (www.cardiac-eu.org) project is a Coordination Action in R & D In Accessible and Assistive ICT funded by the EU's 7th Framework Program. One of the main objectives of the project is to generate a roadmap identifying issues in the area of Technology Transfer for Assistive and Accessible ICT's outlining mechanisms that will influence the success or failure of the process of bringing a product to market in the EU and ensuring the ongoing, long-term success of that product in a highly competitive global marketplace. At the onset of the project, the consortium decided to study the worse case scenarios to identify potential threats and risks in order to be able to take corrective measures in a timely manner. In response to the Triggering Question "In view of the three upcoming three SDDPs, what obstacles and threats do you anticipate that might compromise the quality of the outcomes," they came up with 23 potential treats. The SDD process revealed greatest sensitivity to five.

Following the presentation of the examples, the participants will be invited to participate in the exploration of threats of a virtual project implementation to discover the most sensitive parameters that need special attention, in order to avoid failure.

Participants to this workshop must pre-register in order to receive the essential reading materials.

WS-03

Towards a New Framework for Evaluating Systemic and Participative Methods

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This workshop will consist of 4 parts:

1. A PowerPoint overview of the proposed new framework for evaluating systemic and participative methods;

2. A general discussion of this presentation and the framework;

3. Small group structured discussions of the framework and the associated data collection and evaluation tools; and

4. Feedback and debriefing from the small breakout groups' discussions.

ABSTRACT

Systems practitioners often make significant claims for the value of their methodologies and methods. However, there have been few attempts at systematically evaluating across methods and across case studies undertaken by different practitioners. This is understandable because, in any given local intervention, contextual factors, the skills of the practitioner and the purposes being pursued by stakeholders are inevitably going to affect the perceived success or failure of a method. The use of standard metrics and even qualitative criteria for comparison can therefore be made problematic by the need to consider what is unique in each intervention. So is it possible to develop a single evaluation approach that can support both locally meaningful evaluations and longer-term comparisons between methods? This workshop discusses a framework for the evaluation of methods that seeks to do just this. An evaluation using the framework is primarily focused on the use of a particular method (or set of methods) in a context for particular purposes to achieve outcomes (although outcomes may be unintended as well as intended). The overall evaluation framework is based in the tradition of systemic action research. Research on the framework and associated data collection and evaluation tools is in its infancy, but pilot studies suggest that it is promising. Comparing across methods will ultimately require the development of a longer-term international research program. Over eighty systems practitioners from throughout the world have already signed up to participate in such a program, and this workshop serves as a further request for volunteers to test the evaluation framework and submit data for comparative analyses.

WS-04

Applied Cybernetics in Business and Governmental Institutions

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1. VSM Diagnosis & Design including Implementation using VSM interactive Software.
Diagnosing structural issues and limitations using the Viable System Model by Stafford Beer, based on the example of a major organizational restructuring project.
Demonstration of the entire project methodology and application at client level.

2.Sensitivity Model® Modeling the cybernetics of complex systems for sustainable control: How to visualize your system within its environment and keep real time control over all its essential key-variables. Examples of application is state institutions and businesses alike.

3. MSS–Sensimod® and Systemic Implementation Management
Introduction to the Malik SuperSyntegration® as state of the art participatory solutionfinding process in complex situations such as change management, profound structural changes, strategic repositioning, smooth post-merger integration, stabilization and turnaround management.
Explanation of the MSS concept and all of its key elements, including simultaneous application of cybernetic approaches in strategy, structure, modeling and effectiveness in management, using actual major projects in business and government institutions (e.g. cost-reduction or regional development challenges.

3.1. Focus also on the SensiMod® as decision-making basis for investments and systemic implementation management.

WS-05

Simplified system of transferring business plan in the day to day activities

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Our presentation describes a case study applied on Apivita S.A. company (Natural Cosmetics), on the basis of Norton & Kaplan Balanced Scorecard Model. The model of Norton & Kaplan is very well known. Here we present practical tools for a smooth materialization of the Business Plan into the day to day activities of the Organization.

System design: The Main structure of the system is as below:

- A steering committee with a general Project Manager is established. The Steering Committee is consisted from top management members.
- Business Plan is analyzed in Projects and Processes.
- Strategic objectives and metrics are applied in all four dimensions (perspectives) of the Strategy Map.
- Each strategic objective is connected with the projects and processes needed to achieve objectives.
- Criteria for strategic objectives, projects and processes prioritization are established.
- Projects and processes are evaluated against these criteria and the output is a priority list of objectives, projects and processes.
- Once the priority of projects and processes is established, the steering committee assigns projects and processes to the upper, middle and lower level managers. Action plans for each project and process are prepared.

Systematic monitoring evaluation: All strategic objectives are divided into the following 4 domains:

- One week of the month is dedicated to financial domain (perspective)
- One week is dedicated to customer relations sales and communication domain
- One week is dedicated to the internal process
- And the forth week is dedicated to Human Resource Management Organization Culture and Information Capital.

Project Monitoring: A system to follow up on a regular basis for the projects is established. Every project is controlled for:

- How each activity is finished on time.

- Is the project cost within scheduled limits.
- Are the identified risks well managed.
- What were the problems and were they fixed.
- Is there a successful quality assessment for the projects.

The above aspects are well examined and the reporting for this assessment is presented in a visualized manner.

Process Monitoring: A similar system is applied for the business processes as well. Are there quality deviations at every activity of the process? The processes are checked if:

- Are people related to the process properly trained.
- Do they have proposals for improvement.
- Are the process indicators met.
- Are there nonconformity findings.
- How they have been fixed.

Cultural change: Concerning the required cultural changes we were concentrated on two major aspects:

1. How we can transfer the organization from a functional to a process centric organization
2. How we can establish a project management oriented culture which treats the various improvement projects in a structured way, keeping the principles of Project Management apprenticeship.

Above efforts for cultural change were driven into action through the design of a specific project.

Finally the results of transferring Business Plan, into day to day activities projects were the following:

- Improvement of processes effectiveness
- Improvement of process centric and project management approach culture
- Improvement of financial results

Keywords: Cultural change, Business Planning model, Process Evaluation, Project monitoring

WS-06

Applied Cybernetics in Business and Governmental A Systemic approach to the development and implementation of a Management System in Johnson & Johnson Medical Products Greece

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Johnson & Johnson is a company of enduring strength. The company has been privileged to play a role in helping millions of people the world over be well and stay well through more than a century of change. The company credits its strength and endurance to a consistent approach to managing the business, and to the character of its people. The company is guided in everything it does by its Credo, a management document authored more than 60 years ago by Robert Wood Johnson, former chairman from 1932 to 1963, and by four strategic principles. The Credo is a deeply held set of values that have served as the strategic and moral compass for generations of Johnson & Johnson leaders and employees.

The company's more than 250 operating companies have a local window into emerging customer needs, scientific developments, and technologies throughout the world. It turns those insights into innovative new products and sometimes whole new businesses. It allows the company to transfer scientific breakthroughs, marketing insights and manufacturing expertise easily across the full range of the businesses.

Each of Johnson & Johnson's operating companies functions as its own small business. They are strongly entrepreneurial in character, and they know that their success depends on anticipating customers' needs and delivering meaningful, high-quality solutions. While the company's people operate in a small-company setting, they also have access to the know-how and resources of a Fortune 50 company.

Johnson and Johnson Medical Products Greece, (henceforth JJM Greece) is a professional umbrella Sales & Marketing Company, operating in the Greek healthcare market. JJM Greece serves the in-vivo medical device market by focusing on two primary customer segments: private and public hospitals (this group includes surgeons, physicians, nurses, hospital pharmacists, hospital purchasing departments), and trade customers (dealers and wholesalers).

This presentation will outline the Management System developed and implemented by JJM Greece. The Management System developed is the tangible expression of the company's implicit objectives as they relate to Quality Management: quality planning, personnel training, system audits, system reviews, operating procedures, and documentation. The System includes the basic product realization functions and reflects the requirements of all applicable

national and European regulatory and legal requirements, International Standards and Corporate Policy.

Through this initiative, JJM Greece has applied a systemic approach to identifying all processes required to ensure the company's capability to consistently meet customer requirements. Further, the company has defined the sequence and systemic interaction of these processes and has determined criteria and methods required to ensure their effective operation and control. Finally, through the Management System, JJM Greece ensures the availability of resources and information necessary to support the operation and monitoring of its processes.

Embodied in the Management System are two fundamental goals: (1) to achieve and sustain predictability in regard to service Quality that continuously meets customers' needs and contractual obligations, emphasizing a climate of defect prevention rather than defect detection, and (2) to augment management's confidence that the desired level of Quality is realized and maintained. This was accomplished by defining the interrelationships between the various elements of the System and place the elements in a context that reflects the company's commitment to Quality. The various elements that comprise the Management System illustrate a coordinated effort, and a systemic quality plan.

Through the implementation of the Management System, the company has been able to continually challenge existing paradigms and continuously seek "a better way to do things". Where innovative approaches are identified they were studied and where possible embedded in existing processes.

The system's performance against planned objectives is continuously monitored through the company dashboard which has been structured to reflect key performance indicators that are compared against targets, historical data, and benchmarks. The company's dashboard has been cascaded to all functions, departments and individuals.

Implementation of the Management System has encouraged the individuals involved with operational processes to better understand customer requirements, define the processes that contribute to the achievement of services that consistently meet customer needs and maintain these processes under control. The Management System provides the framework for continual improvement and an effective means through which to enhance customer loyalty and the satisfaction of all interested parties.

Keywords: Systems Thinking, Management System, Process Control, Key Performance Indicators, Dashboards.

Extended Abstracts

EA-01.01

The advantages of the systemic approach implementation in public administration: The case of Greek Protected Areas management

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EXTENDED ABSTRACT

Greece has more than 300 protected areas whose protection and appropriate use can provide a perspective of Sustainable Development for local communities. The natural and cultural heritage of the country may be the basis of various business and development activities which can strengthen the social cohesion and the local economy in the context of the, so called, 'green' development. Recently, 27 Management Agencies operate in selected Protected Areas in Greece which belong to the European ecological network Natura 2000. Under the current laws, their main responsibility is the conservation and development of local biodiversity in order to achieve Sustainable local Development. These specific management Organizations implement a large number of projects and environmental management and development actions, mainly based on European funding. Only few months have passed since, the newly established Ministry of Environment, Energy and Climate Change has activated a Commission called "Nature" and set its new leaders in the Boards of the Management Agencies. The leaders, in their turn, have undertaken the task of protection, enhancement and development of protected areas in cooperation with the appropriate local and regional public organisations and other social partners. The management of protected areas does not take place in a social "vacuum". The effective and efficient management of the Protected Areas depends on many factors which affect the dynamics and evolution of the natural ecosystems, while, at the same time, the number of directly and indirectly involved natural and legal persons is extremely high. The following Figure 1 indicates the relationships that can be developed between a Management Agency and its various social partners affected by the implementation of its operational programs.

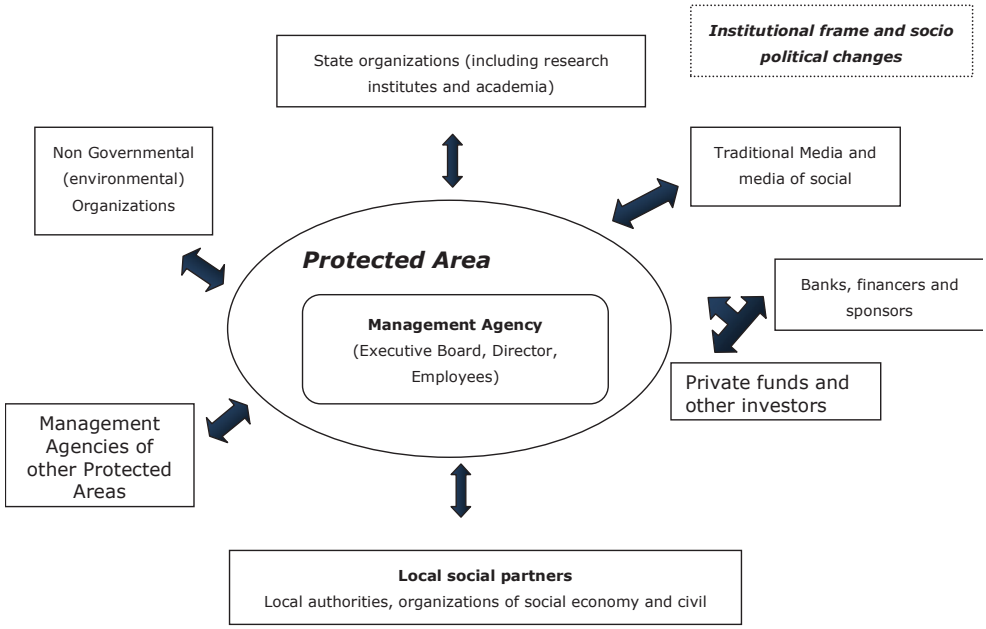

Figure 1
The frame of major social partners involved in the planning and implementation of the Protected Areas' management actions

The prevalence of mechanistic thinking in management is the main cause of inability to manage complex situations which involve issues of sharing power. Through the systemic approach we have the opportunity to manage these issues effectively and efficiently. The proposed paper presents, at first, the current situation of the Protected Areas management in Greece, as this is reflected in the findings of an empirical investigation involving officers from three different levels of government, who have the authority and responsibility to deliver the national nature conservation policies (Municipalities, Prefectural Government and the Regions). Later on, there are also presented the advantages and benefits of the systemic approach implementation in public management aiming to the Sustainable development of the Protected Areas. Studying the active area of Protected Areas management in the Greek region it is revealed that it is an active area of the, so called, third wave of systemic thinking which is characterized by high complexity, necessity of cognitive convergence and issues of power distribution. Acting as systemic researchers, due to the nature of this specific active area, this work proposes the implementation of the systemic approach for the design of appropriate systemic interventions which, under specific conditions, can contribute to the Sustainable local development of the Protected Areas. As part of this paper there are concepts which are also discussed and analyzed including: the limit, the active area, the ontology, the transformation, the group intervention, the systemic intervention and the system and their specific application for the effective management of Protected Areas.

Keywords: Systemic researcher, Systemic intervention, Active area, Systemic transformation, Protected Areas, Sustainable Development

EA-01.02

Site Suitability Index estimation with the use of MACBETH method for Municipal Solid Waste Landfill siting

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EXTENDED ABSTRACT

The regulations and the public opposition concerning Municipal Solid Waste (MSW) landfill siting make the task of finding suitable areas in conformance with the specified constraints very difficult. In particular, the NIMBY (Not In My Back Yard) phenomenon, namely the citizens refusal to allow MSW landfill siting near residential areas, can lead to an inappropriate site which have negative political, economical and social impacts. Consequently, the spatial nature of the problem demands the use of Geographic Information Systems (GIS) for the support of Site Suitability analyses and their integration with Multiple Criteria Decision Analysis Methods. The MultiCriteria Spatial Decision Support Systems (MC-SDSS) are the outcome of the above synergy contributing to the evaluation and ranking of the alternatives, which satisfy the analysis goals, according to the decision makers' preferences. In this work, we propose the implementation of the MACBETH multicriteria method (Measuring Attractiveness by a Categorical Based Evaluation TecHnique) for estimating the Site Suitability Index for locating an MSW landfill in Thrace area.

Keywords: MultiCriteria Spatial Decision Support Systems (MC-SDSS), Site Suitability Analysis, MACBETH, Geographical Information Systems (GIS)

EA-01.03

e-Participation: The e-Deliberation System of Greece

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EXTENDED ABSTRACT

According to existing literature there are many barriers for adoption of e-government services by citizens in their daily lives. Among several barriers is pointed the lack of trust by the citizens, confidence, the unwillingness of citizens to use e-Gov services which lies on security and privacy of information systems, protection of citizen privacy, the citizen's income, access to the internet, and the saving of time by the citizens. Also, the adoption of e-Gov services depends on various factors, among them, the ease of use, the experience of user, accessibility, and the civic engagement. In most countries there are many disadvantaged groups, who are much less likely to use e-Gov services. These disadvantaged groups make very little use of personal computer. In designing and producing e-Gov services, there are different perspectives, some researchers give priority to what the citizens want. Others are trying to locate problems and overcome them in the use of e-Gov services and how e-Gov services can become friendlier to the user, especially when services provided via the Internet. The e-government services should be designed with having the user/citizen in the center, or in other words, services should facilitate the use and supply of content. Questions as the following must be given answers even by designers, politicians, decision makers as well by the citizens, before e-Gov services have been produced. Have e-Gov services been designed aiming at the citizen and his needs? To what extent are e-Gov services accessible, available, affordable and easy to use by all the subgroups of population? In this article the e-deliberation system of Greece is presented. A description of the interface of the system is taken place and an attempt of evaluation using the heuristic evaluation method is accomplished. One of the barriers of the adoption of e-government services, the "ease of use" is examined. The following scenario is examined "The submission of comments by the citizen by using the e-deliberation website". The ease of use of the system is tested as well as if the Neilsen's heuristics are followed. Also, is examined if the system is user friendly and whether is addressed to all citizens or only to qualified users? the instructions of the system are clear? Is there system error tolerance? and are specific design standards followed? Furthermore, is examined, whether e-deliberation service is provided by equivalent means of use for all citizens and if the system's state visible to all citizens? The citizens are informed about what is happening through feedback? Is the system understandable?

This evaluation takes place in order usability problems to be identified and taken in consideration at the stage of the site's redesign, in an effort to overcome one of the barriers of the adoption of e-government services, which is the ease of use.

Keywords: e-Deliberation system, e-Participation, e-Government services, ease of use

EA-02.01

Systemic approaches in the urban planning. A necessary synergy for the Greek cities.

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EXTENDED ABSTRACT

The purpose of this paper is to show why urban planning, applied systemic approaches and complex, dynamic, methodologies, like VSMod, are complementary. In urban planning cannot ignore the relationship between city and environment, the urban management of local organization/ authorities, each areas specifications and buildings functions, architectural qualities, economic issues. For this reason Viable Systemic Modeling in the urban planning (urban system/ city in focus) is based on a idea - capturing the underlying characteristics of viable complex urban systems, local organizations and cities, by means of modeling, simulation and evaluation, in order to enable designing sustainable urban policies and urban plans. The VSM specifies the necessary and sufficied structural and functional synergies for the viability of local organizations, cities and urban planning. In planning, the functional reorganization of the cities we must consider the quality of urban environment, but also of each interior place and building. The set of the urban planning functions and their interrelationships identified and formalized in the VSM are as the follows: System 1 (adaptation to their environment, optimization of ongoing activities), System 2 (coordinate planning functions via information and communication), System 3 (providing for synergies, operative management), monitoring ativities), System 4 (viable – sustainable development function, modeling of the local authorities organization in its environment), System 5 (balancing the interactions, embodiment of rules and norms, creating "metasystems"). Another significant aspect discussed in this paper is the available technical and information infrastructure and Internet based meta- tools for urban planning, especially, for the Greek cities. VSMod can create a digital urban structure, navigate through it, get access through Intrnet to other complementary tools, links to web sites with preliminary studies, researches, historical, architectural and topographical surveys, new methodologies of interventions and permanent data banks for all the historic cities areas. Many are the Greek cities with Urban Areas rich in physical, social and cultural spaces and with special historical areas with natural beauty and primary cultural infrastructure for environmental cultural and health tourism and viable local development. The Greek Cities and many Urban Areas can be development in sustainable and ecological local centres, especially become centres for culture, health, serenity and recreation for all ages and for most of the months of the year. Also many of the Greek cities presenting serious social- economic, environmental and cultural problems. In this case, the viable city planning and

the sustainable urban development projects constitute the main concern of the VSM methodologies which should assure sustainable balance between economic development and the protection of the natural and cultural resources of the all urban areas of Greece cities. The applied systemic approaches and complex, dynamic, methodologies, like VSMod for modeling and diagnosing in the urban organization and urban development sector, can help in the preservation of the natural and cultural environment and for the sustainable planning of infrastructure of buildings, transports, hotels, cultural and other cities facilities. In comparison with other planning methods in Europe cities the VSMod could guarantee good results but requires new investigations and evaluations. Finally, the viable systemic approaches offers - to promote the concept of a living "digital- smart city" in terms of environmental, cultural, economic and technological interests - can be used to guide the urban planning for viability of new local authorities and organizations or to diagnose the extent in which actual local organizations meet the sustainable requirements of the new Greek city.

Keywords: VSMod approaches and methodologies in urban development sector and in urban planning, viable systemic dynamics, local authorities and organizations, local planning, Greek Cities, Greek General Urban Plans.

EA-02.02

Systemic interventions in public sector

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EXTENDED ABSTRACT

RFID technology can be customized in the areas of e-Government in local communities. The local government has the opportunity to customize their applications to RFID data needs identification at the central control of personnel, vehicles of the local government body, citizens' access to services offered to them in the media and participation events in the local community. RFID technology can change the way things are done in the vote on the issues of the neighborhood, on checking the arrival and departure of personnel of the municipality, managing the situation of people who face daily risks associated with health , managing the need for questions at the end of information One stop - shop jacks e-gov on neighborhoods. An implemented systematic approach to the influence of configuration of RFID technology issues e-gov in local communities, particularly in matters of Government to Citizens and Government to Civil Servants, should include qualitative and quantitative measurements. These measurements relate to the categorization of the population response criteria of the new RFID technology and can support a systematic government effort to adapt to the needs of local communities. The central demand of this presentation is regarding the possibility of the organizational culture of local government, namely a municipality in the Northern suburbs of Athens, to use instrumentally the RFID technology and its applications in order a) to serve the specific needs of individuals b) to change their habits and c) to change the idea of how the administration of local communities. Our reasoning concerns the central assumption of the penetration of these technologies in government and certainly the electronic governance of local communities and the mutation of the attitudes of people towards innovation and the government itself. The results of our arguments are concerning the adaptation of RFID technology in the social reality of the local community especially through the attractors that will become specific opinion leaders in this technology. This presentation is part of the scientific discipline of the government's theory as discussed in the context of a synthesis of technology, public policy and sociology. In my opinion RFID technology is a technological revolution similar to that of the computer application or the invention of value of money so I think that a presentation that highlights the new data and simultaneously discover new proposals for a given local society is a small step to develop the theory. In short, I expect the presentation to alert the scientific community against the impact of this new technology which in my opinion will change the visual context in which we face things in governance and public administration and the management of the complexity of human societies.

Keywords: RFID technology, e-Government, public administration

EA-02.03

Performance Measurement to Manage Change: A systemic multi-methodology approach to Public Agencies in Greece

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EXTENDED ABSTRACT

The paper at hand begins taking into consideration how public agencies, which support policy reforms, can achieve strategy change by using strategy control procedures. Generally, there has been little assessment of whether and under which conditions performance measurement systems bring improvements in the public sector in Greece. The paper focuses on the methodological and practical factors on the use and usefulness of performance measurement systems to support strategic change and bring policy reforms in Greece. It emphasizes the methodological and practical insights of the integration of different systemic methodologies, (strategy cause mapping, system dynamics and VSM) to add value to the performance measurement content, process of the Greek context. Methodological and practical issues are explored for project management evaluation. The paper's working proposition is that the manner in which the performance measurement data is acquired (content), analyzed, interpreted, communicated and acted upon (process) in Greek performance measurement context may have an impact on organizational performance. The research hypothesis is that the use of different systemic methods can provide a number of benefits for performance measurement content, process and context. Moreover, the integration of those can provide a number of benefits for performance measurement, which cannot be achieved otherwise. The research methodology of the particular paper is case study. The case unit is a Directorate of a Ministry and will aim to explore how the use of multi systemic methods can be useful to support "the propositions" described above.

Keywords: Systemic Methods, Performance measurement, project management in public sector

EA-02.04

Simplifying Public Service Information Provision for Agricultural Enterprises: the Agroportal System

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EXTENDED ABSTRACT

Small and Medium Enterprises (SMEs) devote significant resources exclusively for finding information on public services. A great part of this information regards the informational phase, namely things that an SME should know before executing a particular public service. For example such information concerns the SME's eligibility to perform a service, the public authorities that are responsible for it or what kind of documents the SME should adduce so as to apply for it. The process of searching for and retrieving this knowledge, either performed by the SME or by an expert (e.g. accountant, lawyer) on the SME's behalf, costs in terms of time and money. In many cases, this process can be repeated several times throughout a year, due to change of laws and regulations or in need of clarifications. SMEs consider finding information on public services as one of the most important individual business constraint. The current period of information technology achievements but also financial crisis necessitates a different approach by public agencies for providing information to SMEs and especially lowering their administrative burdens, namely the costs incurred by businesses for collecting information so as to meet legal obligations. In this context, the scope of this paper is to facilitate SMEs in rural areas to perform the informational phase of public services. In particular, the main objective is to address public agencies' particular challenges, namely facilitating the identification of the public service an SME needs to perform, personalizing the information required and checking the eligibility of the SME for using the service. Thus, an existing pilot e-government portal, termed as "Agroportal" for the provision of governmental information and services for Greek agricultural SMEs through the Internet and/or mobile phones is extended. Specifically, Agroportal already provided a number of functionalities, such as online submission of forms/applications, downloading of official papers (e.g. official forms), alerts and information to mobile phones through Short Message Service. In this paper, an innovative information service for the Agroportal system is proposed for lowering the administrative burdens of agricultural SMEs. This service facilitates the informative stage of particular public services through online dialogues. Its design is based on the experience gained by the European project "Rural inclusion". Moreover, its implementation is supported by Internet technology and open source software.

Keywords: E-government, administrative burdens, SMEs, public agencies, web portal, agriculture, open source software

EA-03.01

Implementation of House Electrification Workflow using Joget and Sharepoint Server

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EXTENDED ABSTRACT

Every company or organization has workflows that guarantee, that everything works properly. A workflow consists of a sequence of connected steps. It is a depiction of a sequence of operations, declared as work of a person, a group of persons, an organization of staff, or one or more simple or complex mechanisms. However workflows must be designed so that every step is completed, taking into account the cost, the hours spent for its completion and the people and equipment available for each step. A good workflow is optimized, so that cost and time spent are reduced to a minimum. Workflow Management Systems allow people and organizations to automate, manage, and improve the processes that govern interpersonal coordination and collaboration. These systems have helped us model and test the efficiency of processes within the bounds of an organization. In addition the advancements of technology have helped us over the years implement these workflows (or parts of them) with the use of computers, where it can be applied. The aim of this paper is to describe and analyze the sub-processes of the house electrification process that are followed from the moment a resident applies for electric, up to the point the first electric bill is issued from the Public Power Company. There will also be a description of how all these sub-processes between the company's departments work to the successful completion of the process. Currently, most processes require the human element. However some can be substituted by computer software that will handle the operation, minimizing the cost and the time needed. The software used to demonstrate the modeling of the Workflow scenarios and how they can be implemented by a computer system are the Joget Workflow, an open-source management console and the Microsoft SharePoint Server. Examples of processes that can be substituted by a computer are the exchange of application forms, requests and mandates between the departments of the company or the approval of forms before forwarding them to the client, thus minimizing the time needed for the process to end.

Keywords: Workflow System, Sharepoint Server, Joget Workflow

EA-03.02

Use of Systemic Methodologies for the Design and the Implementation of the political department of a Provincial Court

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EXTENDED ABSTRACT

In this project we present a Systemic - Governmental approach of the operational processes of the Political department of a provincial Court. We wanted to examine a system in which we had access and therefore could get actual information. Due to the special characteristics of this public sector some of the information cannot be announced although it has been included in our study. Our approach could be expanded to other fields of the public sector since it locates the problem and shows what should be avoided and what should be implemented. Our approach might seem apparently simple, however it hides facts about problems of all kinds that business executives face and which are noticeable since they can prove to be detrimental in the end. We worked on the full record and the diagrammatic renderings of the management processes of the political department 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. Then, we monitored the sustainability of the public sector's system using Beer's Viability Systems Model (VSM). With the use of this model the governmental isomorphism is distinguished, as he used to say about the form of the model. We depicted the system 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. Finally, we made use of Anylogic systemic dynamic simulation software. This specific software has as its special feature the fact that it provides the user with the ability to combine several kinds of simulation within the same model. The project is structured in the following way:

- Presentation of the company 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 imrovements with DCSYM
- Benefits of study

Keywords: Systemic Methodologies, VSM Beer, DCSYM, Vensim, Anylogic

EA-03.03

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. 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 to the Calculation of Consumer Price 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 as well as lower cost of time spent and higher result accuracy. Consumer Price Index Calculation 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, Consumer Price Index, Index, Systemic Methodology, SWOT Analysis, Systemic Approach

EA-04.01

Systems Approach of an Article's Printing Process in a Newspaper

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EXTENDED ABSTRACT

Our effort tries to use systems approach to describe, analyze and model, using Joget, an open source workflow management system, the procedures an article follows, in order to get printed in a newspaper, starting from its conception and ending to its redaction, correction and incorporation into the newspaper's body. To begin with, we verbally describe the path an article must follow from the moment the reporter reaches to the conception of the idea and redacts the article, until the moment it is printed in the newspaper. This process is long, usually needs days to be terminated, and consists of many in-between stages, for example correction and montage stages. Moreover, we model the system of our procedure using DCSYM (Design & Control Systemic Methodology). This way we are able to understand better the way our system and its subsystems function, and how the communications are being held between them. This helps us to have a better view on our problem and makes it easier for us to spot the benefits we can offer to our procedure. Simultaneously with the representation of this subject, we present some of the circumstances modern companies have to encounter with, and also ways in which problems and especially productivity issues can be solved in great extent, by updating and enhancing their financial and corporate procedures. An effective way of achieving this is the use of modern workflow management systems. Through them, a company can model its procedures; allocate the right tasks to the appropriate co-workers; minimize errors and many other possibilities. After describing verbally the required procedures that must be followed in order the article to be printed in the newspaper, we model these procedures in the workflow management system, Joget, giving in this way a clearer and more "in practice" result of the enhancement a workflow can get, when it is thoroughly designed and illustrated through an appropriate tool. After giving some general information in regard of how the Joget tool can be operated and what are the benefits of its use, we set off with analyzing the method we used to model our procedure through this tool. Starting with our procedure designing, we analyze step by step the procedure, so as the reader understands not only the methods but also the reason of our every action. We present the participants and allocate the appropriate tasks to them in order our procedure to end up in success. We also define the exact job execution row, as well as the necessary check to ensure that everything is going according to plan. We should mention here that the tool we use is equipped with forms that users can choose so as the participants can accomplish the required tasks. These

forms are extremely flexible and user friendly. The form creator can adjust them in the needs of the procedure. Pictures, text boxes, radio buttons are only some of the possibilities this tool can offer, in order even the participants who are hardly familiar with computers to find it easy to use and interesting to explore. Some of these forms are also used in our procedure design and illustration. Last but not least, we execute the procedure using Joget's interface, presenting screenshots from our every step and finally we analyze the benefits this tool has to offer, using facts from our newly created procedure, and reach to some useful conclusions.

Keywords: Procedures, Analysis and Designing, Enhancement, Workflow, Management Systems, Methodology

EA-04.02

Systemic Analysis of the IT department of a building materials company

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EXTENDED ABSTRACT

The analysis of the IT department in a company specializing in building materials is presented in this paper. The structure of the department and the various control factors are taken into account for the purpose of proposing a viable and efficient solution to the problem at hand. The company uses a popular ERP Information System to cover its operational needs. The system's reporting mechanism is of paramount importance for the company, providing instant information on every aspect of the manufacturing process. Occurrences of faulty or incomplete reports are frequent and, in order to address the problem, the company introduced a new business process in which users fill out a form containing information about the error detected. The form is then checked by the IT department's Application Specialist in order to determine if the problem can be solved without developing new software. Finally, if the situation cannot be resolved by means available to the company, the request is forwarded for approval by the IT manager. The company contracts with external consultant companies to handle the development of new software as it does not employ in-house software development staff. The Change Request process, however, is itself flawed as it introduces new problems, most notably the lack of traceability. Records of requests and changes are not kept in an efficient way, increasing the volume of required paperwork and creating confusion concerning the already corrected reports. Moreover, there have been incidents in which multiple changes were approved for the same problem as well as erroneous reports that were ultimately not corrected due to wrong assessment of the request by the Application Specialist. The false positives lead to unnecessary costs as the company pays for unneeded changes, while the false negatives create additional workload to the IT department as the problem remains unsolved. The direct dependence of the process on the human factor transforms the Application Specialist into a single point of failure. In this paper we address the problem by focusing on the need to eliminate unnecessary software development costs and to minimize the rate of false positive and false negative issues while aiming to propose a scalable solution that will provide traceability to a large extent. We make use of Beer's VSM to discern the flow of communication between the various departments, while using DCSYM to capture the structure of the company and determine the forms of control, with an emphasis on the IT department. We suggest an additional level of report assessment through an automated checking mechanism and we model our proposal in Vensim through CLDs in order to test

the system's stability and break points. Finally, the results are combined with other systemic methodologies in order to reach the optimal solution.

Keywords: building materials company, reporting mechanism, request checking, traceability

EA-04.03

The complexity of modern systemic problems and the multi-archetype theory

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EXTENDED ABSTRACT

Are our actions predetermined or is it complete randomness that governs them? Though this question seems mostly philosophical it's an anchor to more down to earth decision making in various sectors both in micro and macro level as an economist would say. This paper seeks to see this question through the eyes of professional systemics and explore the world of archetypes. These patterns of behavior illuminate both distinctive and repetitive actions of a system internally and externally, patterns that dominate the correlations between different systems. The allocation and interpretation of the archetypes is not an easy task for any observer of these phenomena. Due to the complexity of a system the rules that regulate its existence create a mist that blocks the creation of a profound solution to any problem. The fusion of this high level complexity with the correlations between sectors like economy, politics and society escalate the impacts of random and constant problems. Why project Cybersyn failed? Is the prisoners' dilemma a real dilemma or is it pattern of behavior between collaborative and non-collaborative actions, just separate stages of the same characteristic behavior? A liberal market oriented economic-political system or a centrally planned and organized one? Though many have researched and given solutions from a single-aspect point of view for every one of the above questions very few have concentrated on the correlation of these different fields included in the nature of the phenomena. The main task of this paper is the illumination of all the aspects of the problems not through the classical single archetype interpretation of the current state but through the full investigation of the nature of a problem. The deliverables of this framework of acting are many not only for the stakeholder management in every major project but also for methodologies like Structured Dialogic Design (SDD).

Keywords: Archetype, multi-archetype, Cybersyn, VSM, SDD

EA-05.01

Lean Production and Competitiveness In Modern Firms

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EXTENDED ABSTRACT

Nowadays, the nature of competition has radically changed. The challenging global environment pushes firms and organizations to adapt their production system in order to establish a sustainable competitive advantage and improved competitiveness. The approach of lean production emphasizes on the value being created in a company and it is specifically based on an unceasing battle against waste, finding out methods that will diminish the unnecessary actions, inherent in the production system, that don't add any value to the final product.
The stages of a lean production implementation are the following:

- Identification of the elements that add value in the production system
- Identification of the value stream
- Flow of the processes
- Pull of the produced products/services
- Perfection of the process

The value is expressed in terms of a product or service and satisfies the customer needs at a specific price, at a specific time. The company is creating value and that is the reason for its existence. Criterion for measuring a process' efficiency is the value adding ratio, that is: $\frac{\text{value adding time}}{\text{total processing time}}$. After defining value, the necessary steps that create value have to be activated, in order to create flow. The lean production approach cannot be implemented in every company. A number of critical success factors are necessary for its successful implementation. The management is seeking methods to preserve the competitive advantage of the company, by cutting down costs, speeding up delivery times and improving quality as well. Reduced inputs, enhanced production system and outputs more close to customer needs, make lean production a powerful tool towards improving a firm's competitiveness. Lean production could be applied equally in every industry with profound effects either on firms and organizations or on human society effectiveness.

Keywords: Lean Production, Company Competitiveness, Competitive Advantage

EA-05.02

Developing a Step-by-Step Effectiveness Assessment Model for Customer-oriented Service Organizations

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EXTENDED ABSTRACT

Effectiveness involves more than simple efficiency. It is a fundamental driver for the successful course of an operational unit within a competitive environment in which either the liquidity of money in the market and the customers are considered to be scarce sources, or the New Public Management is citizen/customer and goal-oriented. In this context, we seek to identify the operational units that meet both the high or technically efficient and the perceived high quality or customer satisfaction criteria. We also aim to develop a road map for effectiveness attainment for every operational unit, without exclusion, as introduced by the Quality-adjusted Data Envelopment Analysis (Q-DEA) model put forth by Sherman and Zhu. In addition, we consider the feasibility of the results produced by the effectiveness assessment process in the short run. The target values of effectiveness attainment generally have limited managerial implications due to production constraints, available resources, and legal status. This paper develops a modified Quality-driven – Efficiency-adjusted DEA (QE-DEA) model to assess effectiveness and provide a step-by-step path for achieving high quality and high efficiency in every operational unit. The QE-DEA model introduces an algorithm, with geometrical and algebraic extensions, to the standard Q-DEA model in order to overcome the exclusion of the units that solely meet the high-efficiency criterion and are, thus, disqualified as effective benchmarks; the algorithm also helps to define the trade-off between perceived quality or customer/citizen satisfaction and efficiency. Consequently, the QE-DEA model has particular applicability to the effectiveness assessment of homogenous operational units in which the two dimensions of effectiveness are connected through an inverse relationship (e.g. bank branches, restaurant chain stores, one-stop-shops). The modified QE-DEA model relaxes the three-stage analysis incorporating DEA, algebraic formulas, and Context-dependent DEA. The novelty of the present paper is the determination of effective benchmarks, when a trade-off between the determinants of effectiveness appears, and the provision of a feasible roadmap for achieving effectiveness for every single disqualified service unit taking into account the short-term restructuring constraints applied to the sample operational units. The paper consists of two main sections. In the first, we analyze the modified QE-DEA model. In the second section, we apply this model

to a numerical example, using input and output data from the Citizen Service Centers.

Keywords: Data Envelopment Analysis (DEA); Context-dependent Data Envelopment Analysis; Effectiveness; Efficiency; Quality; Customer/Citizen Satisfaction

EA-05.03

Reengineering of the Process of a Call Center Using Systemic Methodologies

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EXTENDED ABSTRACT

The objective of this study is to provide a systemic approach to a problem identified in the operation of the call center of a company which provides public services concerning water and sewage treatment. The company runs a traditional "call room" in order to receive and respond to the incoming calls. Clients or citizens in general call to ask about their accounts, to complain, or, most importantly, to declare damages or leakages. The staff of the call room is also responsible for recording the calls related to damages or leakages and forwarding them to the appropriate technical department in order to be appropriately treated. Due to the increasing volume of the incoming calls and the lack of available staff, the company organized cooperation with a subcontractor which is a service bureau specialized in call center operations. The working model is simple: calls that are not answered after a defined period of time are redirected to the subcontractor which employs staff dedicated to that kind of calls. The current situation accentuates the problem which is the subject of this study. The staff of the company is not trained to serve people but due to years of working experience they are accustomed to forwarding technical issues to the proper department and even to communicate with their colleagues on a personal basis. On the contrary, the staff of the subcontractor is very good at serving people but they often fail to collect the proper technical information from the caller and forward the issue to the proper technical department. As a result, the clients calling the company do not experience an adequate and consistent level of service while the technical departments complain about the wrong or incomplete information they receive. In this study a set of systemic tools is used to identify the current situation and to propose a new working model by means of process reengineering. The boundaries of the whole system coincide with the boundaries of the problem spreading from the calling customer to the staff of the technical departments. The subsystems identified include the customers, the two types of staff and the technical departments. The relations between them and the information path are also identified and the whole situation is designed using the DCSYM methodology. The Total Systems Intervention (TSI) methodology is employed in order to define the characteristics of the whole system, to examine possible solutions and to propose the final reengineered working model. The proposed model takes into account the strengths and weaknesses of each type of staff. The tasks and the route of the information are reorganized in order to achieve a better result regarding both the customers and the technical

departments. According to the proposed model, the subcontractor's staff who are more properly trained to deal with clients are in charge of handling the caller while the company's staff are responsible for the processing of the technical issues. The proposed improvement is also designed using the DCSYM methodology and a simulation model is presented using the VENSIM simulation software.

Keywords: Systemics, Process Reengineering, DCSYM, TSI

EA-05.04

Supplies Management Process

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EXTENDED ABSTRACT

Nowadays, every Company constantly tries to be productive and ahead of the competition. In order to achieve this demanding goal it needs effective organization and structure. Applied processes that are designed for executing various tasks offer valuable assistance to the Company and are an asset for success. An applied process for managing supplies in a Company is a typical example. This paper focuses on the detailed description of the activities that constitute this process, as well as the design and implementation of it using the Workflow Management System Joget Workflow. The aim of this process is to ensure quality purchases, in accordance with the quality standards set by the company and to lower the overall cost for the Company. The activities that are completed during the process and the participants involved in them are specific, with each participant having predefined responsibilities. Initially, every employee who needs to order new goods for their work must fill the Purchase Application, describing the goods needed and stating the reasons for the purchase. The employee's supervisor is then in charge of approval or rejection of the request. In case of approval, the Company's Project Manager partially fills the Order Form, describing the goods and stating the cost range of the order as well as specifying weather the estimated cost of the order is high. The Company's Chief Operations Officer is the next person who has to approve the order or not. In case of an order with high estimated cost, The Chief Executive Officer is the last person to decide upon the execution of the order. In any case, the employee is notified of the decision by email. Following the approval from the above mentioned seniors of the Company, the Project Manager is now ready to conduct research about the order. When a reliable Supplier is found, the Order Form is filled completely and is posted to them. The Company's Treasurer is notified of the exact cost of the order. The Project Manager is then in charge of carrying out the Quantitative Acceptance of the goods and the applicant employee carries out the Qualitative acceptance. After the success of both activities, the process ends successfully with the payment of the order by the Treasurer. In order for the process to be successfully completed, every activity needs to be completed in time and in the order described. Sometimes, this is not easily achieved. Joget Workflow is a complete Workflow Management System that is form-based and can significantly help participants better understand and complete such processes. In this paper, the Supplies Management Process is designed and modeled with the use of this software. A form that captures user input is designed and associated with each activity of the process and every participant completes their assignment before the next receives theirs. Non-human participants such as system servers are

associated to plug-ins customized to complete the desired task. Finally, the System Administrator is able to trace every activity and user in the system and adjust various settings.

Keywords: process, approval, order, workflow, form

EA-06.01

General Linear Neutral Multi Delay Systems in Practice

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EXTENDED ABSTRACT

Recently, a new class of linear systems, namely the class of general neutral multi delay systems has been introduced. This class of systems appears to be of particular interest from both theoretical and practical point of view. The class is described by a set of difference/differential equations involving multiple dynamics and multi delays. It appears to be one of most general descriptions of dynamic time delay systems. Time delay systems are of great importance in describing complex and/or distributed processes where transition phenomena take place, distributed manufacturing systems, epidemic and biological systems, political and economic systems etc.. To demonstrate the applicability of the present wider class of general neutral linear multi delay systems two industrial applications are presented. The first is the process of a test case central heating system consisting of a boiler, a radiator, a heated area and the connecting piping network. The second application is a mobile robotic platform equipped with active and passive suspension systems. The passive absorbers (suspension) are two identical conventional spring-damper structures that connect the platform of the vehicle with the front and the rear wheel, respectively. The active vibration absorbers are two identical mass-spring-damper trios that utilize acceleration feedback with controlled delay and are placed on top of the vehicle's platform at the position of the front and the rear wheel, respectively. First, the platform is considered to carry a freely rotating pendulum approximating the movement of a liquid inside a tank that is attached to the platform. Second, the platform is considered to carry a robotic manipulator in contact to a vertical surface carrying out specific tasks (cutting, painting etc) depending directly from contact and friction force models. The system category appears to be quite promising in covering other process and manufacturing applications as well as epidemic, biological, economic and political systems. From the theoretical point of view the several important system theory issues remain to be answered, while the design of feedback controllers of the general linear neutral multi delay type, being essentially multi level systems, appears to be quite challenging. The contribution of the present paper consists in attracting the attention to the system category at hand as well as to address and formulate the main open system theory problems in the field.

Keywords: Systems Dynamics and Multilevel Feedback Systems

EA-06.02

Fault detection of Leontief's production model

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EXTENDED ABSTRACT

In modern economics the need of studying economic dynamics in a systemic manner is constantly increasing. Leontief's "production" or "input-output" model being one of the milestones of systemic economics. The input output model relates capital stock, demands and production output levels. In the literature several control theory tools have applied to analyze Leontief's dynamic model. In most results in the field are based on the assumption that the model parameters, e.g. the direct consumption coefficient matrix, the capital coefficient matrix, are known. In practice, the situation is completely different. In the present paper the case of an uncertain version of the Leontief's model is considered. For such a description the problem of estimating unknown variables appears to be of great importance. Toward this aim, and upon considering additive uncertainties, a full order adaptive linear observer will be applied as the fault detector where an estimation of the system's model is calculated. Finally a dynamic residual will be generated between the output of the system and the observer's output.

Keywords: Dynamic Leontief Systems; Model Uncertainties; Fault Detection

EA-06.03

Testing the existence of Environmental Kuznets Curve With the use of Panel Data models

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EXTENDED ABSTRACT

In this paper we examine the concept of an environmental Kuznets curve hypothesis in a critical way aiming to propose policies compatible with sustainable development. During the various economic development stages, income disparities first rise and then begin to fall. Degradation tends to be higher in many middle income countries in comparison to less developed countries. The EKC indicates an inverted U-shape relation between environmental degradation (pollution or deforestation) and per-capita income. Sulfur emissions and concentrations are one variable for which there is evidence that there is an inverted U-shape EKC. The EKC estimates for any dependent variable (e.g. SO2, NOX, deforestation, etc.) peak at income levels which are around the world mean income per capita. As expected, income is not normally distributed with a lot of countries below mean income per capita and thus skewed. As the majority of countries are below their estimated peak levels for air pollutants economic growth may not reduce air pollution or deforestation. This implies that estimating the left part of EKC is easier than estimating the right hand part. Thus, use of OLS is not likely to yield accurate estimates of the peak levels. In this paper, we make use of a new data set on sulfur emissions which allows us to create a much larger sample of countries over a longer period of time than used in previous sulfur EKC studies. The sample consists of 74 countries over a 31 year time period. As many economic relationships are dynamic in nature then panel data allows us to better understand the dynamics of adjustment when we have a lagged dependent variable among the explanatory variables. For this balanced panel database, we apply a number of econometric methods to estimate sulfur emissions' equations. Countries are heterogeneous with different stochastic regression coefficients. Our findings imply that the econometric technique adopted is really crucial in the extraction of turning points and the associated policy implications. Thus, if we allow for a dynamic adjustment in our model then we may see that we derive results quite different.

Keywords: Environmental Kuznets Curve; Panel Data; sulphur emissions

EA-06.04

Revolutionizing the Greek Real Estate Industry by reinventing the Information Flow

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EXTENDED ABSTRACT

The accessibility of relevant Information is a key success factor for every industry and every professional. For a real estate agent in the Western Hemisphere, information such as "houses on the market" is readily available through an MLS gateway (Multiple Listing Service). Yet previously, every time an MLS solution was introduced into the Greek Market a financial disaster ensued. Why was this so and why did many other "well established" solutions have a similar fate when introduced into a local real estate industry (or for that matter in another industry)? Based on the theory of transaction cost economics and our personal experience we believe the negative results had much to do with the relationship between culture, business dynamics (including evolved equilibriums) and the level of adaptation of a "proven" solution by a local industry. In contrast to the above failures, (after describing Greece's real estate industry dynamics and past abortive attempts) we describe the approach we have adapted over the past four years that led to a successful MLS-like solution in Greece. It is our hope that this paper will initiate a series of discussions related to local culture dynamics and "proven" solution adaptation which eventually may result to a framework for successfully adapting / introducing e-solutions to local markets.

Keywords: Business Specifications, System Customization, Information Flow, Culture, Process, Information Systems

EA-07.01

The Design and Control Systemic Methodology (DCSYM) applied to the case of the Company 'X', acting in the field of Medical Supplies and Commerce

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EXTENDED ABSTRACT

The paper in question presents the case of a business enterprise which appears malfunctions in one of its core activities; it further examines the steps which should be taken in order to re-establish the functioning of the problematic department. The paper begins with the description of the main structure of the enterprise and the current encountered problems. It goes on with the Design and Control Systemic Methodology (DCSYM) implementation, one of the most well-known professional systemic tools. Since the main applied tool is DCSYM, we cannot fail to give a brief term of the methodology. Therefore, in short, the Design and Control Systemic Methodology (DCSYM) comprises a systemic methodology with mathematical and conceptual understructures which enables effective multi- agent dialectic design processes as well as synchronous and asynchronous multi- agent conversations. The outputs of the DCSYM methodology are highly conceivable and comprehensive semantic diagrams with a consistent mathematical description that can be easily manipulated with the use of appropriate software. The DCSYM implementation will give prominence to the problems the enterprise under examination confronts; while at the same time the developed outcome will put forward the key points which need to be improved. In order to assess the DCSYM methodology and its effects, the paper sets forth some general elements and features of the observed company. At this point, we need to stress that the company in question is nominal and has been manufactured exclusively in respect of the conduct of this paper. Thoroughly, the paper refers to the business corporation 'X', established in 2007, which takes business action in the field of Medical Supplies and Commerce; both retail and wholesale. It consists of 15 persons in workforce and it is composed by the following departments; the Management Directorate, the Executive Administration Department, the Sales Department, the Department of Marketing, the Warehouse Management Division, the Finance Department and the Department of Technical Service. The main responsibility for the orders placed by the customers holds the Sales Department, while the Warehouse Management Division coordinates the orders coming from the suppliers in order to keep the Company's reserves in balance. The last few months there has been a remarkable shortage in communication between the two head units. This lack of communication has led to severe errors during the realization of the orders process. The main recipient of this failure is the Company's Warehouse as the latter appears either in surplus or in deficiency.

Keywords: Design and Control Systemic Methodology (DCSYM), problematic situation, re-establishment

EA-07.02

Professional Systemics in Agriculture Production Procedures

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EXTENDED ABSTRACT

This specific project deals with an agriculture company "Green Vegetables" which sales green products both to wholesalers and retail clients. The company is situated in a small town near Athens, Megara. It's consisted of four substantial members and other employees. Two of them are the proprietors. It has been founded since 1950 and is inherited from father to sons. It is a small company which wants to sustain it's competitive advantage and gain more in the future with. Hence the title of this thesis is "Professional Systemics in Agriculture Production Procedures". In this project the company is faced as a system and is depictured at DCSYM systemic tool which shows us exactly its position in its external environment. This means that DCSYM shows how the company works, how is organized, what are its' defects, who is the key person, how some changes can make it viable in the future. In the main domain of this project systemics tools as Viable System Model of Beer and Vensim are used. Viable system model is well applied in the enterprise and from the study becomes obvious that it is needed to build a knowledge base. This knowledge base will come out as a website in the internet (www.greenvegetables.gr). The crucial purpose of the website is that includes all the processes that are responsible for the products' quality in the enterprise. Systemics and Viable System Model emerged this need. Both the project and the website will be presented.

Keywords: Dcsym, Viable System Model, Vensim

EA-07.03

Systemic Analysis

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EXTENDED ABSTRACT

The main and utmost purpose of this abstract is to project the systemic approach of thinking and present the tools that it uses in order to achieve its goals, on real situations and enterprises, as well as their results and benefits. First goal is to show the profile of that enterprise we are going to get involved with. In the main project that enterprise is the trading company Alfa Gomma. It's a Greek subsidiary company, with the parent based in Italy. The products it trades are mostly elastic materials targeted for both households and factory/professional use. Next step in the project is to try and build its own structure. How is it, how it functions and how it reacts to the outer and inner environment. Following the DCSYM methodology of deployment, we describe all those features that define it, with the first step being the interview from its core members. That way we reach the important bulk of information and we have an early great overview of how it is structured. Afterwards, regarding all the information we've gathered up, we start to build the systems and sub-systems of the enterprise. Each one must have its own unique purpose in order to exist and its own unique interaction with the environment. Inside them, we then place the persons that have defining roles for each one of them and the communications that happen between them. Still, no such scheme can be considered complete without incorporating the element of control. Only then we are going to have an objective overview of the enterprise we describe and only then we can see the problems it has and the scope they affect. But this is just the one side of the coin. The effort to measure and to analyze all the quantifiable variables a business has, and what kind of role - negative or positive- they play for the company, is the other one. In order to succeed extracting a correct and powerful analysis of those variables we use the tool Vensim. With that too, we can define the dependencies each variable has, how it does affect the others and how crucial are certain decisions for any business. In that particular example we will find a way to measure the income and outcome of both the subsidiary and the parent company. Understanding these procedures we will try to see different scenarios and what are the margins for improvement, now and in the future. Ultimately, we are in position to present all our findings and conclude how beneficial our use of systemics were for the company. In how many and what events we provoked changes and how all these are applicable to other organizations with similar or not similar approaches. We evaluate the systemic approaches and we conclude with the impressions it had on the partners we had inside the company, during the development of the project.

Keywords: Systemic thinking, environment, communication, business chart, control.

EA-07.04

Case Study about E-commerce in Greece, online shop development with open source platform and systemic analysis of e-commerce department

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EXTENDED ABSTRACT

This project represents a case study about e-commerce and the various aspects it could take, depending on the business plans of the company. In the first chapter, an overview is given on the current state, regarding emarketplaces in Greece. While also, the evolution of e-commerce is presented, as written by journalists and academic sources.
The second chapter refers to the open-source platform called "magento", as well as, which open-source community supports it. Moreover, a technical analysis of the structure of the database and the framework is given.
The third and fourth chapters illustrate the manuals of the front-end (ptixiaki.brain-storm.gr) and the back-end (ptixiaki.brain-storm.gr/admin) respectively.
In the fifth chapter, a systemic analysis of e-commerce department implemented by using DCSYM and its adaption at the operational flow of the company. A cost-effective simulation model applied to the most popular new media by taking advantage of a systemic tool which is called "vensim".

Keywords: e-commerce, Magento, DCSYM systemic analysis, new media simulation

EA-08.01

An investigation of learning procedures in Greek firms and their implications for the competitiveness of these firms

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All human societies have relied upon knowledge and information which has been accepted as the main engine of production process. Many researchers have proved that the profitability and the competitiveness of firms depend on their ability to create and make the best use of knowledge. Specifically, it has been recognized that the identification of skills of the employees, their utilization and communication within the organization are some of the main keys in order to create a sustainable competitive advantage. Hence, a first objective of this study is to investigate a number of main dimensions related to the learning procedures of Greek organizations. The next goal is to identify whether these dimensions are associated with the size of researched firms. The data collection instrument that was used was the questionnaire which was developed following the basic guidelines of research methodology. The results of this study are useful for both managers and researchers as they provide insights into a group of dimensions that describe the learning procedures in Greek firms. Thereafter, a discussion follows that refers to the implications of the learning procedures for the competitiveness of researched firms.

Keywords: Learning Procedures; Questionnaire; Greek firms.

EA-08.02

Professional Systemic in Teaching Methodology in Greek Education

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EXTENDED ABSTRACT

The subject of this paper concentrates on the field of education and especially to the teaching methodology in Greek universities. This method refers to the course <<Database>> which is part of the undergraduate program in the department of informatics of the universities , due to the nature of the course the following software platforms that constitute the laboratory background of the course are examined:

ORACLE	MYSQL	VISIO

Furthermore focusing on the already existing system in the department of informatics seeking its enhancements, new methods and practices are used leading to the evolution of the learning process. Initially the following systemic methodologies are used:

- DCSYM
- VSM

With which the system environment is approached (department of informatics) followed up by suggested enhancements. To these suggestions the following are included:

i. The planning of detailed teaching charter regarding the intellectual
ii. Time based milestones of the course.

The enrichment of the teaching process exploiting the use of modern technology as:

Projectors	[DIADRASTIKOI] TABLES

The teaching process characterized as goal oriented owes to be programmed but also prepared in order to define these goals followed up by the preparation and organization of the activities and teaching material appropriately and in time. Computer programming is widely regarded as a tough but essential phase of the teaching process, that illuminates in a unique way the values and scientific nature of the teaching deliverables. Time is an important part of the nature, numbers, duration and the scale of orientation for the teaching-learning processes that cumulatively define in general the core of the project itself. Half-finished teachings are not result oriented, for that reason the necessity for programming the time sequence of the teaching-learning activities and their durations is

important. The evaluation is also a key part of the teaching activity; this process allows the collection of the available and necessary feedback data essential for the creation of a system adaptable to changes. Studies both in theoretical and practice level indicate the simple transmission of knowledge of the teaching material as inadequate method for the comprehension of ideas and meanings. In order to overcome this obstacle and reach true comprehension from the part of the students they should be in learning environments that encourage the dialog and research thinking. The main task of this paper is the visualization of the present situation in the field of education and the establishment of an innovative suggestion leading to key changes and enhancement of the present form of the system.

Keywords: Teaching, Computer Programming, Teaching Methodology, Evaluation, Database, System, Simulation Of System Processes, DCSYM, VSM, ORACLE, MYSQL, VISIO

EA-08.03

Social Networking Technologies in Synchronous and Asynchronous Education: Design and Implementation

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EXTENDED ABSTRACT

A key feature of the modern information society is the penetration of the Information and Communication Technologies (ICT) in our daily lives, leading to significant changes in how we work and live. The area of education could not remain unaffected, especially if we take into account the fact that modern pedagogical theories support collaboration between trainees and trainers. With the advent of social networks, the initial role of pathetic display and storage of information has been transformed into a participatory one. The modern way of life asks for the critical use of technologies that allow remote access to educational resources, making to compensate for the difficulties of a physical presence of education institutions. These needs can be met by synchronous and asynchronous learning technologies based on the principles of social networking. Web 2.0 technologies constitute a major part of these social networking tools. The available Web 2.0 tools in education cover the need for a more personalized education system, through the capabilities for participation, knowledge exchange and flow of ideas that they provide in the educational community. This paper focuses on the application of technologies of social networking, in particular Web 2.0, in higher education, presenting a new system, Unibook, which has been designed and implemented to provide synchronous and asynchronous learning. Currently, Unibook runs as a pilot project in a course in the Department of Informatics of a Greek University. Unibook provides:

- The potential for an online multimedia course with remote access from different terminals (PCs, mobile phones, PDAs) with advanced features.
- The recording of lectures and display on terminal (podcasting).
- A Blog aiming at communication and posting of announcements connected to the educational purpose.
- Cooperative sites (wikis) for joint development work.
- Tagging - Social Bookmarking for classification with semantic keywords.
- Automatic update to participants through various means.

In this paper, the technical characteristics of the Unibook are presented. The technological and operational innovations, as well as its competitive advantages over modern systems that provide similar services and finally, potential extensions and improvements are provided in detail.

Keywords: WEB 2.0, Synchronous And Asynchronous Education, Collaborative Learning, Social Networks

EA-08.04

Students' Attitudes Towards Mobile Learning

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EXTENDED ABSTRACT

Mobile Learning, commonly referred to as m-learning, is a form of e-learning that specifically employs wireless communications devices to deliver content and learning support. The provision of learning on wireless and mobile devices has emerged as an educational application from the technological advances in mobile computing and handheld devices (phones, Tablet PCs, iPods, smart phones, PDAs, etc.), intelligent user interfaces, context modeling, wireless communications and networking technologies, like WI-FI, Bluetooth, GPS, GSM, and GPRS. The mobile devices on the market today are potent portable computers with the calculating power that desktops had some years ago. They contain all the necessary programs in order to carry out a mobile learning application. Apart from their capabilities, the fact that they are widespread, leads us to believe that they can be the future of learning assistants. M-learning has been considered as the future of learning or as an integral part of any other form of educational process in the future. At present, the field of m-learning is still in a premature state and is attracting considerable research. The aim of this study is to investigate whether university students prefer the use of mobile learning instead of e-learning. The outcomes of the study will be compared with similar studies.

Keywords: mobile learning, e-learning, educational process

EA-09.01

A systemic approach to strategic planning in a European Medicines Organization

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EXTENDED ABSTRACT

There has been increasing recognition at European level that public agencies have to improve and modernize their services through the use of innovative tools and management techniques in order to satisfy the needs of citizens and society. As a result, there are now a number of European initiatives, involving the Member States of the European Union in issues related to public service improvement. The National Organization for Medicines (EOF) was established in 1983, with Act 1316, and is a public entity which operates under the responsibility of the Ministry of Health and Public Solidarity. EOF is responsible for the protection of public health and the promotion of the general well-being of the citizens. EOF contributes to the National Economy through its mandated scope, which is to evaluate and authorize new health related products, monitor the post-marketing quality, safety and efficacy of these products, monitor product manufacturing procedures, clinical studies and the marketing of products, in order to ensure compliance with good manufacturing, laboratory, and clinical practice, as well as with the existing legislation regarding the marketing, distribution, commercialization, and advertising of pharmaceutical products. Further, EOF develops and promotes medical and pharmaceutical research, and provides health professionals, Competent Authorities and the general public with reliable information as it relates to pharmaceutical (for human or veterinary use) and other health related products, in order to ensure their responsible use and provide an assessment of their cost-effectiveness. EOF operates in the European pharmaceutical framework, which is organized along an integrated strategy aimed at creating a unified pharmaceutical market intended to promote a high level of public health. The unified pharmaceutical market will benefit both patients, because they would have faster access to innovative medicines while enjoying a high level of safety of use, as well as the pharmaceutical industry which by investing in research and development of new products will gain a competitive advantage in terms of European integration. In order to fulfill its mandated scope both on a national as well as a European level, the Organization needs to create an environment in which its strategic objectives are balanced with its operational initiatives. This will be accomplished through the deployment of innovative management tools and sound methodologies / multi-methodologies which will allow the Organization to better manage the complexity associated with its core processes within its policy boundary. To this end, a systemic approach to managing the Organization's operating complexity is presented and a number of

tools are utilized through which strategic planning initiatives are explored. These tools include the Design & Control Systemic Methodology (DCSYM) platform, which depicts the interrelationships between the organizational units, and dynamic modeling software Vensim of Ventana Systems Inc. (Harvard, Massachusetts) though which relationships are explored and the impact of future decisions evaluated. Additionally, a graphical representation of the Organization's key processes are presented and studied for the purpose of discovering procedural disconnects and identifying systemic interaction which will lead to enhanced process control, resource optimization and system improvements. Through this approach, the emerging opportunities and failures within and across the Organization's functions were identified and explored. System disconnects were determined to be a result of ineffective communication channels, which resulted from a lack of systemic connectivity, as reflected in the Organizational processes' functional isolationism. Through this work a systemic approach is encouraged in addressing system coherence and strategic decisions are suggested and their impact evaluated both on the Organization's short as well as long term operational capability. These decisions will impact the Organization's ability to provide services which reflect a posture of excellence relative to its mandated scope.

Keywords: System Dynamics, Strategic Planning, National Organization for Medicines, Design and Control Systemic Methodology (DCSYM), Vensim

EA-09.02

Application of the Design and Control Systemic Methodology (DCSYM) in a Pharmaceutical Company in the Greek Market: A systemic approach to operational effectiveness

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EXTENDED ABSTRACT

In the course of an average business day, managers must make decisions which balance strategic priorities with operational necessities. Cohesion between long term objectives and operational effectiveness requires a systemic approach to decision making and an understanding of the interaction of the system's elements, relative to the environment with which the system continuously interacts. In this paper we apply the Design and Control Systemic Methodology (DCSYM) to a company in the Greek pharmaceutical market. Use of the DCSYM afforded a systemic view of the structural dynamics of the Company's organizational elements and a robust schematic representation of the various communication layers within the different organizational functions. Through the DCSYM, the interaction of the company's interdependent processes were identified, studied and ultimately controlled through targeted systemic intervention. The company's organizational structures were identified relative to process specific activities and their interdependence studied relative to their required work activity. The communication exchanges between the individual elements of the system were explored and the effectiveness of their informal procedures studied relative to their policy boundaries. System disconnects which led to ineffective operational activities were explored and their underling causes identified. Traditional paradigms were challenged in an attempt to understand the issues necessary in avoiding possible conflicts which arise from the system's processes and the emergent inter-organizational communication. Process oriented standard operating procedures were developed, controlling all activity associated with the company's key processes. The standard operating procedures define the manner in which the specific process elements (people, raw material / information, equipment, methods, and the environment) are controlled so as to promote process uniformity and an acceptable degree of confidence in process capability. A Quality Team was enacted to oversee the effective implementation and maintenance of the management system defined in standard operation procedures. The Quality Team is a formally structured group, composed of employees who are trained to identify study and solve quality-related issues and present their solutions to management in order to improve the performance of the company's management system. Through the Quality Team, the Company embraced a collective approach in ensuring system effectiveness, efficiency, continuity and integrity. Further, through the Quality Team the company identified and resolved process and/or procedural disconnects. Finally, team members were given the opportunity to broaden their knowledge relative to quality management and the forum to address technical issues pertaining to their processes.

Keywords: Design and Control Systemic Methodology, DCSYM, Management System, Standard Operating Procedures, Quality Team

EA-09.03

Professional Systemics in action: Registry of Patients with Primary Immunodeficiencies (PID) in Greece

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EXTENDED ABSTRACT

The purpose of the study is to demonstrate the application of the Design and Control Systemic Methodology (DCSYM) in the Registry of Patients with Primary Immunodeficiencies in Greece. The 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. Primary Immunodeficiency Diseases (PID) comprise a genetically heterogeneous group of disorders that affect distinct components of the innate and adaptive immune system. They are classified as rare diseases, but appear more often than we think and can appear during childhood, adolescence, or adulthood. Within this group of diseases, they have been identified more than 200 inherited conditions, mostly monogenic, predisposing individuals to infections, allergic or autoimmune manifestations and lymphohyperproliferation. The International Union of Immunological Societies has classified them in eight categories: 1. combined T-cell and B-cell immunodeficiencies, 2. predominantly antibody deficiencies, 3. other well-defined immunodeficiency syndromes, 4. diseases of immune dysregulation, 5. congenital defects of phagocyte number, function, or both, 6. defects in innate immunity, 7. autoinflammatory disorders, and 8. complement deficiencies. The suspicion about an immune deficiency should emerge in various clinical symptoms and signs that the clinician comes across, and should be able to identify. It is also important to

determine the time of onset of the disease. The earliest diagnosis is crucial in order to pursue the proper management or, where this is available, the etiological treatment of the disease and, subsequently, avoid the complications of severe infections and/or severe immune mediated diseases with organ failure. A delay in recognizing an immune dysfunction could be devastating for the patients. Patients' Registry is the tool for collecting clinical and epidemiological data so as to evaluate the requirements for successful medical management. The need for the Registry of PID-patients derives from the rarity of these diseases, the lack of knowledge for their existence and their biomedical importance in relation to other diseases, the development of new therapeutic approaches and the great impact in the lives of the patients, their families and the community. The Department of Immunology-Histocompatibility of "Aghia Sophia" Children's Hospital, being the only Paediatric Immunology Department in Greece, as a Specific Center & Referral Center for Primary Immunodeficiencies – Paediatric Immunology (http://www.paed-anosia.gr), began communicating with doctors and scientists around Greece regarding data collection from patients with Primary Immunodeficiencies in our country. Additionally, the aim is to aware not only doctors, but also people who work in the Health Section. This clinical research has the endorsement of the 1st Health Region of Attica Prefecture and is performed in collaboration with the 1st Department of Paediatrics, School of Medicine, University of Athens.

Keywords: Primary Immunodeficiencies (PID), Registry, Design And Control Systemic Methodology (DCSYM)

EA-10.01

Strategic planning for superior hotel performance

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EXTENDED ABSTRACT

The management literature strongly advocates strategic planning as the key to superior performance. Hospitality strategy researchers have also been investigating the existence of strategic grouping, in their quest for establishing the strategy-performance link in this industry. This article considers the empirical evidence of the published strategic planning-performance in the general and hospitality management literature. The overall aim of the article is to establish through the literature review weather a relationship between strategic planning and performance has been firmly established. While it is certainly intuitively appealing to claim that the adoption of strategic planning should improve performance, it must got in mind that, given the complexity of the contextual setting of organizations, it need not necessarily be the case. Attention is also given to the various methodologies employed by strategy researchers. A final objective is to provide direction for further research in strategic planning-performance arena, which forms a pivotal theme for this article.

Keywords: strategic management, business performance, hospitality industry, competitive advantage

EA-10.02

Research on the quality characteristics of tourism development on the island of Kos

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EXTENDED ABSTRACT

The field study that took place on the island of Kos was designed to capture the characteristics of the local tourism market from both the demand and supply side, in order to evaluate the quality of the offered tourism product, but also its sustainable tourism development potential. To this end, an appropriately structured questionnaire was used and addressed to a selected representative sample of key informants, which was considered to dispose a unique perspective on economic, tourism development, environment and tourism planning issues. The design of the questionnaire was intended to provide information directly related to the objectives of the research, concerning: (a) the perceptions of key informants for the tourism product offered in Kos island, (b) the evaluation of the resources and infrastructure of the island (i.e. the carrying capacity of the island), (c) the evaluation of the negative impacts of tourism development and the collection of proposals for future actions that could support the sustainable tourism development of the island. The executed research on key informants on the island of Kos, provided valuable information on the characteristics of the island's tourism product and on the views and perceptions of local citizens involved in the production process of this product.

Keywords: Kos Island Tourism Development, Qualitative Characteristics, Key Informants Analysis

EA-10.03

DCSYM in use in a Professional in a Professional Congress & Event Organizing Company

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EXTENDED ABSTRACT

In this project we will deal with the potential use of the DCSYM tool in a Professional Congress & Event Organizing Company. The company in question has successfully organized various national and international congresses and events with participation ranging from 200 to 3.000 delegates. It is one of the leading companies in its sector with innovation characterizing all of its activities. In order to fulfill the needs required, the company consists of the following six business units. The Financial Unit, the Human Resources Unit, the Professional Congress Organiser Unit, the Events Organiser Unit, the Creative Unit and the IT Unit. In this project we will focus on the structure of the Professional Congress Organiser Unit. This particular business unit operates with the below mentioned departments: the Registration Department, the Sponsorship Department, the Hospitality Department, the Contracting Department, the Scientific & Printed Materials Department, the Communication Department and the VIP Hospitality Department. Each of them has a unique and crucial role in "building" a successful conference. After all, in this industry, as in all the other sectors that deal with the provision of services, the detail is what makes the difference between success and failure of an event. Having said all the above, we realized that communication is of vital importance especially for a company that operates in the public relations sector. In this effort, the DCSYM tool was an invaluable and important contributor. By using this software we managed to depict the communication channels between the various departments that constitute the specific business unit. The diagram showed clearly that communication is efficient in general terms. As it can be seen, each department communicates not only with the others but also with the account managers who have the main responsibility of the projects. To be more specific, the account managers get in contact with all the departments in order to provide them with the general guidelines that should be followed according to the client's wishes. Subsequently, the departments interact regarding any issue that might arise during the preparation process. Nevertheless, even these communication channels present problems. The main problems seemed to be located in the communication of the account managers with the Scientific & Printed Materials Department and the Contracting Department. Having realized this, we came to the conclusion that the main cause of the issue was the lack of staff in the Contracting Department. If this wasn't the case the Account Managers would be immediately informed by the Contracting Department about any change that could affect the scientific program, and thus

avoid any confusion. For instance, if any change occurs in the conference halls and the Scientific & Printing Materials Department is not aware of this on time, the handout material will consist of mistakes and all attendees (VIP's and delegates) will be misinformed. In conclusion, we have to say that DCSYM has proven to be a very useful tool as it detects weaknesses and at the same time it retrieves, memorizes and presents information. However, we shouldn't overlook the fact that DCSYM only highlights the problem but it is the individual who has the main responsibility to develop a solution.

Keywords: DCSYM, software, Congress Organiser, communication, projects

EA-11.01

Integrated Environmental Management and Decision Support System

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EXTENDED ABSTRACT

Environmental information is available to managers through a broad range of methods and tools, from raw data provision to knowledge-based decision support systems. The design of 'environmental information systems' (EIS) to enhance the use of environmental information includes consideration of data formats, user interface, the nature of management questions, data characteristics such as variability, reliability and periodicity, and the management culture within which the EIS is intended for use. Current approaches in building environmental decision support systems (EDSS) for environmental problems tend to adopt a "systemic" approach. This kind of approach analyzes a problem in terms of all the knowledge, the data and the responsibilities it depends on. So, the proposed methodologies aim to be integrated in larger information systems by exploiting the fact that different stakeholders may manage information sources and resources that are relevant to problem solutions. This paper focuses on the requirement analysis and the design of a prototype software system devoted to support decision making by the stakeholders of the environmental advisory service.

Keywords: Environmental information systems; Software design; integrated environmental management; Multicriteria Analysis; Systemic

EA-11.02

On integrating non – destructive testing in life cycle assessment as tool for policy making in environmental management systems

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EXTENDED ABSTRACT

The incorporation of NDE considerations in the design stage simplifies life-cycle management and improves safety of a structure once it is in service. Among the plenitude of experimental methods of materials damage evaluation the non destructive techniques have an important role. The damage parameter D expresses the effective density of micro-cracks, cavities and any other internal defect existing in a material. In the NDT methods of ultrasounds, the ultrasonic waves“ propagation is prevented by the presence of these obstacles.

Keywords: Integration, Non – Destructive Testing, Life Cycle Assessment, Policy Making, Environmental Management Systems, Ultrasonic Testing

EA-11.03

Climate change and systemic change of business strategy

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EXTENDED ABSTRACT

Nearly all human societies and activities are sensitive to climate in some way or other. The world's climate is changing and will continue to change into the coming century at rates projected to be unprecedented in recent human history, and this change includes hotter temperatures, rising sea levels, changes in rainfall patterns, more severe droughts and floods, hurricanes and windstorms and new pathways for disease. Some researchers say that climate change could threaten the habitability of the planet. Many of the systems that is sensitive to current climate and likely to be sensitive to future changes. The risks associated with these changes are real and highly uncertain. Global warming is affecting every business, no matter what industry it is in. Companies face numerous climate-change risks - tough legislation, environmentally concerned consumers, resources matters and weather-related damage to physical assets. Climate change presents business risks that are different in kind because the impact is global, the problem is long-term, and the harm is irreversible, until now. Climate change is shaping up to be the biggest environmental strategy issue the business world has ever faced. The far reaching effects of climate change on business become clearer when you think about the different kinds of risk and how they could affect the value of a company. Some of these risks are: regulatory, supply chain, product and technology, reputational, litigation and physical. Because companies' exposure to each of these six aspects of climate risks differs greatly, it is essential to generate tailored climate risk profiles and strategies to minimize the risk. But the risks of climate change also offer new sources of competitive advantage. It is found that there are four key steps to recognize the opportunities from climate change. First, a firm should measure its contribution to global warming. Then assess climate-related risks and opportunities. Finally, reinvent the business - before rivals do - to minimize those risks and seize the opportunities. Reducing exposure to climate risk and creating new opportunities for profit are both important steps in building climate competitiveness. But if a company's competitors are doing these things better, this company is losing ground.

Keywords: climate change, change of business strategy

EA-11.04

Industrial Symbiosis Systems

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EXTENDED ABSTRACT

This project refers to the fields of industrial ecology and industrial symbiosis and examines how the traditional model of industrial activities could be transformed into an industrial ecosystem. In this new model the consumption of energy and materials is optimized, the production of wastes is reduced to a minimum level and the wastes of one procedure can be used as raw materials in other activities. In that way the companies interact, cooperate and create a network, by trading by-products and gaining significant benefits. This approach doesn't limit only in the production process, but also in the reuse and recycling of products. An important parameter is the change of the industrial system from the linear to the cyclical model. The classic linear model refers to the typical production process, where raw materials and energy are converted into products and also into by-products and wastes. In the cyclical model the materials are recycled and reused, living a limited environmental effect. The model will be analyzed with systemic tools through the presentation of the most successful example of industrial symbiosis in Kalundborg, Denmark. The network of the companies, the flow of materials and the whole operation of this system will be examined. The role of each company in the system will be highlighted, the stakeholders will be identified, the gradual evolution of the system will be analyzed and all the synergies between the companies will be presented. Ultimately the whole picture of the worldwide exemplar industrial ecosystem of Kalundborg will be revealed. The project deals with a complex theme that has high importance and contains a lot of systemic issues, since it concerns the creation of a sustainable development model in the industry and in the production process. This model increases the competitiveness of the companies involved and at the same time improves the quality of the environment. Significant conclusions for the possible implementation of industrial symbiosis in Greece and for the research of eco-industrial parks could be drawn through this project, as it follows the principles of industrial ecology and reveals the characteristics that companies must have in order to develop industrial symbiosis actions.

Keywords: industrial symbiosis, industrial ecology, Kalundborg, industrial systems.

EA-12.01

Financial Knowledge and Financial Behaviour in Small & Medium-Sized Enterprises: an exploratory study for Greece

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EXTENDED ABSTRACT

The current financial crisis and its devastating effects on small and medium sized enterprises (SMEs) has brought into the fore-front of the small & medium-sized business agenda the issue of their financial literacy and its association to better financial behaviour and successful outcomes. As a result, a number of empirical surveys have been undertaken particularly in the USA and the developing countries in order to investigate how individuals such as small business owners and managers alike can improve their financial skills and competences and in this way to enhance their financial decision-making and business practices. Despite the great interest in the field, very few of the initiated studies have come into a solid conclusion as regards the core factors of financial knowledge that affect most the financial behaviour of SMEs and in particular the small businesses. The reasons for this, it is mainly attributed to the fact that the research on financial literacy is relatively new and thus still in progress so that the results are mixed and incomplete. Further, only a handful of such studies have given special focus on medium to large sized firms and even fewer to SMEs sector as a whole. As a consequence, little is still known as regards the nature of SMEs financial literacy and what aspects of it actually work in the benefit of several elements of their financial behaviour. The challenge for the authors of this paper is to contribute to our understanding of the factors that help SMEs to perform in a more adequate financial manner. To this end we focused our interest on a convenient sample of 352 SMEs located in Greece and examined the role that financial knowledge or the lack of it might play in the decision-making and behaviour of SMEs. The objective was to investigate the perceived level of financial literacy among SMEs owners and managers or professionals employed by them by evaluating certain factors that are likely to affect their financial behaviour and might be associated with their financial knowledge. To our knowledge, the present research contribution is unique in the sense that there is no similar work in Greece, whilst at a global level only a few examples exist on the interpretation of the relationship between SMEs financial knowledge and financial behaviour. In order to attain our goal a structured questionnaire on-line survey was undertaken. Using a multivariate statistical analysis, our present findings, as expected, indicate that there is a positive correlation between SMEs financial knowledge and

financial behaviour for some of our selected variables. To our surprise, despite Greek SMEs satisfactory financial knowledge in certain areas, our results suggest that the majority of the respondents fail to capture gains in overall growth. This finding indicates the complex relation between respondents' financial knowledge and financial behaviour. More research is required to capture additional evidence in the field and in this way to inform better SMEs managers and policy makers.

Keywords: financial literacy; financial behaviour; small and medium-sized enterprises; Greece

EA-12.02

Strategic Planning and Decision Support in Small-Medium Wood Enterprises Using Database Technology

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EXTENDED ABSTRACT

Small-medium enterprises in wood sector deal with manufacture and management. In companies qualified as SMEs, the entrepreneur-owner is personally responsible for managing the activities of the firm without being an expert. Playing satisfactory enterprise management a vital role in the overall performance of a company, it is recognized the need for application of quality improvement tools and techniques such as database technology. A DataBase Management System (DBMS) is the collection of data, which contains information about the enterprise in various levels. Enterprises can use DBMS to plan and standardize their practices and increase overall efficiency in the company. The DBMS environment was designed in a specific way in order to follow some basic principles. These principles are: availability, reliability, scalability, manageability, secure and flexible solutions because acts as a systemic decision support system. The purpose of this paper is to explore how implementation of modern information technology tools, such as DBMS, simplifies SME management. The model was entirely developed with Microsoft Access 2007. Data collection was made straight from the entrepreneur's books, the clientele and the employee's archives. Firstly, it was created eight tables for data entries about statements, products, materials, providers, payment-delivery, customers, e-addresses and staff. Then, the relationships among them were defined. Finally, various queries were introduced regarding current management questions aiming to achieve fast and effective management. These queries were incorporated in the DBMS in forms with active buttons using macro-commands to achieve user-friendly structure and simple navigation through the DBMS for non-computer literate users. That DBMS design approach can be a useful tool while designing similar applications in SME in wood sector and also in various issues in primary and secondary production sector.

Keywords: DBMS, decision support, wood enterprise, database technology, strategic planning, SME management

EA-12.03

Systemic Strategy Approach of a Small Photo Equipment Enterprise during Economic Crisis

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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 (DCSYM & SAST), providing this way a scientific and productive tool in order to detect and solve organizational problems. Focus of this paper is to provide a comprehensive definition of business process reengineering using systemic methodologies and tools. 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, DCSYM, Small Enterprises, Economic Crisis

EA-12.04

Design Control Systemic Methodology (DSCYM) in a small firm (bakery)

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EXTENDED ABSTRACT

The purpose of the study is to apply the Design Control Systemic Methodology (DSCYM) in order to identify what caused a reduction in the market share of a small firm (bakery). The firm was established in 1964 and from 2004 was a cooperate scheme, divided into three functional departments; sales, production, and administration. The methodology focused on the potential conflict communications raised its employees' behavior and distinguished the changes in their behavior. In the meantime, the same time skepticism about future progress had appeared. A critical view created two insights one before and one after the systemic intervention. Firstly, by demonstrating DCSYM, the communication problems were depicted and deployed in diagrams. The archetype "success to succeful" was indentified. This was the generator of the communication problems in production department. An employee was highly recognized by the owner, who raised a "selfish" behavior. This behavior was encouraged by the owner (Divide et impera). Following diagrams analysis, an intervention was applied. Mainly the intervention focused on the relationship between sales and production. So, the firm resolved the communication conflicts between departments, and measured the effectiveness' of the intervention. Secondly, DCSYM showed that the firm should plan and depict a path according to the tendencies of consumer's new habits and the way the sales department should observe these tendencies and adjust accordingly. The consumer is getting more skeptical, more suspicious and definitely more informed. Hence, procedures such as neuromarketing, (neuro)applications and, in general, more powerful choice editing (for example more green development, programs of social responsibility, etc) were derived, which changed the operation of the sales department and the whole positioning of the firm, too.

Keywords: DSCYM, Archetype, Professional Systemics

EA-13.01

Decisive Prerequisites of Sustainable Development – Towards an Unified Systemic Approach

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EXTENDED ABSTRACT

Our aim – to develop unified approach to revealing common reasons of the rise of basic global instabilities and indicate possible ways towards sustainable development of global world treated as a cybernetic system. We propose an unified approach to analysis - economic, ecolo/energy and mental - of development via using the principle of requisite variety whereby deducing criterion of sustainable development of society

1. Socio-economic aspect

The criterion of sustainable economic development of an individual/society: I > E, here I – the wealth of the its inner world (the set of cultural/ethical qualities), E - the multitude of material, socio-economical, entertainmental benefits/conditions.

Proposing the pace of the development be proportional to D=(I-E) we derive a self-regulation cycle of the global economics and thereby derive two goals:

a) to acquire a possibility to control self-regulation cycle, by regulating the D-value,

b) to D > 0 – by permanent enrichment of inner world – via developing knowledge, culture, ethics - thus finally providing steady socioeconomic progress.

2. Ecologo-energetic aspect

A reliable way to sustainability - to increase the relative weight of nuclear energy, as production of the fossil-based energy leads to environment degradation. Special features of nuclear energy management leads to aggravated public perception of basic nuclear risks. Their basic feature– rather low general probability of nuclear accidents – due to permanently growing safety requirements and improvements – together with the heavy global character of such accidents with long-term harm consequences. As nowadays safety and environment quality are the basic human values, the public acceptance - a decisive factor in siting novel nuclear projects, thereby governing a forthcoming peaceful use of nuclear energy and finally – sustainable development of our world. As primary source of the internal variety growth - information and knowledge. Comprehensive knowledge management is needed in:

I) Technical issues:

a) nuclear energy safety, reliability,

b) extensive research programmes, advanced technologies,

c) multilateral cooperation;

II) Societal issues:

a) general nuclear awareness, personnel education, staff renascence,

b) risk management,

c) public education, stakeholder involvement in decision-making.

There is shown: public education, social learning and communication - efficient self-organization mechanisms, thereby forming knowledge-creating community.

3. Mental aspect

Sustainability also asks to develop qualitatively novel human values –in order to minimize the probabilities of conflicts at all levels of human activities. As a possible approach we propose to evolve the modern knowledge society towards a qualitatively higher civilization level centered on the humanity as the dominant value. A possible way to develop humane relations and to create a sane society - the knowledge civilization. Besides the efforts towards humane use of scientific progress, we develop a novel basis in the system of our views on the most valuable things of our world via adjusting the requisite variety principle to development novel insight to basic values.

4. Conclusion

Preferential growth of internal variety – mainly via advanced education, knowledge management, cultural and ethical development –is proposedly the basic factor of sustainable development of our world towards humanity, harmony and economic/ecologic/mental welfare.

Keywords: sustainability, development, unified, internal/external variety, inner world, knowledge

EA-13.02

Systemic Approaches in the "Sustainable Energy Management" Project: A holistic view

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EXTENDED ABSTRACT

During the last decades, the complex problem of sustainable energy management is of main concern by the Society. In this specific problem, many stakeholders are involved, like:

- owners of inexhaustible reserves of energy
- technical and scientific communities focused on the energy
- organisations involved in the transportation and the transformation of the energy
- policy makers of the energy management
- various energy consumers etc.

The problem could be addressed as the inability of the Society to manage the energy availability in the present and to the future, with the minimum environmental influence and through an economical way. The already known and used methodologies have failed to achieve the goal. The most important reason is the lack of success to recognize the energy system as a socio technical one, engaging in a collaborative way all the stakeholders of the problem. In the present work, the Project of "Sustainable Energy Management" is examined through the holistic approach and using a framework of systemic methodologies in order to specify the appropriate and commonly accepted interventions which could be applied for the successful solution of the problem. The Viable System Model (VSM) of Beer as a systemic methodology is used in the Project in collaboration with the Structured Dialogic Decision Method (SDDM). According to VSM the energy system is considered as a live organism and in order to be viable it has to maintain its separate existence in a continuously changed Environment. On the other hand the science of structured dialogic design requires that the organizers of dialogues will take into consideration only the commonly accepted solutions for the change of the management of the energy system and its environment. The VSM recognises the gaps in the structure and the operation of the energy system which affect the problem while the SDDM discovers solutions acceptable from all stakeholders for the solution of the problem. Based on the fore mentioned statements, the reasons which not allow the system to achieve the goal of sustainable energy management are recognized, prioritized and categorized. In parallel they are communicated to all the stakeholders of the problem which will be influenced by the change in energy management. The basic advantages of the proposed framework are:

1. the creation of a common perception for the existing problematic situation

2. the contribution of the common accepted decisions for the solution of the problem

Finally, in order the desired result which is the completion of the Project "Sustainable Energy Management" to be achieved various innovative policies and new interventions are proposed. These policies and interventions value the acceptance of all stakeholders of the problem.

Keywords: Energy Management, VSM, SDDM, stakeholders

EA-13.03

A system dynamics approach to the sustainable development of rural areas

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EXTENDED ABSTRACT

Rural areas are confronted with a broad range of changes varying from socioeconomic changes to changes in environmental conditions (depopulation, agricultural employment reduction, natural resources depletion). Sustainable development of rural areas is a multi-dimensional concept which integrates economic, social and environmental concerns and aims to achieve balance between those strongly connected entities and subsystems. The complexity of these interrelated subsystems and the often resulting conflicts between them lead to great difficulties in understanding and capturing the development processes in rural areas. For this reason there is a need to adopt a holistic and integrated approach within the development planning process that will identify linkages and interactions among the subsystems that operate in rural areas. The analysis of such interrelationships is rather complex involving numerous feedback loops making essential the use of new analytical tools, concepts, and methods to cope with such complexities, interactions and feedbacks over time. The objective of this paper is to outline the challenges of modeling and assessing spatially the complex economic, social and environmental interactions taking place in rural areas. This paper tries to establish a new approach to sustainable rural development by introducing a conceptual framework for the study of such linkages and interdependences. To do so a system dynamics model is developed to describe the complex interactions and feedbacks among economy, society and environment and analyse simultaneously the dynamic interrelationships between policies (scenarios/ decisions), that affect decisions of human agents (such as farmers) which in turn influence decisions on land use, farming systems, production of agricultural 'commodities' and 'non-commodities', regional economy, human resources (population, migration) etc. The conceptual model is then translated into a computer simulation model involving numerous parameters and feedback loops using STELLA simulation software, which offers a practical set of tools to visualize and communicate how the above complex systems and ideas really work over time and space. This model is applicated to a Greek rural region, Trikala Prefecture, a 'predominantly rural area', where agriculture plays still a very important role in terms of employment and GDP formation. Taking into account that rural economies are mostly driven by agriculture and the tertiary (services) sector this particular model features five basic subsystems, namely agriculture, environment, regional economy, human resources and rural policies. The above subsystems are specified and analyzed through a multi-modeling

approach and specifically through a linear programming model, a dynamic input-output model, and an age-cohort demographic model, respectively. After the model is completed, 'what-if' policy scenarios allow the assessment of the economic, social and environmental outcomes in rural areas' performance providing useful knowledge to policy makers in formulating strategies towards sustainable development.

Keywords: System dynamics, sustainable rural development, multi-modeling approach, input-output analysis, linear programming, rural policies

EA-13.04

Sustainability in the food industry

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EXTENDED ABSTRACT

Food chains need to become more sustainable to regain and retain consumer trust after several food incidents and scandals that have taken place on the past. Consumers increasingly wish to be informed about the safety of their food, its origin, and the sustainability of the processes that have produced and delivered it. In this paper, we firstly try to analyze the concept of sustainability. The definition that is the most well-known is the one that the Norwegian Prime Minister had expressed during a conference: ''to meet the needs of the present without compromising the ability of future generations to meet their own needs''. The next concept that we refer to is the sustainable development and its core principles: a) environmental principles, b) ecological principles, c) economic principles and d) societal principles. The second Section of our paper deals with sustainable agriculture. There are two different opinions. Some people believe that mainstream agriculture is not enough to cover global needs. On the other hand, others believe that sustainable agriculture is only growing food using organic methods, something that is not true because organic methods cannot be sustainable by themselves. As Pretty (2007) presents, there are some rules about sustainable agriculture: integration of biological and ecological processes, minimization of the use of the non-renewable inputs, make productive use of the knowledge and skills of farmers, productive use of people's collective capacities to work together to solve common agricultural and natural resource problems. The example of China is a very successful paradigm of sustainable agriculture. This program is well-known as Agenda 21, and is a pilot project established in 2000 townships and villages spread across 150 counties. The Chinese government used a variety of motives such as loans and tax exemptions. The Section of sustainable agriculture ends with the case of Nestle and SAIN (Sustainable Agriculture Initiative Nestle). Nestle uses raw materials, such as milk and wheat that are partly sourced direct from farmers that supply exclusively this "eco-label". As a result, Sustainable Agriculture Initiative was established in 2002, by Nestle, Danone and Unilever. The purpose of this cooperation is to develop standards on the sustainable practices of agricultural production. The third and final Section of the paper refers to sustainability in food production systems. Food sustainability is a broadly defined meaning, which extends beyond the status of resources to the health of communities, consumer empowerment and equity of access to material resources. It is noteworthy that sustainability is not a static situation but a continuous issue for the preservation of adaptability of the natural systems,

which basically form the foundation of social and economic development. Simultaneously there are two other aspects that are strongly interdependent with sustainability; quality and safety. Specifically, by extending quality and safety control systems into transparent food chains, we gain sustainability of the food industry. For this reason, food quality and safety are often included in wider definitions of sustainability. Another topic that is examined in this Section is the way Europe meets the challenges of food sustainability. Such private governance, formal regulation, as voluntary initiative has adopted policies to shape food supply sustainability and food consumption, and to address the environmental and health impacts. It is important to say that these approaches address solutions "at source" rather than at the "end of the chain".

Keywords: Sustainability, Sustainable agriculture, food sustainability, food industry, food safety

EA-14.01

A Service Classification Framework for Value Creation in Knowledge-Based Services

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EXTENDED ABSTRACT

The creation and augmentation of value is at the heart of any economic exchange. Traditional models of value creation support that value is created by service providers, is embedded in the service and is exchanged in the marketplace usually for money or other resources ('value-in-exchange'). A recent and alternative logic of marketing highlights a new perspective, where customers always are co-producers of services and co-creators of value as they actuate specialized competences (such as knowledge and skills) in the service process, which ultimately defines the eminence of an enterprise's value proposition ('value-in-use'). According to this new (service-dominant) logic the proper unit of analysis for value-in-use, is the service system, which is a complex configuration of resources (including people, information, knowledge and technology) connected to other service systems through value propositions. Additionally service science is the study of service systems and of the co-creation of value within complex configuration of resources. Although the most industrialized countries have entered a post-industrialized era where their prosperity is largely created through a service based economy, still there are concerns about the practical use of service-systems driven approaches in actual business settings which result to (S-D) logic theory and practice disconnection. The distance is due to the academic need to abstract and establish an emergent theory and the practitioner's desire to drive forward a new and potentially rewarding service business model in the marketplace. In this paper we aim to bridge the divide by highlighting the notion of the Internet of Services which enables providers to offer value propositions and consumers to search, use, integrate and compose these propositions into value-added services. From a business perspective such IT-supported service value networks require a proper model for clustering and profiling the value co-creation capabilities for conceptualizing how value is created through services. Additionally new models are required for describing services not only from the technical perspective, but also from a business and operational perspective, thus enabling a holistic view of the service lifecycle and service's functionalities. After presenting our early efforts to create a service classification model, we present the results of our first encounter with the USDL v. 3.0 specification language, a deliverable of the SAP-led Theseus/Texo research program for describing business services. By combining our classification model with the experience gained from applying USDL we drive the development of a framework that supports the management of the full service lifecycle. Finally, we

conclude our research by presenting an outlook on our future work by identifying existing painpoints.

Keywords: Service Science, Value creation, Service Management, Service Description

EA-14.02

System Properties of Automated Knowledge Based Management Systems

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EXTENDED ABSTRACT

The development of a systemic theoretical approach towards modeling, analysis and optimization of the learning process appears to be one of the most challenging topics. A dynamic model including iterative set equations has already been published for the case of unstructured knowledge. In the present paper the properties of FR observability and absorbability are defined and interpreted. The criteria for these properties are established. The main contribution of the present results is the extension of an automatic control theoretic approach to the problem of learning. Based on the approach as well as the established properties the learning process is studied in depth. Furthermore, the development of appropriate automated knowledge based management systems guaranteeing success of learning is investigated. The results of the paper are also illustrated through examples.

Keywords: Learning process, Set Theoretical Approach, e-learning

EA-14.03

Towards the Application of Complexity Paradigm in Knowledge Management

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EXTENDED ABSTRACT

Recent advances in organizational science suggest a shift from the traditional mechanistic, as well as organic organizational model, towards a social-systemic organizational model, often referred as complexity paradigm. The complexity paradigm is grounded on a non-linear science - the science of turbulence and chaos, emergence, fractals and self-organization. Antonacopoulou and Chiva (2007) claim that during the last decade, several researchers and practitioners have started to use complexity science to better understand organizational and managerial issues. Nevertheless, despite the wealth of concepts suggested by complexity theories, such concepts have not been incorporated yet sufficiently in the Knowledge Management (KM) discipline. It seems that existing KM approaches and tools are grounded on the tacit assumptions of the hierarchical organizational model, which is still the most common organizational model in management today (Hoverstadt 2008). According to Takeuchi (1998), the dominance of the machine model has led KM theory to concentrate on explicit knowledge and on seeing KM initiatives as the preserve of a select few. Jackson (2006) confirms that "existing organizational models adhere to KM practice and that their limitations are derived from the organizational models they implicitly embrace" and continues by suggesting "the use of the concepts from complexity theories for stimulating the further development of KM theory". The limitations of the contemporary Knowledge Management Systems (KMSs) to incorporate concepts from the complexity paradigm have been recognized within the software field too. Merali and McKelvey (2006) have perceived the need for a paradigm shift in the IS community using as a basis the science of complexity. Merali (2006) suggests that "the emergence of the network economy and network society necessitates a paradigm shift in the IS discipline, and that complexity science offers the apposite concepts and tools for effecting such a shift". Finally, Jacucci et al (2006) recommend acknowledging complexity as a phenomenon and not as a marginal feature of IS designs. The aim of this paper is to i) reveal the limitations of existing KM approaches and tools in terms of supporting the concepts of emergence, edge of chaos and self-organization, suggested by complexity theories and ii) propose an approach for incorporating such concepts within a KM system. In order to evaluate the existing limitations in KM as well as the proposed approach, a case study of a Hotel Chain in Greece was used as the research methodology. The KM approaches and tools of the hotel chain were studied, while the functionalities for KM that the products of Microsoft and SAP

offer were examined. The limitations that were identified were confirmed by an interview with a key expert from SAP Hellas. In addition, the incorporation of the three main concepts – emergence, edge of chaos and self-organization - in KM was proposed. A KM prototype system was developed for this purpose. Through the use of interviews with key people in the hotel chain, the proposed approach proved successful in terms of incorporating the main concepts of complexity theory and enabling new dimensions in KM.

Keywords: Complexity theories, knowledge management, information systems, emergence, self-organization

EA-14.04

Value Creation and Value Appropriation through C-Business

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EXTENDED ABSTRACT

In today's networked and knowledge-based economy, firms need to collaborate with their stakeholders with the use of Information and Communication Technologies. This type of alliance is called C-Business. C-Business is considered the next stage of e-business and substantially is the integration of e-business, knowledge management and collaborative technologies. C-Business represents the shift in the current way of working and utilizing information, technology and knowledge. Collaborators can offer competitive benefits in a way that was not previously possible. Moreover, many scholars have suggested that collaborative networks play a critical role in business strategy and organizational performance.
This study examines the collaborative business environment that is created among an enterprise's internal personnel, business partners, vendors and customers, even competitors, using internet technologies in order to create and appropriate value. Value creation arises from the firms' knowledge exchange, which is considered to be a collective action, while value appropriation results from each firm's knowledge absorption, which is considered to be an individual action. In other words, collaborating firms have access to a particular level of network knowledge (common knowledge) in which they are obliged to contribute. This knowledge can expand the firm's own knowledge base (private knowledge) and can lead to the creation of competitive advantage. Another key objective of this study is to examine whether firms can cooperate and compete at the same time (co-opetition), using a C-Business system, and whether this can lead to a co-beneficial relationship. Hence, this study aims to identify whether co-opetition in C-Business helps firms to combine complementary strengths and therefore to increase their performance and create synergies. Furthermore, co-opetition related theories (game theory, network theory, resource-based view, transaction cost economics) will be discussed, and potential benefits and costs that might be arisen from a co-opetitive relationship will be highlighted. Finally, this paper presents a theoretical framework on how C-Business and co-opetition can be used to create value in collaborative networks, how the knowledge that is developed from this collaboration can be diffused in all collaborating parts and how each of collaborating parts can exploit this knowledge in order to create a sustainable competitive advantage (value appropriation).

Keywords: C-Business, Co-opetition, Competitive Advantage, Value Creation, Knowledge Management

EA-15.01

A Business Process Modeling and Simulation Approach to Assist the Management of a Vending Machine Company

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EXTENDED ABSTRACT

This paper presents a business process modeling and simulation approach for a vending machine company which is located in Athens. The company takes advantage of about a hundred vending machines, which operate into the prefecture of Attica. In the first part of the paper we will model the business process which is performed by the company, with the use of DCSYM methodology. Firstly, we are going to analyze the organizational structure of the company and then we will analyze the company's departments and their responsibilities. After that, we will analyze the business process which is performed by the company, and their workflows. Then we present the business process model of the company according to the DCSYM methodology, the communications between the subsystems and we conclude the first part of the paper by introducing control into the above DCSYM model. In the second part of the paper we present the simulation of a vending machine which is managed from the company and is located into a central hospital of Athens. Firstly, we present an overview from company's warehouse, the available products and their required amounts that should have in order to be complete the warehouse. Then we will describe shortly the operation of a vending machine (available products, capacity e.t.c.) and more specific for the vending machine which is installed into the hospital. After that, we proceed into the formulation of the company's warehouse and the vending machine into VenSim simulation tool, in order to simulate their operation. The design will be detailed, starting from the accumulation points, variables, the model flows and it is going to be completed with the definition of the mathematical background and the analysis of the generated by the model graphs. We will create five complementary interfaces of the model, where each one aims to support the decisions to be taken by the respective department of the company. Completing the simulation, we will present three alternative demonstration scenarios, where the simulation model assists the company managers to make the appropriate business decisions. Finally, at the end of the paper we present the conclusions arising from the use of DCSYM methodology

and the use of VenSim tool for simulation, as well as the conclusions from the combination of both approaches we used to model and simulate the process of an actual company.

Keywords: Business Process, Simulation, Vending Machine, DCSYM, VenSim

EA-15.02

Non-negative demand in newsvendor models: The case of singly truncated normal samples

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EXTENDED ABSTRACT

Newsvendor models are used to develop optimal order quantity decisions for products whose life-cycle of demand lasts a single relatively short period. In the classical form of the newsvendor model, the optimal order quantity that maximizes expected profit is determined by equating the probability of demand not to exceed order quantity to a critical fractile whose value depends on selling price, salvage value, and purchase and shortage costs. When the critical fractile is greater than 0,5 (less than), the product is classified as high-profit product (low-profit). For such models, developing optimal inventory policies has been based on the assumption that parameters of demand distribution are known. But the extent of applicability of newsvendor models to inventory management depends upon the estimation of demand parameters. And research on studying the effects of demand estimation on optimal inventory policies is limited. Besides, none of these works addressed the problem of how sampling variability of estimated values of demand parameters influences the quality of estimation concerning optimal inventory policies. Assuming that demand follows the normal distribution, Kevork (2010) followed a different approach by exploring the variability of estimates for the optimal order quantity and the maximum expected profit. Developing appropriate estimators for the latter two quantities and deriving their asymptotic properties, he produced for the true optimal order quantity and the maximum expected profit confidence intervals whose validity was tested in small samples through Monte Carlo simulations. The analysis showed that the weak point of applying the classical newsvendor model to real life situations is the significant reductions in precision and stability of confidence intervals for the true maximum expected profit when high shortage costs occur. Coefficient of variations (CV) for the normal distributions that were used in Kevork's experimental framework never exceeded 0,2. The reason was that negative values were appearing when high values of CV were used to generate simulated data for demand. To avoid the occurrence of negative values for high CV's, the current work considers the classical newsvendor problem when demand follows the normal distribution singly truncated at zero. Using properties of truncated normal distributions, first we derive generalized forms for the optimal order quantity and the maximum expected profit. Since truncating at zero produces non-symmetric distributions for the truncated data, confidence intervals for the true optimal order quantity and the maximum expected profit are developed using simple non-symmetric distributions. Then, the validity of such confidence intervals is tested through

Monte-Carlo simulations, for low and high profit products under different sample sizes and alternative values for coefficient of variation and shortage cost. For each case, three statistical measures will be computed: the coverage, namely the estimated actual confidence level, the relative average half length, and the relative standard deviation of half lengths.

Keywords: Inventory management, Newsvendor model, Truncated normal, Demand estimation, Confidence intervals, Monte-Carlo simulations.

EA-15.03

Planning and Realization of a Model Retail Shop: Model of Functions and Procedures to be carried for the Creation of a Chain of Retail Shops

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EXTENDED ABSTRACT

The purpose of this paper is to present a Systems – Cybernetic approach of the design and implementation of a retail shop that will constitute the model of a retail shops' network. This specific approach refers to a shop which deals with selling and supplies art products to the greek market. The same approach maybe extended to different businesses that operate with retail shops controlled by one central company. Applying the VSM (Viable Systems Model), the operational characteristics of the model shop are impressed in order to be compared to a viable organization like the one of the human body. This way, a neuro – cybernetic model resulted in which the functions are derived in five subsystems of a viable system. While creating the viable organization model we classify the functions in order to have a distinction between the basic and the coordinative functions. It is made clear which the functions of control are and how these are implemented and the role of central management becomes distinct. However, apart from the simple reference and distinction of the functions, through the application of the DCSYM methodology, which is used for mapping the studied system, the information flows and the conductors of control, a clear presentation of the shops is achieved. Using techniques such as, interviews of those involved (stakeholders), observation of the existing procedures and questionnaires helps clarify the procedures and non – visible communication, information and control flows, that will deliberately or inevitably exist in the model shop, and as a result in the shops that will derive from it. The final graph that comes up through DCSYM, after mapping the components and the communications, will allow the conditional configuration of the procedures and elements in case the environment of every shop – system or a central company's decision requires to. Having created the architecture of the model shop's procedures and with the help of the VENSIM tool we are allowed to transfer and simulate this model using Systems Dynamics. This means, we have the ability to control the outcomes of suggested changes or new situations by changing the values of the variables that are differentiated. In other words, we create a model in which we can define its outcome by trying different possible values. Through this approach we make an effort to create a prototype model shop that will create the creation base for other stores with viable organization's characteristics and clear design of the

procedures, communications and control. The above elements compose the procedure's architecture that when combined with simulation can result in defining quite accurately the outcomes of our system and help studying improvement or reaction suggestions.

Keywords: VSM, DCSYM, Vensim, Shop

EA-16.01

Linear Scheduling Method: Application to a real construction project in the region of Northern Greece

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EXTENDED ABSTRACT

During the last years, researchers and practitioners consider that the classic critical path method (CPM) presents several disadvantages for managing linear projects, such as highways, bridges, tunnels. The common characteristic of these construction projects is that they require repetitive activities to be executed, using similar resources. In this work, first, we analyze the core idea of the Linear Scheduling Method (LSM) and describe how the controlling path and the production rate of non-critical activities are extracted. Second, we discuss the various approaches for estimating the activity floats and a resource leveling technique given that the classic LSM model does not support any such process. Third, we compare the LSM with the Repetitive Scheduling Model (RSM), and the different types of projects that each method treats better are investigated. In addition, we apply the LSM method to a real case in order to support our analysis. The case is referred to the construction of a bridge that is a part of the 670 kilometers long motorway "EGNATIA ODOS", which is located in the northern Greece. In this application we use the Tilos software of Asta Development plc., for scheduling the project activities.

Keywords: Controlling Path, Linear Scheduling Model, Resource Continuity, Rate float

EA-16.02

Effective IT Project Management via Business Process Simulation

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EXTENDED ABSTRACT

This paper presents how an effective Information Technology (IT) project management can be achieved by using business process simulation. As simulation tool, we used the TIBCO Business Studio, a well-known simulation tool for business and IT processes, which has as main measure indicators the execution time and the process implementation cost. The selection of the TIBCO Business Studio took place after relative analysis and comparison of similar process simulation tools which is first presented. Next, the extended business process which concerns the IT department of a competitive large-scale company which must cope with many IT projects that implement new quick-to-market IT services is presented and represented in the TIBCO Business Studio. The new IT services arises from business ideas that cannot be realized by the existing corporate systems and applications, and thus there is a need for new software development and/or database structural changes. In the examined business process, we assume that the company cannot develop in-house software, thus there is a need for outsourcing the IT project implementation. For this purpose, it cooperates with an external IT company which undertakes the requirement analysis, design and implementation of the new IT services. The process was simulated by making reasonable assumptions and setting up reasonable input data values in process activities. After the process simulation, the analysis of simulation results took place. From this analysis, improvements in the overall process were identified driven mainly by the time and cost key indicators. In brief, our approach consisted of three phases. First, we developed the initial business process where after a number of simulation runs, the weak points were localized in the process. Improvements were proposed that they were verified by running the corresponding simulations. After the first incorporation of the proposed improvements in the simulated process, we localized new weaknesses and bugs in the overall process by examining -as before- the individual results of specific activities or group of activities. Then, we proposed new improvements that were incorporated in the previously improved process. These modifications were proved correct in terms of time and cost reduction. In conclusion, the accrued business process was more effective in executing project management and deployment of new IT services. During the execution of the described work, we tried to analyze a real business environment in order to cope with real problems and solutions. Finally, it was proved the high significance and usability of business

simulation in modern enterprises. But, this requires the right representation of activities and business environment states along with the appropriate mathematical model for the various simulation variables. The right setup of the simulated business processes can provide the business analysts with a quite clear icon of the consequences of their decisions regarding the exploitation of new IT services in the market. Of course, an adequate number of simulation experiments must be conducted in order to understand as mush as possible the various potential strategies over the overall business process.

Keywords: IT Project Management, Simulation, Performance Indicators, Evaluation

EA-16.03

Applying Professional Systemics for Entrepreneurial Projects

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EXTENDED ABSTRACT

INTRODUCTION
Starting up new business concepts in the mid of a so said international economic crisis is not an easy achievement, especially in countries like Greece who are targeted for the inconsistent entrepreneurial dealing during the past 30 years. Using Systemic Methodologies and tools to plan such projects cannot but help clarify the prospects of such ventures.
CREATING THE TEAM
Selecting a potential business partner or partners is perhaps the most important stage in creating a new activity. This is where systemics may help. By considering each participating individual in a team creation as an independent system and locating the possible interactions between them, will help define and bring in the foreground the critical points and team relations which will define the next steps and functionality of the group which will manage the project.
LOOSE IDEAS AND HOW TO MASTER THEM
The usual problem is being realistic and considering the appropriate timing and conjuncture for the implementation of ideas/activities.
This is easier to define if by quick and short procedures each potential idea (to be project) is placed in the wider system it belongs, or is considered to belong and interactions are evaluated as objectively as possible.
DEFINITION OF SCOPE
At this stage the individual or the team must also define the intentions and scope of the research procedure, also putting a deadline for it; else it is very probable that they will be planning without having a target or knowing which direction each one of the elaborated ideas may take.
TEAM BRAINSTORMING
Once the above stages have been completed as meticulously as possible and whether one works individually or in a team, the submission of and idea needs strong belief in it, sincerity, acceptance of possible rejection and avoidance of insistence if the opinions expressed are negative towards it
SELECTION OF A SPECIFIC IDEA FOR ENTREPRENEURIAL DEVELOPMENT
If one or more concepts are selected, then through modeling and simulating, an extensive focused research may start with a minimum of three phases:

- Processing a very concrete analysis of the proposed project
- Investigating parameters involved;
- Selection of a project (-s) is the final phase of this stage.

DEFINING THE SYSTEM WITHIN WHICH THE PROJECT WILL DEVELOP

Systemic rules and tools can bring forward many critical points and subjects in systems, especially the context and relations of sub systems that will be created.

SCHEDULING AND TIMING

Scheduling and creating a time plan for each task is vital in entrepreneurial projects, especially those which involve investments and production procedures

BUSINESS PLAN AND SYSTEMIC ANALYSIS OF THE PROJECT (USE OF SYSTEMIC TOOLS)

Setting up and composing a functional, true and dynamic Business plan is perhaps the most difficult point of entrepreneurial ventures. Using recently conceived systemic tools like DCSYM and Vensim permit potential entrepreneurs to have a closer view of the project created and expected results.

In the following 4 stages the results of any systemic methodologies can be tested for their effectiveness.

- PROJECT IMPLEMENTATION
- CONTROL - ADJUSTMENTS – REVISIONS
- "RUNNING" THE PROJECT
- FINAL TUNING
- R & D - UPDATING

Maintaining innovation of any entrepreneurial venture invokes research. In this process all systemic tools can be used and their results give the necessary feedback for updating and activity.

Keywords: Entrepreneurial, Project, Applied

EA-17.01

Crisis Management in Social Media

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EXTENDED ABSTRACT

Businesses are starting to use social media as a tool for listening and providing customer service rather than a marketing channel. Social media tools have proven their value to big businesses, not only to promote the brand, products, or services, but also as a powerful tool when dealing with a crisis. Information spreads in a matter of seconds and the speed and reach of social media is undisputable. The incredibly fluid nature of social conversations requires brands to be on a constant state of readiness. Because the best way to mitigate social media crises is to respond at the flashpoint, you must be prepared to make and launch content in a variety of formats and circumstances. So when a crisis erupts, the power of social media can be an amazing tool for businesses. A crisis can include anything from a simple website outage to negative publicity. This paper will provide the means for big organizations on how they can adapt a systemic thinking approach in order to be restructured, reformed and use social media during a crisis. It will provide state charts which show the ways you should handle negative comments and help you create rules of engagement for your social media channels. We will also examine case studies of large organizations and how they incorporate social media tools in their management strategy. Systemic thinking is a thinking technique for gaining systemic insights into complex situations and problems. The fundamental assumption, on which the systemic thinking concept is based, is that everything interacts with the things around it. Consequently if we want different outcomes from a situation, we have to change the system that underpins the situation in such a way that it delivers different outputs. Having that in mind we will produce state charts that describe the behavior of the system (social media community) in a series of different approaches. A company that incorporates social media into a crisis management plan should take a series of decisions amongst them to determine who, how, and when will monitor social media channels and then determine whether or not to respond to negative or potentially negative posts and in which way. Systemic methodologies can prove valuable in the achievement of this objective and for the bluntness of difficulties in communications within big organizations.

Keywords: social media, crisis, systemic thinking, state charts, community manager

EA-17.02

Developing a safety culture into a high risk organization utilizing aviation safety methods

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EXTENDED ABSTRACT

As already being proven, every organization develops its own culture as a group from institutional or not procedures and policies which characterize the staff in each business of the company. This culture is enveloped through the experiences, the perceptions and the knowledge which are obtained in the frame of a wide company's organizational learning. Particularly the recent years, a number of a very serious accidents in the worldwide comparative environment, established the need of a culture which would be orientated to safety as a main component in order to meet the modern business challenges. This requirement represents an institutional factor of surveillance regarding the high risk organizations that face high level threats, which are difficult to be anticipated or handled in a satisfactory way. Definitely, the air-transportation organizations belong in this category as mentioned before. The flight and everything related to it, is defined as a continuous situation which is characterized from bad and unfavorable conditions. So many conclusions may arise from the air case study. The subject of "risk" has the main role, as a result of the severity and the possibility of an unpredictable action. Considering that error is "human" and according with the belief that always an error is going to take place in a moment of the near or distant future, it is important to be treated mainly with a proper prevention strategy and contingency planning. Furthermore, there are particular investigation methods which look into the coherence of human factor as causality of an accident. For this reason, it is purposeful a number of important air accidents to be presented in order to show the effect of human factor either in the maintenance area or in the flight crew of aircraft. In addition, the Human Factor Classification System was used to investigate and to categorize all these accidents, showing that in every accident there are many hidden reasons that could contribute to it. Finally, it is obvious that only through the development of a safety culture in every organization as a main part of its code of ethics so it is possible to achieve a competitive edge in the future operational environment. Especially, the flight safety is very important for the organizations connected with the flight procedure, as the consequences of an air accident may be critical for their surveillance. Besides, the methodology that has been implicated here in order to manage the

human error is easy and sufficient enough to be implied in any other organization than air transport. "Safety" is cheap and must exist in every action of the business and operational environment.

Keywords: culture, safety, human error, risk, flight

EA-17.03

Shipping-Operations Risk Assessment System

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EXTENDED ABSTRACT

ISM Code requires from all ships (500 gross tones, or bigger) to "assess all identified risks" for the vessel, the crew and the environment. This fact forced all shipping companies, which had no relevant procedures to analyse and manage shipping operations risks, to come up with the appropriate solutions. The concept of risk is relatively difficult to grasp, mainly because it is based on the concept of probability. In addition, a successful risk analysis requires statistical data which, although exist, are not available. These two facts create an unfavorable situation, which come on top of the already difficult operating conditions onboard a ship. Hence, what is required from a risk assessment procedure for operations onboard a vessel is relative simplicity, scientific integrity and added value for both the ship and the company. The paper to be presented will examine current risk assessment practices onboard ships, with reference to the type of the ship, the level of IT infrastructure and the framework within which Risk Assessment was introduced. The above-mentioned practices are discussed from the point of view of easiness of use taking into account the conditions prevailing onboard a ship. The risk assessment model behind the ship operation procedure is also examined from a scientific-integrity point of view. A mathematical model for risk assessment onboard a ship is presented. The model is simplified and adapted for use by crew, of various nationalities and competency levels, onboard a vessel. Finally, the added value of risk assessment on both the vessel and the company is discussed, together with the subjectivity of the assessment, the non-availability of statistical data and the methodology via which risk assessment, over a long period of time and across the whole company fleet will reduce casualties.

Keywords: Risk-assessment, ISM-code, IT-infrastructure, Risk, Ship-operations

EA-18.01

Basic Project Management principles for Virtual Enterprises

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EXTENDED ABSTRACT

Nowadays the majority of companies are formed in networked, multi-project oriented markets and in such a business environment, virtual enterprises (VE) could not differ. Actually, a project is the generative force of the VE formation and has to be managed very carefully in order to lead to a successful completion. However there is a minor correlation between the concept of virtual enterprise and project management (PM). This presentation is an opportunity to clarify the two meanings and state several reasons why these things should be inseparable. Specifically in this attempt to bridge the gap between them, it will be explained how the lifecycle phases of a virtual enterprise, can coincide with the five project management processes which are: Initiating, Planning, Executing, Controlling and Closing, and how throughout these phases all the aspects of PM should be taken into consideration. For example, Triple Constraint (also known as Iron PM Triangle) that is based on time, cost, scope and quality management, depicts how VE project manager (broker) and his team, should organize their work in order to balance these competing project characteristics. Moreover it will be mentioned, how human resource, procurement and communication management principles facilitate, coordinate and optimize partner recruitment and trust establishment, which are two of the most challenging and critical for success procedures of the VE. In addition, integration management will be combined with Systemic thinking, giving a holistic view, not only of the project objectives but also of the partners shared vision. In conclusion there will be a brief reference to risk management and especially its capability to predict, avoid and/or prepare virtual enterprises either for common threats or even for "black swans" that sometimes swoop in.

Keywords: Virtual Enterprise, project, broker, project management, iron triangle, "black swans"

EA-18.02

A systemic approach of the role of Virtual Enterprise broker, based on the art of knowledge sharing and combined with building mutual trust between business partners

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EXTENDED ABSTRACT

Virtual enterprise (VE) is a consortium of companies that come together in order to share resources, achieve common objectives, foster collaborative efforts and distribute information, all under the prism of trust, while retaining autonomy. In the middle of this new type of organization, broker is the key element, playing multiple and interdependent roles. First of all, he is the initiator who brings the idea (market opportunity) of formation, chooses the right partners and participates in all the phases of VE operation, by being coordinator, moderator and primary point of contact with the customer. Moreover as a knowledge manager, he has to understand the difference between the effectiveness and the efficiency of information and help partners turn pure, unstructured and almost meaningless data, into business wisdom. Another very important aspect of his role, critical for success, is to create a shared vision between VE partners and manage the really sensitive matter of trust. In his effort, he uses innovative and challenging Systemic Methodologies, such as Structured Dialogic Design (SDD). In the framework of this presentation, a new simulation model for ranking candidate VE partners (MAYS), is also being introduced. MAYS is a robust management tool, that supports decision making for the phase of partner recruitment, in the initiation of a virtual enterprise. Substantially without the presence of System Dynamics, which is expressed via Vensim PLE software and MAYS, it would be impossible to completely face the problem of choosing the best partners, which is a labyrinthian process that hides traps because of its subjectivity.

Keywords: Virtual Enterprise, broker, information, chain of trust, shared vision, VE partner selection.

EA-18.03

Designing and Simulating a Virtual Enterprise Architecture Constructing Wireless Payments using Systemic Methodologies

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EXTENDED ABSTRACT

The starting point for establishing a Virtual Enterprise (VE) is a set of existing enterprises, which might contribute, with some of their functionalities (core competencies) to the formation of the virtual entity. The most important issue in this formation is the rapid integration of the business processes of the participating companies. The architecture of the VE must assist companies desiring to enter into a virtual relationship by defining the functions and interfaces of critical business processes, thus allowing for a more rapid and efficient integration of the expertise which will be contributed by each partner in the virtual enterprise. While the integration of computer and communication technologies are no doubt critical issues, the successful attainment of the business goals of the virtual enterprise often depends on its ability to align the business processes and practices of partner enterprises. Focus in this project is the analysis of the architecture of a VE that constructs wireless payments mechanisms with the use of DCSYM systemic methodology via System Dynamics. The novelty of this project is that the proposed approach combines well-known systemic methodologies, providing this way a scientific and productive tool in order to detect and solve organizational problems during the construction of the VE Architecture. DCSYM carries the concept of communications, links and connections among the structural entities, thus transforming the initial static diagrams into dynamic charts of the architecture plan. The next step is to translate the DCSYM models into a computer model. The power of this step lies in the capability of taking into account the interactions of all variables in the model at the same time. This way the computer model is tested to ensure that its outputs correspond to the actual system performance, while experimenting using the model to explore the effects of different courses of action on system behavior. In order to demonstrate this, the following real-life application is used. An enterprise, named Televox, wants to establish an e-service for its customers. Televox wants to give the ability to its customers to pay their bills to Televox, by using their mobile phones. The building of the VE begins when a market opportunity, namely the construction of a wireless payment mechanism, arises. DCSYM is used to design the VE's architecture. The proposed architecture is modelled and analysed with the help of the systemic DCSYM and the

computational software tool I-Think©. The conceptual model of the architecture is presented and simulated with the use of I-Think, taking into consideration all the extreme and smooth situations of the VE. The results are portrayed on a new enriched DCSYM schema, including all possible types of communication between the members of the VE. Furthermore, the results are being presented with the help of I-Think© graphs for different conditions and situations of the model that is being simulated. The conclusions deducted from this work are being presented in the last section of this project.

Keywords: Virtual Enterprises, Wireless Payments, Systemic Methodologies, I-Think©

EA-18.04

Systemic Approaches at the Mediation for the Solution of Disputes for Virtual Enterprises

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EXTENDED ABSTRACT

It is commonly accepted that, nowadays, the performance and dispensation of justice, presents very serious pathogenesis, with great impact in the society and the wider public administration. Some of these malignant forms of pathogeneses that troubles justice, can be randomly named, such as extraordinary number of cases brought to court, unacceptable and unjustifiedable time lag with serious projections (e.g. limitations of heinous crimes and civil law claims), induction way of disputes by primer legal deeds, controversial court decisions, or even sometimes chicanery methods intending to limitation of actions. As a consequence, most of the times, no punishment is imposed to those who act contrary to law rules and codes of conduct. Hence, the need for institutionalized out-of-court resolution of conflicts that are raised by relationships of legal interest is of upmost importance. This paper refers to the legally institutionalized out-of-court ways of dispute resolution. It analyzes the concepts of "arbitration" and "mediation", highlights the basic differences among them on institutional and practical level and focuses on "mediation". Through systemic methodologies it is attempted to develop ways to approach "mediation" systemically. Institutionalisation of digital procedures for further development is proposed and the positive results of such an effort are analyzed. Justice and generally the statutory, lawful ways to resolve disputes that are raised by relationships of legal interest, cannot be deviated from new technological advancements since these advancements have affected everyday's transactions; legally or not. Application is made on virtual enterprises and the necessity to find additional legal settlement of disputes that are arising from their operation. Thus, results both from their "innate electronic nature" and their purpose of existence; flexibility and immediate response. However, in virtual enterprises, complexity is detected regarding legal points, since, in majority, foreign issues are observed that need special attention and legal confrontation. A virtual enterprise is characterized by cross-border activation, while is composed mainly by people of different citizenship and different general and legal culture, a fact which imposes careful legal handlings but simultaneously refers in blending of many legal aspects; issues that the private international law rules is called to resolve. Following, concerning the principles and codes of conduct in mediation, they are presented by the application of a systemic methodology. At the end, the European Parliament and Council Directive 2008/52/21-05-2008 EC is mentioned. This Directive refers to "certain aspects of mediation in civil and commercial matters",

which forms an essential European legislative text that regulates mediation matters.

Keywords: Virtual Enterprises, Disputes, Mediation, Systemic Approach, 2008/52/21-05-2008 EC

EA-19.01

Factors affecting the adoption of Internet Banking in Greece

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EXTENDED ABSTRACT

These days are characterised by rapid growth, especially, in terms of technological advances. The increasingly competition, globalisation and deregulation of financial markets, as well as the Information technology diffusion, have led financial institutions to the creation of an alternative distribution channel for the execution of financial transactions. Furthermore, the satisfaction of consumer needs and their convenience have comprised a significant determinant for the introduction of web banking services. In any case, the growing number of the banks that use this service shows the need for change in the structure of the whole financial sector and the effort banks should put in order to remain competitive and profitable despite the changes in the financial environment. Therefore, it is substantial to examine the factors that conduce to the adoption of internet banking towards performing various retail transactions. In this paper the determinants of consumer's acceptance of internet banking are presented. More specifically, an extended Technology Acceptance Model, incorporating Trust, and Cost of Services, is empirically tested using Structural Equation Modelling (SEM). Results indicate that Ease of Use, Perceived Usefulness and Trust affect Intention to Use, while Intention to Use, Perceived Usefulness and Cost affect Internet Banking Usage.

Keywords: TAM, Trust, Cost of Services, SEM

EA-19.02

Applied systemic approach in the banking sector: the case of credit scoring through network analysis

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EXTENDED ABSTRACT

Introduction
The global financial crisis that started in 2007 epitomized the role of strong financial ties as a carrier for propagation of shocks. The rapid viral spreading of the financial turmoil from the US sub-prime mortgage market to mammoth international financial institutions manifested that global economy is based on numerous, strong, unexplored and unanticipated interdependencies among networks in credit, trade, investment and supply chains. Consequently, it is needed an innovative methodology that models the systemic risks of financial networks and that can be used to design effective policies to reduce conflicts between local and global interests. In this context, a growing number of studies and conferences examine various aspects of financial networks and specifically, the modeling of systemic risk using mathematical network analysis. Current analysis is focused on interbank payment network flows in national and international level. In the banking sector analysis, existing credit scoring models account only for idiosyncratic customer's financial profile and do not anticipate systemic risk factors (e.g. a potential domino effect caused by the bankruptcy of a central node-customer). In our research, we extend the current analysis of interbank networks to intra-bank financial risk interconnections, namely the bank check payments network. Our model address and quantifies systemic default risk factors like chain bankruptcy caused by central customers of the bank checks network.
Results
The central conjecture of our study is that the empirical modeling of bank checks payments as a dynamic directed weighted signed multi-graph reveals important systemic credit risk factors in retail banking.
Methodology
Our dataset consists of 783 real transactions for 576 check issuers and recipients of a major European bank during 2009 and 2010. The check payments network is modeled and analyzed as a loop less dynamic directed weighted and simply signed multi-graph with multiple (≥2) edges of different sign.
Results can be further explored and used as a major input for continuous and dynamic credit scoring models of physical and legal entities and as an evaluating mechanism for retail banking credit-scoring strategy.

Keywords: systemic risk, bank checks network, signed graphs

EA-19.03

An approach for evaluating the corporate image of the e-banking with a systemic perspective

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EXTENDED ABSTRACT

The evolution of e-business and technology has caused changes in the traditional business world. Banking sector has followed this trend and has introduced e-banking as a way of automated delivery of services new and traditional banking products directly to customers via electronic channels. The number of the customers that use e-banking for their daily transactions has been increasing impressively. The management has taken into account these changes and has focused on reinforcing the image and the value of e-banking. An assessment and analysis of the image especially in the internet banking field has become an important business tool to help the management of the bank to make decisions. A strong corporate image can enhance the reputation of a bank and lead to competitive advantage.

Keywords: Corporate Image, e-banking, Internet Banking, Systems Methods

EA-20.01

Strategic Management and Systems Approach – Presentation of the Enterprise Wide Change model of Haines Centre

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EXTENDED ABSTRACT

The complexity of nowadays organizations has created the need of an integrated scientific approach on their management issues. The management of an organization is much more than financial ratios. These ratios need to be aligned with the organization's strategy. But how is it possible to cascade and analyze organizations when their complexity outreaches conventional thinking? Especially when complexity does not only concern their size and power but is also met high even is small – medium enterprises. This is due to, in many cases, the constantly changing environment of companies, which defines only the available resources and the desirable results but also the organization's structures, functions and need for change. The fact that there are so many methods, different to each other, does not help deal with the problems and challenges of the organizations. A main reason why, is the weakness of finding a method that allows the communication between sciences that offer solutions to individual problems and the difficulty to commonly serve the primary goal of the organization. The goal of this paper is to present methods that serve exactly these needs using the systems approach. This approach allows the handling of complexity, the sense of entity, environment, dynamics, viability and growth. Through this approach an effort is made for developing management strategies for handling the entire organization, the system, and not partly functions and departments. The region of interest of this paper is the presentation of strategic management issues that can be approached by methodologies that have been developed through the Systems Theory. At first there is a presentation of strategic management phases and theories, and then after a general approach and presentation of systems theory, various systems methodologies are analyzes which can be used for these phases and theories. Finally, using the study of specific examples and cases, the contribution of Systems Approach in the issues that contemporary strategic management faces is evaluated. More specifically, using as a main tool the DCSYM methodology, we study the case of Haines Centre, an organization that is specialized in Systems Approach in strategic management, analyzing their enterprise wide change procedure and the mapping and design of a strategy's stages by a courier company. The goal of this paper is the collection of "tools" that rely on systems theory and the suggestion of a different way of thinking in management. In many cases the goal is the recognition of a certain methodology and its identification with a scientific term. After all, the systems approach is the

natural way of considering. In other words since the systems approach is a way of thinking, our goal is to define the concepts and methods that derive from this approach in serving the strategic management.

Keywords: strategic management, systems approach, DCSYM, change, methodologies

EA-20.02

Developing a Short-Term Comparative Optimization Forecasting Model for Operational Units' Strategic Planning

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EXTENDED ABSTRACT

Optimum relative efficiency is a primary profitability strengthening driver for private companies. It is also a prerequisite for public organizations that have adopted the New Public Management's concept (3Es: Efficiency, Effectiveness, and Economy). Relative efficiency is the outcome of the input to output transformation process assessment of homogenous operational units. Although the relative efficiency measurement in the strategic planning of an operational unit is important, a time lag of data availability exists (e.g. level and cost of resources engaged, as well as the level of outputs produced and revenues obtained). For instance, companies' balance-sheet reports are released a minimum of six months after the end of the fiscal year. Due to this delay, there is a financial and production data drain. This drain delays policymakers from finalizing completed economic analyses and strategic plans for their organization that take into account the decisions of its counterparts. As a result, during the 'dead time', only ceteris paribus analyses can be conducted in which the policymakers of just one player make crucial decisions for the operational unit regarding the competitors as inactive. We tackle the issue at stake by developing a quantitative tool for the input-output or cost-revenue mix optimization. Concurrently, the tool predicts every possible counterpart operational unit move. To be more precise, the developed model determines either the optimum output levels given the resources engaged (output oriented optimization forecasting), alternatively, the optimum revenue-cost levels, or vice versa (input oriented optimization forecasting), between two consecutive time instances t and t+1 respectively. The optimum output or input levels uncovered by the proposed model are a result of the comparative efficiency assessment process of the sample operational units. The primary aim of the developed model is to provide a roadmap to every sample operational unit to attain technical, allocative/price and overall efficiency for the time interval: (t, t+1). The novelty of the short-term comparative optimization forecasting model relaxes the future period prediction of the optimum output levels, introducing the feasible input levels for the selected operational unit (output oriented approach), or the optimum input levels deciding upon the output levels (input oriented approach). It should be noted that the developed optimization forecasting model is dynamic while it anticipates all

possible future actions of the sample competitors. An important factor is that data for one period of the sample operational units are adequate for the future input-output value determination period. The new model, DEANN (DEA – Neural Network), applies a hybrid, two-stage analysis based on the Data Envelopment Analysis (DEA) method and the Artificial Neural Networks (ANN), both feed-forward and recurrent ones. An additional third-stage DEA analysis is developed to cross-validate the accuracy of the results. The rest of the paper is organized as follows. In the first section, a review of the literature on hybrid DEA-ANN for forecasting is discussed. In the following section, we analyze the DEA (input and output oriented Variable Returns to Scale) and the ANN (e.g. feed forward and recurrent – Elman and Jordan – neural network architectures). In the third section, we apply the developed DEANN model to real data. In the last section, we elaborate on the managerial implications of the DEANN model, the concluding remarks and potentials for future research.

Keywords: Forecasting, Optimization, Efficiency, Data Envelopment Analysis (DEA), Artificial Neural Networks (ANN), Adaptive Techniques

EA-20.03

Analyzing the External Environment for e-Business – A Systemic Approach on Business Strategy for the Companies that have strong bonds with the Internet

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EXTENDED ABSTRACT

There are currently 3 dominant methodologies for evaluating and analyzing the strategic external environment of an organization. These methodologies include PEST, which is used to assess the four elements of an organization's external environment, Porter's 5 forces, which are used for evaluating the micro - environment and the Priority Matrix which is used to identify and analyze developments in the external environment. These methodologies have been dominant throughout the years, but are still not well adapted to an online setting. Problems include their lack of responsiveness in changes through time and the inability to describe complex relationships between different parties.
The research objectives include:

- Inspect how existing methodologies perform in the context of the Internet environment, by using cases
- Create new methodologies based on a network approach, depending on the cases
- Compare methodologies by using other cases

The use of systemic approach on the analysis of the strategic external environment can create a new framework, which combines the currently used methodologies, while at the same time enhance them with some very important properties. From these properties the most notable are:

- Introduction of time and dynamics on the model.
- Shift of the focus on parameters from "What it is" to "What it does"
- Representation of complex structures and/or interactions that emerge from the model
- Identification of archetypes on the structures/interactions

In order to apply systemic approach on this specific model, the active area that the research focuses is the "Internet", users and companies. For this research Internet is identified as a system, based on Ackoff's principles, that has as main purpose the creation of value for direct and indirect users. The ARA model views parties as part of a network with three main building blocks. Activities, defined as "a sequence of acts, directed towards a purpose" can change over time, according

to the change in the activities of other network members. Resources can be either tangible or intangible and are created as a result of two factors, resource scarcity and resource development. Finally, actors are connected through actor bonds, which have an "organizing effect on the web of actors" and help actors see beyond their limited horizons. For this research, case studies will be used for initially testing the methodologies. A case study differs from a simple account of events because of the use of methodology in describing the case. Case studies can be extended in time through detailed, in-depth data collection, involving multiple sources of information rich in context, which can be achieved by "developing a holistic description through an iterative research process". Regarding design, the fact that there is no design dominating case studies suggests that many different approaches are acceptable. This research's overall aim is to provide organizations with an initial form of a new framework for analyzing their external, online environment. Limitations include limited time, the susceptibility of case studies to subjective evaluations, the fact that the cases used represent only a fraction of the available cases on the Internet environment and absence of quantitative data to support results.

Keywords: e-business Strategy, External Environment Analysis, ARA, Systems Thinking, PEST, Porter's 5 forces

EA-21.01

Community rules and mathematical meanings negotiation during interactions in the classroom: a case study

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EXTENDED ABSTRACT

In this paper we will examine a short teaching experiment in the last grade of the Greek Lyceum where different forms of organization of a math class are developed. In this work, which is included in the systemic approach, the community dimension of the classroom plays a vital role. It is based on the analysis of structures of interaction and communication among the teacher and the students as well as among students. We investigate the mathematical meanings and reasoning that result from a mathematic paradox of the formal mathematics and the didactical management of errors. The research results show that certain custom rules, that characterize the participative structure of a live classroom microculture, form the mathematic interactions between pairs and in the community atmosphere. The rules mentioned before are also expressed in the cases where the communication actors give different interpretations.

Keywords: Systemic approach, community rules, mathematic interactions, mathematic paradoxes, mathematical meanings negotiation, classroom microculture

EA-21.02

Rumor as Communication: A systemic approach

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EXTENDED ABSTRACT

The main purpose of this presentation is to analyze the communicational and systemical dimensions of rumor. Most researchers are in accord that the term can apply to both positive and negative aspects of personal affairs and that, depending on the point of view, it can have positive or negative social effects. Rumors are public communications that reflect private hypotheses about how the world works. It is both a barometer of tensions in the community as well as sometimes a predictor of social behavior. This presentation elucidates the nature of rumor as major predictors factor especially from the aspect of enterprises. A systemic approach is the Grapevine communication. Grapevine communication is the informal communication network within an organization. The grapevine is used to spread information bypassing the formal communication structure. Just like the grapevine plant: it spreads in random ways and it goes where it can. The grapevine is formed by individuals and groups in an organization. The people in the groups have something in common that links them together. The types of rumors that are spread through grapevine communication can be classified into two groups, spontaneous and premeditated. Spontaneous rumors are spread when people are stressed or in an untrustworthy environment. Premeditated rumors spread within highly competitive environments. Grapevine generally develops due to various reasons. One of them is that when an organization is facing recession, the employees sense uncertainty. Also, at times employees do not have self-confidence due to which they form unions. Sometimes the managers show preferential treatment and favour some employees giving a segregated feeling to other employees. Thus, when employees sense a need to exchange their views, they go for grapevine network as they cannot use the formal channel of communication in that case. Generally during breaks in cafeteria, the subordinates talk about their superior's attitude and behaviour and exchange views with their peers. They discuss rumours about promotion and transfer of other employees. Thus, grapevine spreads like fire and it is not easy to trace the cause of such communication at times. The advantages and disadvantages of this method will be analyzed through a Case Study.

Keywords: communication, rumor

EA-21.03

Modelling the factors that facilitate the phenomenon of Immigration toward Greece

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EXTENDED ABSTRACT

In the light of the socio-economic changes of the current times, this study will make some efforts to explore the complicated dynamics sustaining in people decision to leave their home countries and migrate to Greece. Actually, in the context of the globalized economy and society, the mobility of persons, capital and goods is much easier in comparison to the past. Permanent persons mobility from country to country, the so called external migration, is a dynamic demographic factor that affects, among others, regional distribution of population not only at the destination country but in the origin country as well. That is because migrants leave, in a higher proportion, the poorest regions of the origin country and usually locate at the richest regions of the destination country. This is the case of Greece, where immigrants tend to locate mostly at the Metropolitan Area of Athens, which is the capital of the country, characterized by higher opportunities for job creation than any other region. The phenomenon of migration in Greece has been identified to be as one of the most important issues with serious social and economic implications not only to Greece but to whole European Union. Immigration flows towards Greece started at the decade of '90 and gradually have increased during the last 20 years. In 2001 Population Census 760.000 foreign migrants were counted, while nowadays the foreign migrants are estimated more than 1.300.000 persons. This study is undertaken in order to examine the Greek migration and shed light on how several socio-economic factors examined, can affect it. The study is based on the analysis of various national and international organizations data for the period 2000-2005. The results of multivariate regression give evidences that Distance in km between the source country of the migrant and the destination country, that in this case is Greece, the Total Population of the source country, Corruption Rate of the source country and Unemployment Rate of the source country affect the level of immigration toward Greece.

Keywords: Migration, Regional Dynamics, Socio-Economic Factors, Multivariate Regression, Greece

EA-22.01

Business Success measured in terms of Corporate Social Responsibility: the Greek experience

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EXTENDED ABSTRACT

There is general agreement among academics and business specialists that corporate social responsibility (CSR) has transformed from a frowned-upon idea into one of the core issues of contemporary business world during the last ten years. However, despite evolution, what exactly drives businesses to CSR voluntary practices still remains an open quest. To answer this question, a number of empirical studies have focused their interest on exploring the relationship between CSR and a firm's financial performance. Here again, the findings are blurred and point out to various outcomes in terms of CSR impact on firms' performance such as positive, neutral or negative. Motivated by the above results, in this study we decided to investigate the links between CSR and firms' financial performance for the case of Greece. Using well established financial indicators, our purpose is to identify the dominant way in which socially responsible practices affect Greek firms' financial success. To our knowledge there is no similar work in Greece in many respects. Prior research in related areas was inconclusive and undertaken under completely different fiscal and financial condition. Amid present recession and the unprecedented socio-economic crisis that Greece faces, it is a great challenge for the authors of this paper to contribute to a better understanding of the push and pull factors that are likely to influence Greek firms' socially responsible behaviour and vice versa. Our main research question is whether the target group of the Greek CSR companies are more successful than others which do not behave in a socially responsible manner in terms of a set of financial indicators such as liquidity, productivity, efficiency and profitability. To this end, we searched on-line, hand-by-hand, last year's annual financial reports of a sample of CSR firms and estimated the Key Performance Indicators to measure the level of each firm's success. Classification takes place in terms of time span. We defined liquidity and solvency as short-term indicators whilst productivity, efficiency, and profitability as mid-terms (quarterly) indicators. For the purpose of this paper, we decided to conduct our analysis on the most socially responsible companies as voted by the "Greek Corporate Responsibility Institute". Our sample comprises of 12 firms which are all included in the database of the "Greek CR Index". This Index employs a methodology which allows Greek companies to assess their CSR practices and compares them among the competitors and is similar to methodologies such as "Dow Jones Sustainability Index" and "Business in the Community CR Index". The processed information is for the year 2009, and it was the second time a CSR

Index awards were presented. Our findings indicate that there is a positive correlation between CSR and firms' financial performance. However, further research is required in order to determine outcomes in the long run.

Keywords: Corporate Social Responsibility; Financial Performance and Sustainability; Greece

EA-22.02

Application of Systemic Analysis and simulation software in an incorporated company in problem recognition and resolution leading into management optimization

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EXTENDED ABSTRACT

Nowadays, when organizations and businesses are the most fertile cell of society, each of them should be adapted to the increased complexity that exist because society evolves, thus creating an unstable external environment. This highlights the need for flexibility and adaptability to any new data of the environment from the businesses management point of view. Therefore, in order to remain viable and profitable they should be able to evolve and simultaneously be improved. At this level, systemic approach from the managers is very important. The Systemic-Cybernetic approach in running an incorporated company with commercial activities aims towards its improvement and development. We move methodically to find the interactions within the system. Our goal is to intervene at key points so that we succeed in a real improvement and for the final results to be profitable for the company. Our work is based on structure-based methodology DCSYM, captures the structure and the operation of the business and focuses on identifying and simplifying problematic situations within the system. We also have a better view of the system due to the capability of the method to split the structure into subsystems. With this methodology we completely clarify the activities of the subsystems, the relationships among them and we succeed in an extensive exploration as well. So in this way a clear first picture of the operation of the system-company is depicted. Then we check the viability of the company using the Viable System Model of Beer, in which assesses whether the system is able to continue to meet their goals and achieve their targets or not, and the adaptability to an increasingly changing environment as well. For better illustration we use the VSMod software of Professor Jose Perez Rios from University of Valladolid. Next, we introduce the proposed improvements to the system which we illustrate through DCSYM methodology. Finally, we simulate the new structure of the system using the Vensim of Ventana Systems Inc software and observe their behavior in different situations. We utilize the systemic tools in the most efficient way to suit them, primarily in the corporate described environment, with the ultimate goal of the proposed improvements to be adapted to the real needs of the company and ultimately to any organization that wants to participate in future developments and diffuse systemic thinking and analysis. The paper is organized as follows:

1. Presentation of the structure and activities of the company.
2. Illustration of the above using DCSYM methodology.
3. Check viability with Viable Model System of Beer.
4. Using DCSYM as a tool to solve problems.
5. Proposed improvements - Design of Proposed Improvements into DCSYM.
6. Benefit study.
7. Simulation of company's operations in Vensim and results analysis.

Keywords: Systemic Methodologies, Viable System Model Beer, VSMod, DCSYM, Vensim

EA-22.03

Use of Systemic Methodologies and Simulation of Fleet Management into a Limited Liability Company for its optimal management

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EXTENDED ABSTRACT

In this paper, a Systemic-Cybernetic approach applied to a limited liability company in order to highlight the problematic points in the vehicles' scheduling and its optimal management is presented. The purpose is to focus on the triangle quality-time-cost, factors directly affected by the heart of the anthropocentric system which "beats" in the relations of individuals composing the company. Fleet management coexists as procedure within the operations of several companies. The way of monitoring and designing are tasks directly related to the design of the path with which the minimization of the cost is achieved, usually expressed in kilometers. Nowadays, saving money and time is a critical need in many segments of everyday life resulting fleet management as an essential factor in financial planning of many companies like this will be analyzed. Several scientists have studied this procedure using mathematical models but now, it comes under the microscope of systemic analysis. For this analysis, the full depiction and diagrammatic presentation of the communications among company's departments is taking place in order to obtain a better comprehension of its operations, highlighting the connections related to the procedure perused using DCSYM platform, a systemic methodology that proposes a high-level design language, which enables effective synchronous and asynchronous multi-agent conversations. The outputs of DCSYM methodology are highly conceivable and comprehensive semantic diagrams with a consistent mathematical description that can be easily manipulated with the use of appropriate software. Then, the viability of the whole company is checked with the use of Beer's Viable System Model (VSM) and Jose Perez Rios' software VSMod, to make growth limiting factors transparent. Thereupon, Beer's VSM is applied on the process of fleet management aiming its viability inspection within the company. VSMod is software created to facilitate the application of the Organizational Cybernetics and more specifically the Viable System Model to the design or diagnosis of organizations from the point of view of their viability. Finally, the procedure of fleet management is simulated by using Ventana Systems Inc.'s Vensim and XJ Technologies' Anylogic, systemic dynamics simulation softwares. These tools are used to illustrate the current situation, its effectiveness and influence throughout the company as well. From the implementation of the above systemic methodologies in the particular system, arose some proposed improvements one

of which was applied actually in the company and it is addressed in the present study showing the efficacy in better management of company's vehicles, savings and better customer service. The paper is structured as follows:

- Presentation of the company analyzed.
- Modeling in DCSYM, Vensim and Anylogic.
- Viability control by using Beer's Viable System Model and VSMod software.
- Proposed improvements – Design of proposed improvements into DCSYM
- Conclusions

Keywords: Fleet Management, Systemic Methodologies, VSM of Beer, VSMod, DCSYM, Vensim, Anylogic

EA-22.04

Systemic and Business Approach in Technological Company

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EXTENDED ABSTRACT

We have applied systemic methods and business tools on a technological company. A comprehensive record of the company is presented and a diagrams of its procedures using systemic design. The certification project consisted of the business plan which analyzes the trend and competition of the market and the growth potential of the company, considering the strength and weakness of their products. Thee business assessment indices evaluate the effectiveness of the business targets and therefore contribute to a better strategic planning. The systemic design of the indoor and outdoor environment of the company enables the control and adjustment of problems and it helps to better monitor the business results. The combination of the business plan and the systemic design has been proved a good combination for strategic decisions and an effective tool for management. As a result of the certification project, many operational problems of the company were noticed and important strategic changes were made. The project suggests financials and business solutions which improve the efficiency, the sustainability and the growth of the company.

Keywords: systemic methods, business plan, strategic plan

EA-23.01

Linguistic Aspects in Human-Computer Interaction in the Service Sector

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EXTENDED ABSTRACT

New developments in Human-Computer Interaction in the Service Sector create new possibilities of interaction which also involve linguistic aspects in User-input and System-output. These aspects concern the dialogue structure, the form and content of output produced by the System, as well as the type of natural language in which the interaction takes place. The role of linguistic aspects is especially significant in applications in which the computer is invisible, such as Cloud Computing, Ambient Agoras, «Mash-ups», as well as Open Source Dialogue Systems using information from the Web. In respect to the form and content of System output, the element of time, playing a crucial role in the serial form of dialogue structure and duration of the interaction, is accompanied by the element of space, where multiple sources and types of information may appear on the screen, especially in multimodal applications. For example, the System may inform the User of a new window appearing to the lower right of the screen or of a natural object located to the left of the User. Previous studies have shown that, at least for Modern Greek, prosodic emphasis on elements expressing time and space (movement), in utterances produced by the System contributes to the achievement of precision and clarity in Human-Computer Interaction. Clarity and precision are of essential importance for the element of space, no longer a static element but is more likely to change, whether it concerns the space restricted within the computer's screen or the ambient environment, the space in which the user is located. In respect to dialogue structure, the Task-related Speech Acts typical of most Human-Computer Interaction Systems, are likely to be accompanied by Non-Task-related Speech Act, especially Non-Task-related Speech Acts related to Decision-Making. Non-Task-related Speech Acts can be divided into three main categories: Speech Acts constituting an independent step in dialogue structure such as "Close Dialogue" ("Thank you" for using Quick-Serve"), Speech Acts attached to other Task-Related Speech Acts constituting with them a singular step in dialogue structure ("I cannot understand your request" ("Justify") following or preceeding the Task-Related Speech Act ("Request")) and Speech Acts constituting an optional step in dialogue structure of Service-Oriented dialogues ("Reminder": "You still have two minutes to complete this transaction"). In respect to the type of natural language of Human-Computer Interaction, multilingual sources of information as well as multilingual users are to be taken into account. A typical case are professionals, usually having an above-average fluency of one or more foreign languages, but often lack

the necessary exposure to the culture(s) related to the foreign language(s) concerned, especially due to distance or frequent change of location. Morphologically-based tools offer rapid access to (a) basic lexical information for a quick evaluation of text content and also help (b) highlight connotative features in texts for an in-depth understanding of texts. This semantic-morphologically based approach allows the User to evaluate both basic information content and connotative features in multilingual sources and facilitate the subsequent decision process.

Keywords: Human-Computer Interaction, space, Decision-making, multilingual applications, morphologically-based tools

EA-23.02

Organizational Development from a salutogenic viewpoint. How can management increase its capability to promote and effectively implement innovations along with fostering managers personal sense of well-being?

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EXTENDED ABSTRACT

The purpose of this paper is to present an organizational development conceptual framework, which, rooted in the system oriented management thinking, links innovation and change with the personal sense of well-being. Managers in organizations ought to promote and implement innovations as well as change processes professionally. Besides showing creativity, managers are supposed to think and act entrepreneurially and be open to new trends and opportunities. Furthermore, they are asked to be engaged, committed, and identify with the organization and to give the best of themselves, both physically and mentally. Managers should also support the innovation and change capabilities of their direct employees: transmitting vision and meaning, building up trust, motivating them to perform and coaching them in their personal development. To be able to achieve these demands, company owners and HR managers very often expect certain personality strengths from their senior and junior managers. Typical requirements are characteristics such as extraversion, openness to experience, agreeableness, conscientiousness and emotional stability. Over all, managers are asked to be 'resilient', that means stress resistant, and able to cope with difficult situations such as persistent work overload, frustration and tensions among colleagues. Such expectations and requirements often drive managers to the limits of their own possibilities (and sometimes beyond); especially since not all managers possess these kinds of attributes and because personality traits are very difficult or even impossible to change at this stage. Systemic thinking traditionally supports organizational development in understanding 'development' in an integrative and holistic way, looking for a more worthy combination of people's capabilities and organizational resources. That compels to consider organizational requirements as well as personal needs in a balanced way. Advancements in systemic organizational psychology and second order cybernetics have helped to design management processes and techniques more effectively. If organizational development is intended to design, steer and improve innovation and change processes in socio-technical systems, we need a better understanding and the right instruments to enhance – individually and collectively – both managerial thinking and action as well as the physical and mental well-being of managers at all levels of the organization.

This has encouraged us to outline a conceptual model, which takes into account the concrete tasks and activities of management and relate them to the cognitive, emotional and motivational processes of managers without making use of conventional personal traits. Based on the systems oriented St. Gall Management Model we present a new conceptual framework in which the relationship between concrete management practices and the psychologically experienced 'sense of coherence' is explained. The 'sense of coherence' is the psychological pillar of Aaron Antonovsky's Salutogenic model. It is composed by three factors: 1. Comprehensibility; 2. Manageability; and 3. Meaningfulness. People who perceive their environment as being comprehensible, manageable, and meaningful, will experience a higher level of well-being than those who do not. Reverting to Antonovsky's Salutogenic model we argue, that comprehensibility, manageability and meaningfulness are general phenomena, which help people – especially managers – to cope with complexity, handling external challenges and leading innovation and change processes more smoothly. Based on first quantitative research studies among more than 200 managers we are able to show first empirical findings supporting the conceptual model and define lines for further research.

Keywords: Organizational Development, Innovation and Change Management, Second-Order Cybernetics, Salutogenesis

EA-24.01

Ontologies and systemic thought

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EXTENDED ABSTRACT

Currently, the rapid development in several scientific activities, i.e. in the technology areas, has given rise to the development of the information knowledge. The management of this knowledge is essential and, thus, represents a cornerstone fundamental resulting from the interaction between the so-called 'human and machine' relationship. This relationship, however, is sometimes difficult to be accomplished accurately due to the variable perception and/or knowledge level of the people. This drawback reflects, also, on the development of several system specifications. Several modeling attempts have implemented so far, by the use of specific interactive software tools. However, they represent quite an inefficient performance due to the lack of re-usage and/or re-functionality. These problems are resolved by the acquisition of a common perception level, which balances possible variations. Typically, we refer to the sense of the ontology, which is a classical, predicative specification of a parceled semantic representation. In general, the ontologies facilitate the communication between humans and machines, exploiting the common understanding of several terms, by mapping these terms on different knowledge levels. Additionally, the ontologies depend on sanity, since they are direct definitions of several terms and, thus, are able to extract rational conclusions. In this project, we will analyze the sense and the meaning of the ontology along with the most important methodologies for the development of the ontologies. Moreover, we will define a general ontology, namely the "informatics company ontology (ico)", by collecting and categorizing certain information from several companies. The implementation of the ontology will be accomplished by the use of the protégé software tool, which we will briefly describe. Our main objective, in this work, is to analyze and then deal with the knowledge management issue effectively, since it represents a major problem for several companies (such as companies of informatics) nowadays. Finally, we will semantically model the proposed ontology by using the dscym methodology, which is able to encounter every potential complexity of any organization, in order to achieve both creativity and internal stability, simultaneously. Furthermore, we will model certain fermentations by the use of the vensim methodology, which represents another semantic tool.

Keywords: knowledge management, ontology, protégé, Vensim, Dscym

EA-24.02

The diverse meanings of risk through a historical approach

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EXTENDED ABSTRACT

Newspapers, as means of communication, produce ideology, policy and culture. As objects, they include corporeity in terms of developing their own language and aesthetics. Most historians and library scientists often acknowledge and point out the value of newspapers for the wider public by stressing that as a source of information they influence educational procedures and perceptions of various ideas. One such idea that has many definitions and dimensions is the notion of "risk". Risk is part of every human endeavour and is characterized by multidimensionality, diversity and numerous perspectives. Risk involves situations in which people, or more precisely risk-takers, are required to make choices among alternative courses of action where the outcome, either positive or negative, is unknown. The actual risk may be related to financial, environmental, educational, social, health issues and not only. In the current study we examine how the notion of risk is presented in diverse contexts in three (3) randomly selected newspapers from the 19th century to the 20th. Online research in newspapers' databases was used in order to identify and classify the meanings that may be accredited to risk. Findings imply that risk, as a term presented in newspapers historically, acquires multiple significances as implied every time by the more general society and that there no precise definition.

Keywords: database, notion of risk, diverse significances

EA-24.03

Searching potential businessmen and entrepreneurs in texts

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EXTENDED ABSTRACT

Can an entrepreneur be detected from his texts? Can one find some of an entrepreneur's attitudes in any written text? Are there any characteristics which can be sought in written texts? In this paper, free text essays on entrepreneurship and the individuals' expectations from a relevant course are examined using measures based on Shannon's theory about the entropy carried in a sign. Some of the measures are similar to the ones presented in previous work (Georgakalou 2006, Georgakalou and Moustakis 2006, Georgakalou and Moustakis 2008), i.e. identity, security, emotion, certainty, commonality, positivity, negativity and the overall feeling of a text. The successful entrepreneur's characteristics are: (i)Hard Work, (ii) Health and Energy, (iii) Self Starters, (iv) Persistence and Confidence, (v) Active Persons, (vi) Going to the Essence, (vii) Focus on Business Requirements, (viii) Emotional Issues (do not really take too much care about them). Those characteristics lead to several other attitudes one can search a text for, which will focus on the person's business orientation by measuring the amount of the person's determination to resolve problems as well as the amount of economic, social and political thought he might have. All results will be then compared to the results of the implementation of the measures to famous businessmen's, e.g. Giorgio Armani and Bill Gates texts, so as to reach at some more general findings. Therefore, the new measures of (i) determination, (ii) socioeconomic orientation and (iii) political thought are proposed. Additionally, some business oriented rules are proposed for the measures proposed for leaders in the previous works. Those measures and rules might be useful for people trying to find new talented individuals for business and enterprises.

Keywords: Business, Entrepreneurship, Text attributes, Semantics, Shannon's Entropy

EA-24.04

Addiction in the internet - new form of dependence

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EXTENDED ABSTRACT

The subject of work concerns the pages of social networking, the way and their frequency of use from the students. The present work uses term `Addiction in Network', in order to describe the extreme results that are caused by the use of Internet. The possibility of addiction or likely dependence took bigger dimensions when enough special psychiatrists and psychologists considered that the excessive pastime with the networking pages can cause addiction and recognize the particular passion as independent disturbance and dependence that cause a concrete number of symptoms, included the change of disposal from the use of internet, failure to achieve itself important obligations, the guilt and the appetence. In this subject we will give the significances of Addiction in the Internet, where it constitutes a new form of dependence. Aim of present work is the concretisation of research which might us help we comprehend the way of use of pages of social networking and the degree of addiction of students. As method of sampling was selected the deliberate sampling. The sample they constituted 100 students of Technological Educational Institution of Athens and 100 students of University of Piraeus. For the collection of data was preferred the method of questionnaire, because with questionnaire, in relatively little time and with small cost we have the possibility we assemble empiric data from wider teams on a lot of subjects. Was thus used a closed questionnaire of 10 questions, which includes questions of demographic content but also questions relative with how the networking pages are used from the students. As method of analysis of data were selected the application of program Excel and the creation of diagrams so that we comprehend better also more easily the results of research. The results of the research give us the possibility of leading to conclusions that show us the networking places that the students prefer and the ways they use these pages in their everyday routine. The prevention so that is avoided the erroneous use as well as the briefing on the pathological use of internet are the key, in order that this 'plague' does not take tragic dimensions.

Keywords: Addiction, internet, pages of social networking, dependence

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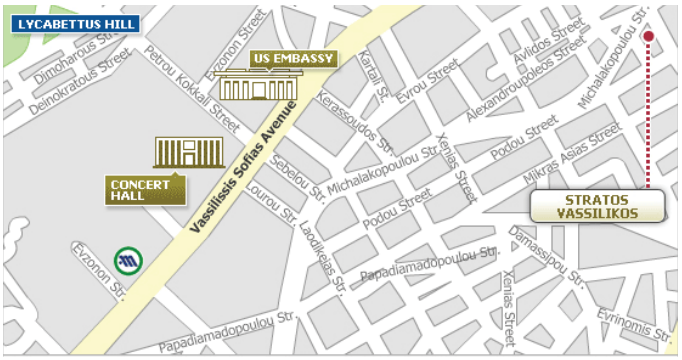
The Venue – STRATOS VASSILIKOS HOTEL



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About Athens

Athens has a lot to offer to its visitors. There are many things to see not only at the historical center but also a few kilometers away.

You can start from the commercial heart of the city, Omonoia Square, which combines modern and neoclassical architecture and walk up Panepistimiou (University) street passing by the National Library, the University of Athens, the National Academy, the Catholic Cathedral and many other impressive buildings of the Modern Greek era.

By then, you should have reached Syntagma (Constitution) Square, one of the busiest places of Athens, where the Parliament is located. You will know you are in the right place when you see the Evzones -the presidential guard- in front of the monument of the Unknown Soldier.

On your right is Amalias Avenue where you will find the gate of the National Garden. Walk among typical and rare plants and trees until the Zappeion (Conference and Exhibition Hall), appears before you. A few meters away stands the Panathinaikon Stadium, the cradle of the Modern Olympic Games (1896).

On your way to the Acropolis, stop to visit the Corinthian pillars, remains of Zeus' temple and the Arch of the Emperor Hadrian, where the pedestrian street, Dionisiou Aeropagitou, begins to lead you to the Odeon of Herodus Atticus at the foot of the Acropolis Sacred Rock. Walking up the hill, you will enter the site through Propylea and visit the Parthenon, the most important and characteristic monument of the ancient Greek civilization which still remains its international symbol, the Temple of Athena Nike, the Erectheion and of course the New Acropolis Museum uniting collections that were formerly dispersed in multiple institutions in an exhibition space of more than 14,000 square meters.

With these pictures in mind, walk downhill to Plaka, the oldest neighborhood of Athens, and taste the typical Greek cuisine in one of the traditional tavernas or have a frappe (iced coffee) in one of the numerous cafes.

Other highlights you should not miss: the Archaeological Museum, the Museum of Cycladic Art, the Benaki Museum, the National Gallery, The Byzantine Museum, the Frissiras Museum of Contemporary Greek and European Painting, the Lycabetus Hill, Monastiraki, Thiseion, Faliro-Glyfada coastline by tramway.

From upper left: the Acropolis, the Hellenic Parliament, the Zappeion, the Acropolis Museum, Monastiraki Square, Athens view towards the sea

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