

UNIVERSITY OF MALTA
The Edward de Bono Institute for the Design
and Development of Thinking

Abstracts

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Professor Edward de Bono
Visiting Professor,
University of Malta, Malta

Edward de Bono is considered by many to be the leading authority in the field of creative thinking and the direct teaching of thinking as a skill. He is the originator of the formal creative thinking tools of lateral thinking, the Six Thinking Hats, the Cognitive Research Trust (CoRT) and Direct Attention Thinking Tools (DATT). These methods are widely used in both educational and organisational settings. Edward has been appointed Ambassador for the EU Year of Creativity and Innovation 2009.

Edward has written 82 books with translations into 41 languages and has been invited to lecture in 61 countries. His instruction in thinking has been sought by many of the world's leading corporations including IBM, Microsoft, BT, Nokia and Siemens. He has been included by a group of academics in South Africa as one of the 250 people who had most influenced humanity in the whole course of history. He has been selected by a leading Austrian business journal as one of the 20 visionaries alive today. He was nominated by Accenture, a leading consultancy company, as one of the 50 most influential business thinkers today.

Edward holds an M.D. (Malta), M.A. (Oxford), DPhil (Oxford), Ph.D. (Cambridge), D.Des (RMIT) and LL.D. (Dundee). He has had faculty appointments at the Universities of Oxford, Cambridge, London and Harvard, was a Rhodes Scholar at Oxford and is a Visiting Professor at the University of Malta.

Why traditional thinking is inadequate

Professor Edward de Bono

We have developed thinking that is concerned with discovering the Truth. We have neglected the thinking that creates Value. This may be because in the Middle Ages thinking was largely in the hands of the Church which was more concerned with Truth than with the creative and design thinking needed to produce Value.



Paul Callaghan
Chairman of The Leighton Group, UK

Paul is Chairman of The Leighton Group, a UK based technology, software, media and communications group

that he established. He co-founded DomainNames.com, which became one of Europe's largest domain name registrars and then sold it to VeriSign in 2000. 4Projects, the UK's market leader in the provision of on-line Project Management software, which was part of the Leighton Group, was also sold in 2007.

Ernst and Young voted Paul the 'Northern E-business Entrepreneur of the Year' in 2000 and in 2005 he was voted the 'Entrepreneur of the Year' in the Portfolio Awards. He is a founder director of the Entrepreneurs Forum, Chairman of RTC North (the regional technology centre), Deputy Chairman of Sunderland University and was the David Goldman Visiting Professor of Business Innovation at Newcastle University. He was the first Chairman of Business Link North East and is the Deputy Chairman of the regional development agency ONE North East and a member of the UK Government's Business Forum. Born in Sunderland, Paul began his career as a research economist. He has a first degree in Economics from the London School of Economics and Masters degrees in Management and Education from Newcastle University and Finance and Economics from Salford University, UK.

businesses.

He will consider the concept of 'Disruptive Innovation' in providing opportunity and consequent risk which the entrepreneur, in his willingness to accept, can exploit and pursue as an opportunity. Existing businesses are generally involved in sustaining innovations; entrepreneurs are at the centre of disruptive innovations. They emerge through a combination of opportunities and are well-positioned to take advantage and drive forward business transformations.

Entrepreneurs are willing to accept a high level of personal, professional or financial risk in order to pursue business opportunities. Paul will discuss the characteristics that entrepreneurs must have as well as the process of innovative business building and its associated pitfalls. This will be illustrated with examples, paying particular attention to changes in Information Technology, the digital industries and the Internet.

The Role of the Entrepreneur in an Innovation Economy

Paul Callaghan

Entrepreneurs are fundamentally important in changing business norms. Paul Callaghan will examine the role and significance of entrepreneurs in creating and commercially developing innovative



Professor Luke Georghiou
Professor of Science and Technology
Policy and Management, Manchester
Institute of Innovation Research,
Manchester Business School,
University of Manchester, UK

Luke Georghiou B.Sc., Ph.D. is Professor of Science and Technology Policy and Management at Manchester Institute of Innovation Research (formerly PREST) in Manchester Business School at the University of Manchester and has been on its staff since 1977. His research interests include evaluation of R&D and innovation policy (particularly in relation to the demand-side), foresight, national and international science policy, and management of innovation. He has chaired committees and provided high level advice to several foreign governments including those of Japan, Germany and Finland.

Luke is an invited member of the European Industrial Research Management Association. He recently chaired the Annual Impact Report Panel of the EUREKA Initiative. He was rapporteur of the influential Aho Group report to European leaders *Creating an Innovative Europe* and in 2007/8 chaired the EC's Expert Group on ERA Rationales, presented to the European Competitiveness Council in

July 2008. Most recently he was a panellist and chair of the expert sub-group of the Glover Committee *Accelerating the SME Economic Engine*, published with the UK's Pre-Budget Report. He is an elected member of the Board of Governors of the University of Manchester and a member of the Board of Directors of Manchester Science Park Limited.

Can Europe Innovate its way out of the Recession?

Professor Luke Georghiou

We have moved from a long period of consumer-driven innovation to a new era where the main impetus is likely to come from socially-driven innovation. Do the causes and the effects of the present crisis also contain clues about the way out of it? There are lessons to be learnt both from history and from what the application of foresight can tell us. While there are no quick-fixes, Europe can find a positive route out of the economic crisis if it builds on its successful history in bringing innovative public goods and services to its population. Achieving this means large scale partnership between government and business focussed upon the grand challenges facing our society – climate change, energy and food security and meeting the needs of the ageing society. These sources of societal demand need to be matched with coordinated action to bring forward the supply of a new cycle of technologies and innovations.

Each major economic downturn in the past century has brought a rekindling of interest in the phenomenon of long waves or business cycles. Most significantly for our present predicament is that

1990 saw the start of a cycle based on software, digital networks and consumer electronics. Could the slowdown of this wave be an underlying feature of our crisis? Where will the new economic drive come from? Most countries have bet on biotechnology. Increasingly nanotechnology is being invested with similar expectations. We face a potential vicious circle in the present economic situation. These are sectors where young innovative companies with high growth potential could be expected to play a major role alongside well-established players. Their chances of doing so are being severely constrained by a shortage of credit and a fearful climate for investors. Careful support is needed from governments – some additional input of funds is necessary especially for earlier stage funds but this should remain a minority stake to keep the cutting edge judgements of high risk and high reward that the private sector brings.

Important as the supply-side is, the most important actions governments can take are on the neglected demand side. Government sits on a set of powerful tools. Public procurement can be used to pull through innovations. For young companies, a first commercial order is worth far more than any government grant as it gives it the credibility to serve future customers. By creating lead markets in Europe for these socially-driven innovations governments can start the process of transition and equip Europe's businesses to move on to world market success. The actions needed are an extension of the core business of the European Union – creating a single market but ensuring that it is a market friendly to innovation. The new wave of innovations does not offer a short path

out of the crisis nor even one that is clear at the outset but history would suggest that it is the only path that leads to future prosperity.



Professor Sirkka Heinonen
Professor of Futures Research,
Finland Futures Research Centre
Turku School of Economics, Finland

Dr. Sirkka Heinonen is Professor of Futures Research with Finland Futures Research Centre (FFRC) at Turku School of Economics. Her expertise is concerned with futures research, technology foresight, knowledge society, innovation studies, social media, and sustainable development. Professor Heinonen was commissioned to report on futures research activities in other countries to help organise Finnish futures studies in the early 1980s. In the late 1990s she was involved in preparing the Finnish Government's Futures Report to Parliament and in renewing the Finnish National Strategy for Information Society. She is a member of the steering group of the Finnish national foresight network of SITRA (The Finnish Innovation Fund) and an active member in the Finnish Society for Futures Studies. Sirkka is Co-Chair of the Helsinki Node of the Millennium Project (<http://www.millennium-project>).

org) and since 2005 Member to the Club of Rome.

Creative Foresight Space – Power from Imagining the Futures

Professor Sirkka Heinonen

The concept of Creative Foresight Space has been developed for systematically stimulating both creative thinking and futures orientation within organisations. A theoretical framework for the concept is provided by the flexible proactive work and open innovation model in the knowledge society as enabled through ubiquitous digital society. The potential for growing the competence of employees and nourishing their creativity is calling for more action and experimentation. The aim of the Creative Foresight Space is to improve overall organizational foresight capacity through a combination of physical and virtual milieu amplified with digital tools and content generation.

The Creative Foresight Space is a physical space inside an organisation where the employees can pop in and stay for a period of time when they need an infill of innovative stimuli and proactive thinking support outside their daily job routines. People are also invited to leave their own comments and contributions to the collective ideation. It is a hybrid space – a cognitive combination of coffee room, library, meeting corner and meditation room. The ambience design plays an important role in forming such a space: choice and location of furniture, colours, sounds, lighting, technical equipment etc. The Creative Foresight

Space is a collective instrument and an interactive platform for organisational learning: how can foresight intelligence and creative capacity be improved and integrated? If successfully implemented, the Creative Foresight Space is also expected to strengthen the employees' work motivation and job satisfaction. Furthermore, it can be used as an added value in the recruiting processes in order to attract a competent workforce.

The Creative Foresight Space is used for invoking, enabling and exploiting community creativity. It provides serendipity and cross-fertilization of ideas: employees from different departments may share ideas. They are expected to be empowered from more possibilities of freely imagining various futures and probing different future alternatives – whether they are, for example, in product development, personnel practices, marketing or strategic development.

The concept has been initially tested on a few occasions when the users were asked to give feedback and suggestions for further development. The concept will now be piloted in various settings. Besides an office milieu, the Creative Foresight Space is intended to be installed in a library and in a science exhibition setting.

In this way, different kinds of audiences and users will share the interactive development process. The introduction of Creative Foresight Space in an organisational environment requires a strategic foresight approach added to creative management. They both mean a great challenge for developing related leadership skills.

Could the Creative Foresight Space – by enhancing both creative thinking

and futures orientation – be one way of helping the leaders get their personnel to be inspired, to renew, and to learn? These are major criteria for future leadership.



Elina Hiltunen
Futurist, Nokia group, Finland

Elina Hiltunen M.Sc.(eng.) is a futurist and she is currently working in Corporate Strategy, at Nokia. Previously in her career she worked at Finland Futures Research Center and she has also had her own consulting company: What's Next Consulting.

Hiltunen's passion is for weak signals, about which she is currently doing her Ph.D. She has been active in thinking about the possibilities of using weak signals in organizations and she has developed methods like Futures Windows and Futuropoly for organizational futures learning (OFL) process.

She has co-created a software program TrendWiki for collecting and analyzing weak signals in organizations. Hiltunen has been an active writer, having her columns about weak signals published in Finnish magazines.

Organisational Futures Learning (OFL) Process *Elina Hiltunen*

Organizational futures learning (OFL) is defined as organization's learning about possible future threats and possibilities based on today's evidence of the future (e.g. weak signals). OFL includes collectively becoming aware, obtaining, collecting and making sense of futures oriented information like weak signals, trends and megatrends, the process of studying this information, analyzing it, disseminating it inside an organization, interpreting it, sharing it and using it in organization's various processes, also in creating the futures (new strategies, products, services). The difference between organizational learning and OFL is the strong future emphasis of OFL, which does not only include anticipating the future but also creating it by being inspired by the futures information.

The special emphasis in OFL is on weak signals (signals of emerging issues that could one day become trends, even megatrends), which provide the most potential (and at the same time the riskiest) information about the future.

Various tools of organisational futures learning that Elina has developed will be discussed (including the FuturesWindows, a tool for collecting and disseminating visual weak signals in organizations, and Futuropoly, a tool for futures learning). Some futures activities at Nokia Group, like the ongoing World Map activity, that is strategy level foresighting activity in the company, will be described.



Dr. Riel Miller
Founder of xperidox;
Faculty member at the Institut de
Sciences Politique, Paris, France

Riel Miller is a specialist in long-run strategic thinking. For over two decades his work has concentrated on how to assess and direct the potential for socio-economic transformation in the private and public sectors (www.rielmiller.com).

Born in Canada Riel holds a Ph.D. in Economics. He started his career as a professional economist in the early 1980s at the Organisation for Economic Co-operation and Development's Economics and Statistics Directorate. From the mid 1980s up until 1994 he worked in four different areas of the Ontario Government: the Legislature, the Ministry of Colleges and Universities, the Ministry of Finance, and the Ministry of Economic Development and Trade. At the beginning of 1995 Riel returned to the OECD as a Principal Administrator in the International Futures Programme. In 2005 he left the OECD to establish an independent consultancy, xperidox: futures consulting, Paris. He speaks and publishes on a wide range of issues, from futures methodology and the design of scenario processes for strategic decision making to the future of money, education,

the internet, the knowledge society, the public sector, etc.. He is one of the world's leading practitioners of scenario methods and now designs cutting-edge "hybrid strategic scenarios" processes for a wide range of international clients.

Riel is a faculty member at the Masters in Public Affairs, Institut de Sciences Politique (Sciences-Po), Paris, France where he teaches a core course in the Master's program called "Reform vs Strategy"; Visiting Senior Fellow at the Danish Technological Institute, Denmark; an Associate at Demos, UK; a Member of the Board of the World Futures Studies Federation, a member of the European College of Regional Foresight and a Member of the Board of the Association of Professional Futurists.

Rethinking Thinking
about the Future
Dr. Riel Miller

People think about the future all the time and use what they imagine might happen to make decisions that are as mundane as deciding to take an umbrella when they go outside to as grandiose as fixing the world's financial crisis. This presentation will look at recent developments in the way we think about the future.

The starting point is what can be called "anticipatory systems". These systems use inputs of many kind to trigger the workings of a model capable of providing an image or story of some future moment. So, when we decide to take an umbrella, it is because we have a model of where we will be (outside) and of the weather (dark rain clouds in the sky), we

imagine this model at a future point in time and then make our decision.

Anticipatory systems contain models that allow us to both imagine a situation and accelerate time so that the situation is in an imaginary future. It is the hypothesis of this presentation that there are multi-faceted and inter-dependent transformations taking place in both the theory and practice of anticipation. Such changes are important because the choices people make are influenced by the nature and content of the anticipatory systems they use.

Today there are strong signs that both the endogenous inner workings and the exogenous operational conditions of anticipatory systems are changing. There is evidence that the concepts we use to define and relate to the future are changing. And there is evidence that the way that the future enters into the present is also changing. Some of this evidence comes from the academic world where there are numerous developments that point towards a 'paradigm shift' in anticipatory systems. For instance, in the physical sciences the exploration of the quantum level and of the origins of the universe are calling into question the universality of the familiar Newtonian ideas about causality and time. In the realm of the social sciences, paradigmatic shifts in thinking about the future can be detected in new ideas, like Manuel de Landa's 'assemblage theory' and Mika Aaltonen's 'multi-ontology sense making', that address the long-standing admonition of Karl Popper to try to embrace "*changes in the conditions of change*" or the non-ergodic nature of reality.

Other academic disciplines also manifest the ferment of paradigmatic breaks, related in part to how the future is

understood and used, for instance in the fields of public and private governance – or management. Scholars like Gilles Paquet have observed that people in everyday life, as a bureaucrat, citizen, manager or 'front-line' worker, are all confronted by the profound limits to knowledge inherent in systems of delegated power and top-down administrative command and control. Which in turn inspires exploration for new ways to allocate responsibility and enable the Senian "capacity to be free". But a fundamental aspect of this freedom and capacity can only be expressed in the future and calls for different ways of using the future. Outside of the symptoms of paradigmatic changes in our anticipatory systems revealed by university research there are the signs we encounter in everyday life of the inadequacy of old planning and command approaches, old ways of thinking about the future. Current decision making systems do not seem to have the capacity to embrace complexity when faced with the global financial crisis, climate change, the rise of the BRIC countries, the aging of populations, or the 'crisis of democracy'.

This presentation will build on discussions underway internationally in a range of different fora, from the World Futures Studies Federation to the American Department of Defence, that point to the emergence of new anticipatory systems. Consideration will be given to a specific approach to bringing the future into current choices, called 'futures literacy', that goes beyond the simplification and planning that were acceptable and effective in an era when the goal of survival justified sacrificing the means to the ends.



Professor Guido Reger
Professor for Innovation
Management and Entrepreneurship,
Director, Centre of Entrepreneurship
and Innovation,
University of Potsdam, Germany

Professor Guido Reger from the University of Potsdam and in his former position as senior researcher at Fraunhofer Institute for Systems and Innovation Research (ISI) has been involved in various research projects on industrial innovation strategies, globalisation of research and technology, evaluation of science and technology policy. His research focus is on technology and innovation management, entrepreneurship, start-up companies, globalization of research and technology, and national and regional innovation systems. Guido Reger has published numerous books and articles. He is senior adviser to various German Ministries, OECD, and the European Commission and to small and large enterprises.

Professor Guido Reger has experience in research cooperation in Europe and Asia (Peking, Copenhagen, Brighton, Stockholm, Lisbon, Paris, Madrid, Cambridge, and Tokyo). He received the research award of the International Association for Management of

Technology (IAMOT) in 2003. In his position as Director of the Centre of Entrepreneurship and Innovation (BIEM-CEIP) he has experience in cooperation at the local level.

Open innovation and Customer Integration – Opportunities and Risks.

Professor Guido Reger

Open Innovation has established itself as a central theme in innovation management both for researchers and practitioners. Numerous publications exist which discuss the tactical opening of the innovation process and the strategic integration to the outside world. Normally these publications go into benefits of Open Innovation, but occasionally the risks of open innovation are discussed.

This presentation seeks to pick up on this existing deficit through a critical analysis of customer integration with a clear focus on the concept of lead user. The transition from sellers' to buyers' market necessitates that enterprises anticipate customer needs in advance and integrate them into the innovation process. Among the various forms of customer integration (e.g. market research, online communities, toolkits) the lead user approach is considered the most prominent form of customer participation. It serves as one of the most important elements of open innovation by bringing external knowledge into the corporation.



Mr. Manfred Rink

**Head of New Business, Bayer
MaterialScience AG, Germany**

Manfred Rink is a resident of Cologne, Germany. After completing his studies at the University of Applied Science with a degree in mechanical engineering, Manfred Rink worked in the development unit of a well known automotive supplier.

Manfred Rink has worked in several positions at Bayer AG since 1985. Today, he holds the position of *Head of New Business* at Bayer MaterialScience AG. The New Business unit is part of the Corporate Development unit, responsible for the long term development of the company and a key unit for the innovation strategy of Bayer MaterialScience.

The New Business Unit works in close collaboration with the core business units and acts as a link within the whole Bayer MaterialScience organization. New Business aims to use synergies for the identification of new business opportunities, which go far beyond the existing product and process portfolio of Bayer Material Science.

Manfred Rink is part of the management board of the society "Kunststoffland

NRW" since 2006. "Kunststoffland NRW" is a cooperation of stakeholders from plastic industries, manufacturers, mechanical engineering, research and development, education and industry-related suppliers and financial service providers, which aims to enhance the competencies and excellence of plastic industries in the region North Rhine-Westphalia, Germany.

**Efficient management of
Branch Specific Innovation
and Technologies at Bayer
MaterialScience AG**

Mr. Manfred Rink

Based on the accelerating dynamics created by change on both technologies and on the markets of effective organizations, a successful established and flexible innovation processes is seen as essential for companies' long term success. By having a look inside Bayer MaterialScience, one of the leading plastic material suppliers, the presentation discusses essential features of modern innovation management. From 'central research' to 'decentralized research' to 'we do everything in house' to 'open innovation' advantages and disadvantages will be discussed. Examples on how to move systematically from global plastic relevant trends to real business including the meaning of the companies' position in the value chain and how different branches are acting with innovation from a raw material supplier point of view will conclude the presentation.



Professor Joe Tidd
Professor of Technology and
Innovation Management
Science & Technology Policy
Research, University of Sussex, UK

Joe Tidd is Professor of technology and innovation management at SPRU (Science & Technology Policy Research), University of Sussex, UK and Visiting Professor at University College London, Copenhagen Business School and Rotterdam School of Management. He was previously Head of Management of Innovation Specialisation and Director of the Executive MBA Programme at Imperial College. He has worked as policy adviser to the CBI (Confederation of British Industry), responsible for industrial innovation and advanced technologies, and has worked on research and consultancy projects on technology and innovation management for consultants Arthur D. Little, CAP Gemini and McKinsey, and technology-based firms, including American Express Technology, Applied Materials, ASML, BOC Edwards, BT, Marconi, National Power, NKT and Nortel Networks, Petrobras and Pfizer.

Joe Tidd is the winner of the Price Waterhouse Urwick Medal for contribution to management teaching and research, and the Epton Prize from

the R&D Society. He is Managing Editor of the *International Journal of Innovation Management* and author of more than sixty papers and eight books on managing innovation, the most recent being *Managing Innovation: Integrating Technological, Market and Organizational Change* (Wiley, 4th edition, 2009).

Innovation Leadership
for Economic and Social
Change
Professor Joe Tidd

The future of innovation demands that talented managers and researchers engage with the more fundamental economic and social challenges, rather than being confined to less pressing issues such as new product and service development.

Historically, innovation has been associated with optimism for the future, contributing to both social and economic progress. However, this is no longer the case. Innovation is not fully exploited to tackle issues such as sustainability and development. Instead, the emphasis is on the role of institutions and regulations, and in many cases innovation has become crudely linked to unbridled capitalism and consumption, i.e. part of the problem.

Innovation must again become central to meeting such challenges. Innovation policy and management need greater integration. Policy-makers need to understand how technology, markets and society co-evolve through a process of consultation, negotiation and experimentation. This demands a better appreciation of how innovation

works, and how different interests and stakeholders influence the rate and direction of innovation. We need to find ways to re-engage the energy and commitment of individual entrepreneurs and innovative organizations.

Engagement demands that someone has the interest, influence and imagination to search for novel solutions and to implement these. Interest requires motivation and commitment to work on a challenge and implies an emotional and affective attachment beyond a professional or intellectual interest. Influence means having an appropriate level of authority, responsibility and resource to tackle a challenge. Imagination implies a readiness and competence to develop a new and desired future.

This will demand a new cadre of innovation leaders and managers in the private, public and third sectors, with radically different roles and capabilities. The kinds of challenges faced will be more ambiguous, ill-defined or fuzzy, rather than clearly-structured or well-defined. The potential solutions and ways of solving them will be complex, unknown or untested, rather than known, predetermined, or simple. The outcomes and results will be new, requiring discovery and invention, rather than simply applying something that already exists.

Part of the required change is the attitude to risk. Innovation is inherently risky and will inevitably involve failures as well as successes. However, risk has become a negative term, something which should be minimized or avoided, hence the "precautionary principle" in policy which promotes caution and inaction. But this view perverts the nature

of risk and opportunity, which are central to successful innovation. The term "risk" is derived from the Latin "to dare", but has become associated with hazard or danger. We must also consider the 'risk' of success, or risks associated with not changing.

Successful innovation management requires that managers and organizations be prepared to take risks and to accept failure as an opportunity for learning and development. Leaders and managers must provide the climate, time, tools and training to encourage others to use these resources at appropriate times and on challenging tasks that promote innovation and change.

Silvia Adelhelm, Andreas Braun and Guido Reger
Center for Entrepreneurship and Innovation,
University of Potsdam (CEIP),
Germany

Silvia Adelhelm holds a diploma degree in European Business Administration from the University of Bamberg. Currently she works as a Ph.D. candidate and senior researcher for the Center of Entrepreneurship and Innovation at the University of Potsdam (CEIP). Since 2008 she has been working in Professor Reger's research team at the University of Potsdam within the applied research project 'Open Innovation in Life Sciences' (third party funded, BMBF). Silvia supervises this three year interdisciplinary research project with two researchers and three industry cooperation partners from the pharmaceutical industry. Additionally she lectures graduate courses and seminars in the field of Innovation Management.

Silvia has been gaining research, industry and project management expertise for the past eight years in different positions. During and before her studies at the Universities of Bamberg and Budapest she worked in sales, marketing, controlling and strategy departments in industry. At the same time she attended integrated courses of studies at the Bayerische EliteAkademie and concluded an interdisciplinary research project on "Strategic Positioning of companies in the field of genetic engineering – from R&D to marketable products". After graduating from the University of Bamberg she held a project management and strategic marketing management position at Wacker Chemicals in Munich, Germany.

By 2011 Silvia will have concluded her PhD thesis on "Business Models and Open Innovation in the pharmaceutical industry". Silvia's main fields of research are open innovation practices, strategic innovation management and business model development in SMEs and corporations, with a focus on Life Sciences.

Andreas Braun is senior researcher and Ph.D. candidate at the Center for Entrepreneurship and Innovation at the University of Potsdam (CEIP). He holds a diploma degree in Business Administration from the University of Freiberg, Germany and an MBA from the Central European University in Budapest, Hungary.

Since 2008 he has been working in Professor Reger's research team at the University of Potsdam within the research project 'Open Innovation in Life Sciences' (third party funded, BMBF) and the international project elnnForM (European Innovation and Foresight

Masters), designing and launching a new European M.Sc. Program in October 2009. Additionally he lectures graduate courses and seminars in the field of Innovation Management.

For the past ten years, Andreas has gained research and industry expertise in various positions. He has worked as a journalist for a newspaper in Ratisbona, Germany and as Press Manager for Siemens AG in Munich. During his studies in Freiberg, he was awarded a one year scholarship at the Central European University in Budapest, Hungary. After graduating from the University of Freiberg he started his career at the Center for Entrepreneurship and Innovation at the University of Potsdam (CEIP), Germany.

By 2011 Andreas will have concluded his Ph.D. on 'Open Innovation in the Generic Drug Industry'. Andreas's main fields of research are open innovation practices and strategic innovation management in SMEs and corporations, with a focus on Life Sciences.

Professor Guido Reger from the University of Potsdam and in his former position as senior researcher at Fraunhofer Institute for Systems and Innovation Research (ISI) has been involved in various research projects on industrial innovation strategies, globalisation of research and technology, evaluation of science and technology policy. His research focus is on technology and innovation management, entrepreneurship, start-up companies, globalization of research and technology, and national and regional innovation systems. Guido Reger has published numerous books and articles. He is senior adviser to various German Ministries, OECD, and the European Commission and to small and large enterprises.

Professor Guido Reger has experience in research cooperation in Europe and Asia (Peking, Copenhagen, Brighton, Stockholm, Lisbon, Paris, Madrid, Cambridge, and Tokyo). He received the research award of the International Association for Management of Technology (IAMOT) in 2003. In his position as Director of the Centre of Entrepreneurship and Innovation (BIEM-CEIP) he has experience in cooperation at the local level.

Open Innovation – a useful approach for Pharmaceutical SMEs?

Silvia Adelhelm, Andreas Braun and Guido Reger

The pharmaceutical industry, which is distinguished by the insensitivity of research and its high innovational potential, is experiencing a radical structural change. In spite of increased spending on R&D, the number of pharmaceutical innovations enjoying success in the market is declining. The German pharmaceutical small and medium-sized enterprises (SMEs) are facing new challenges but also opportunities. The pharmaceutical industry in Germany is structured predominantly around medium-sized firms, 90% of the 900 German pharmaceutical companies employ no more than 500 employees. Limitations on resource infrastructure within these companies, which especially manifests in limited innovation management, lead to a concentration on core competencies and niche strategies. This tendency however contains the

danger that small and medium-sized organizations not only fail to notice important market trends, they lack the ability to respond to them as well.

In the past most pharmaceutical companies focused on the development of new pharmaceuticals and plans for marketing themselves. This innovation strategy will be referred to as closed innovation. In closed innovation an interaction with the outside world only occurs in a limited sense, while small and medium-sized pharmaceutical enterprises are at more of a disadvantage in this model. Usually they lack the financial and personnel resources to guarantee the requisite large volume investments in R&D. On the other hand, large companies rich in resources are showing an increasing tendency to use external sources for R&D. This approach is termed open innovation and describes the planned opening of innovation processes and the strategic awareness of the necessity to go beyond company borders to innovate. Particularly for SMEs, open innovation offers new possibilities in innovation management.

This paper addresses the question: What chances/risks does the open innovation approach present for pharmaceutical SMEs with respect to the changing market structures? Until now an integrated scientific perspective involving the application areas of open innovation, the pharmaceutical industry, and SMEs has hardly occurred.

The preliminary results of the literature analysis and case studies in selected companies underline a lack of operative and strategic alignment and focus on innovation activities within SMEs. Innovation management (including

interfaces, knowledge, project and portfolio management) generally runs its course in an unstructured form. With reference to open innovation we can establish that inside-out processes hardly exist while outside-in-processes mainly occur in an unstructured form. The researched corporations show an affinity to acquire information and knowledge, yet a reluctance to share it. In general, the preliminary results show that the open innovation approach fits the needs of pharmaceutical SMEs (especially the generic and over the counter segment) and can offer new growth opportunities. In order to consistently and efficiently apply the open innovation approach, a proper system of innovation management must also be implemented.

Joseph Agius
University of Malta, Malta

Dr. Joseph G. Agius, Ed.D., is a registered Speech Language Pathologist with special interest in fluency disorders. He holds a Master of Science degree in Clinical Speech and Language Studies from Trinity College, University of Dublin and a Doctor of Education degree from the University of Sheffield, UK. As partner expert nominated by the University of Malta, Dr. Agius collaborated with experts from eight European Universities on the development of the *'European Clinical Specialization Course in Fluency Disorders'*. He is Senior Principal of the Speech Language Department and employed by the Health Division, Government of Malta. Dr. Agius lectures at the University of Malta on *'Fluency Disorders'* and *'Language and Psychiatry'*. He has

an extensive background in training, lecturing, evaluation, facilitation and programme management. Dr. Agius has been a state-appointed family mediator since the very inception of the Family Court in 2003.

Thinking Skills: Targeting this-ability in School-age Children who Stutter.

Joseph Agius

Children who stutter, parents, clinician and researcher collaborate to create the 'Smart Intervention Strategy' (SIS) for school age children who stutter. Research has shown that children who stutter view speaking more negatively and experience more negative speech-related emotions than do non-stuttering peers. However, while practical strategies for helping children who stutter change their feelings and beliefs about stuttering are widely available, speech language pathologists feel uncomfortable targeting such goals. Strategies are needed to use in treatment that could help clinicians help children make changes. These tools could assist the child in finding a balance between modifying speech and developing and maintaining healthier attitudes and feelings. Teaching of thinking as a skill using Professor Edward de Bono's 'Direct Attention Thinking Tools' is used to help children 'problem solve' and broaden perception to develop and maintain positive attitudes towards themselves and communication.

In this presentation, the results of a study exploring shifts in the attitude and feelings of school-age children

who stutter following a thinking skills programme will be discussed. School-age children who stutter were also included in the study as observers and 'young consultants'. Parent questionnaires assessed the parents' perception of changes in the attitude towards speaking situations in their child after the programme. As a clinician and researcher, this study was an opportunity to gather data to evaluate the effectiveness of the programme. The findings of this study led to a suggested model of intervention, the 'Smart Intervention Strategy' (SIS), with school-aged children who stutter. An overview of the SIS will be presented.

Leonie Baldacchino
The Edward de Bono Institute for
the Design and Development of
Thinking, University of Malta, Malta

Leonie Baldacchino graduated from the University of Malta with an Honours Degree in Psychology, followed by a Distinction for a Master of Arts in Creativity and Innovation. At present she conducts workshops and delivers lectures in entrepreneurship, psychology, creativity, innovation and human resource management at The Edward de Bono Institute for the Design and Development of Thinking at the University of Malta. Leonie has lectured on creative thinking and entrepreneurship at the Malta College of Arts, Science and Technology. Her research on start-up success in a small island state has recently been published in Canada's *Island Studies Journal* (available online at [\[Caruana-FINAL.pdf\]\(#\)\).](http://www.islandstudies.ca/sites/islandstudies.ca/files/ISJ-3-1-2008-Baldacchino-Cassar-</p></div><div data-bbox=)

In 2008 Leonie participated in the organisation of a workshop and national conference on entrepreneurship in Malta as part of the first Global Entrepreneurship Week. She is currently involved in the design and piloting of a new International Joint M.Sc. in Strategic Innovation and Future Creation which commences in October 2009. This Masters programme has been developed as an EU-funded Erasmus Curriculum Development Project coordinated by the Edward de Bono Institute at the University of Malta in collaboration with universities in Finland, Germany and the UK (www.einnform.eu).

Leonie's work experience includes several years in managerial, consultancy and senior research positions in a family-owned group of companies. She is a qualified swimming coach and a former member of the Maltese national swimming team. Her research on the motives of top Maltese athletes has been published in an edited book *Young Elite Athletes and Education: Young Researcher Seminar Innsbruck 2004 Proceedings*, for which Leonie obtained a Scientific Award.

Entrepreneurial Creativity
and Innovation
Leonie Baldacchino

Creativity and innovation by definition involve the creation of something new which, according to Barringer and Ireland (2006) "is central to the entrepreneurial process" (p. 15). Creativity and innovation are considered by many to be inseparable from entrepreneurship, which is in turn manifested in the act of

starting up and running an enterprise. Pretorius, Millard and Kruger (2005) maintain that "creativity is clearly part and parcel of the entrepreneurial skills required to successfully start a venture" (p. 56). Entrepreneurs and their start-ups are considered to be "important agents of innovation" (Bosma & Harding, 2007, p. 16), not simply in terms of the products and services they provide, but also in terms of the technologies and processes that they utilise (Bosma & Harding; Watson et al., 1998). Start-up entrepreneurs could thus be argued to be, by their very nature, the essence of creativity and innovation.

This study explores ways in which start-up entrepreneurs are creative and innovative. Data was collected by means of a combination of in-depth interviews and telephone questionnaires with entrepreneurs who started up an enterprise in Malta up to five years before the research was conducted. Results indicate that the start-up entrepreneurs in this study display high levels of creativity and innovation and these are reflected in several ways. These entrepreneurs generate, develop and implement new ideas for their start-ups, foster a climate that is conducive to creativity and innovation, provide top-down support for creativity and innovation in their organisations, and offer innovative products and services through innovative methods of production and delivery.

Alan Bell
University of Teeside, UK

Dr. Alan Bell is a global businessman and academic, with thirty five years experience in industry specialising in

global business strategy, marketing strategy for international product development, international small business development, entrepreneur development, global market research, and business administration and finance. He has operated in North America, South East Asia, the Pacific Rim and Australasia with clients including Samsung, Kodak Eastman, Hoerst Chemicals, Singapore Furniture Industries Council and International Government Development Corporations, as well as many UK and international small businesses and entrepreneurs. He has been at the forefront of international small business and entrepreneur development and engaged in strategy development, business start-ups, inward investment, International Joint Ventures, innovative marketing and market research worldwide. He has also been involved innovating in the areas of technology transfer and product swapping for small business export development with Government bodies to develop SME global entry. During this time he has also studied at Durham and Newcastle universities, gaining a doctorate in 2001. His research identified the existence of critical junctures in entrepreneurial decision-making.

Alan has lectured to students and business people worldwide having been Professor of International Strategy at the European University of Lefke in Cyprus and Professor of International Business Strategy and Director of the MBA programme at ESC Rennes. He is currently lecturing in Strategy and International management at Teesside Business School and is adjunct Professor of Global Business Strategy at ESC Rouen in France. He has developed

MBA's and other post graduate degrees specifically in international strategy and entrepreneur development for business schools in France.

Critical Junctures in Decision-Making: Strategic Choice for Entrepreneurs in the Decision-Making Process

Alan Bell

The managing of commitment and trust is a very important issue in the management of the enterprise where the power of decision-making and decision-makers cannot be underestimated in the day-to-day affairs of the organisation. However, to be able to understand and give due attention to the roles involved, it is necessary to understand the structure and psychology of the organisation. Human qualities, it is proposed, determine the development of the organisation and it is the strategic decisions made and how these decisions are arrived at that will influence the future. Many decisions will be made and based upon information determined by the influences placed upon the organisation. However, many are made and determined by the influences of people, both driven from personal desires and coalition wants. To understand the latter we must first understand the former.

This paper will consider how the small business organisation is designed, nurtured and developed both as a structure and as a psychological determinant in order that a platform may be designed for further understanding

of how decision-making is determined and decision-makers are chosen. It will develop these determinates into the facets of politics and power, constructing arguments for the influencing of structure and psyche. To advance an understanding of strategic perspective and concepts of co-operation it is necessary to research the organisation as a unit, the decision-makers and their political roles, trust and motives, culture and the learning and an understanding of those in a position of power. The claim of this paper is to consider these points by developing a knowledge base of those qualities and attitudes that will be necessary in the future development of small businesses by entrepreneurs from the view of power and in particular drawing on the work of Thompson and Pfeffer to understand dominant coalition theory and the use and abuse of power in small business development.

It will consider the work of John Child who drew on the propositions of Thompson in some way to develop strategic choice perspective theory by viewing the dominant coalition as major choice makers in the developing organisation. He determined that, through their actions, power holders and dominant coalitions try to modify and re-define structures in ways that will allow them to develop different possibilities for future action.

Decision-makers, in the form of dominant coalitions, can therefore determine the future strategy of the small business more than that of the larger concern, and in doing so determine its success or not, politically as well as structurally. However, there is another dimension of determination in decision-making which can alter the make-up of

this dominant coalition and bring about change, friction and critical positioning in the process, that of power.

Michael Bonello
ESDL, Malta

Ing Michael Bonello is a graduate electrical engineer (1990) who has been dabbling and tinkering in electronics since the age of 11. He set up ESDL in 1996 and is still heading the company, spurring a team of dedicated technical experts to ever higher peaks of achievement and excellence. ESDL is seeking new pastures for its comprehensive range of energy management products well beyond our shores, particularly in Ireland, Dubai and Croatia, with Dubrovnik being the earmarked city. Michael is involved in a number of EU funded, FP6 and FP7 projects. He writes proposals for EU funded projects and is one of the two founding directors of a locally based company specialising in EU funding, MIIS Ltd. The company is making a name for itself on the strength of the success it is garnering in the FP7 Capacities Programme.

The Innovating Micro-Enterprise – A Case Study on Embracing Change
Michael Bonello

Change is one of the major, if not the only, constant in life. During the course of a sentient being's lifetime, birth and death are the two greatest manifestations of change. Change is

pervasive and whether we like it or not, either threatens our status quo (e.g. the recession currently pervading our planet is apparently creating more hardships than opportunities to flourish) or opens up opportunities, possibilities where the creative, adventurous and intrepid entrepreneur recognises an opportunity to capitalise on.

Change spurs the entrepreneur to embark on ventures which are deemed lucrative, at least by the entrepreneur. Deemed is the operative word; nothing is certain and guaranteed. A change will always create threats and opportunities, although not necessarily in equal measures. The presentation traces the experience of an engineer setting up a company to exploit a change in the local scenario; the price hike in the utility rates of the late 90's. The initial euphoria experienced when the market was thirsty for energy saving products to the unexpected fall in demand when the tariffs were brought down by the successive administration. The products referred to were not light bulbs and similar products emanating from the gigantic Chinese production machine but sophisticated electronic control systems which acted 'intelligently' when managing energy.

Notwithstanding the setback experienced, it was patently obvious and clear to the engineer that it was only be a matter of time before the market awoke to the need. What instilled such a strong belief? What was the alternative and was it contemplated or even considered as an option? Was it a case of risking way too much, definitely more than 'prudence' gently advised? Why go against the advice of the accountant, bank-manager, people who were close?

The proposed case study, will attempt to traverse the journey from dream to euphoria to the veritable doldrums and back on the long and arduous road towards the proverbial light at the end of the tunnel. Some of the milestones traversed were ominous to even contemplate and onerous to undertake whilst others were, by the standard of the former, pretty tame to reach.

A thought does traverse the mind occasionally. Would I have gone through it all with foresight or would it have been too scary to even contemplate? I strongly believe that it all boils down to the genetic makeup of the entrepreneur. The answer to such a speculative question could only be speculative; notwithstanding, I believe the answer would have been in the affirmative.

Christian Byrge and Søren Hansen
Department of Planning and
Development, Aalborg University,
Aalborg, Denmark

Christian Byrge is currently a doctoral student at Aalborg University, M.Sc. in Innovation. In his research Byrge focuses on The Creative Platform, which is a method for developing new ideas in any situation as well as a didactic for teaching competences in creativity. Byrge develops the scientific basis, which is be tested and applied in collaboration with companies and universities in Denmark and abroad. Byrge has worked with creativity for 3 years both in idea development, process control, teaching and research. His main interest is to make meaningful involvement of the body in the teaching of competences of divergent/lateral thinking. Byrge is the leader in the

implementation of The Creative Platform in the public schools in Denmark.

Professor Søren Hansen is currently an associate professor at Aalborg University, Ph.D. in Engineering Education. In his research Hansen focuses on The Creative Platform, which is a Method for developing new ideas in any situation as well as a didactic for teaching competences in creativity. Søren develops the scientific basis, which is be tested and applied in collaboration with companies and universities in Denmark and abroad. Hansen has worked with creativity for 8 years both in idea development, process control, teaching and research. His main interest is to teach competences on awareness (avoid mental disturbances/disruptions). Søren is leader of the research centre for The Creative Platform.

Teaching Creative
Competences by the use of
3D Cases: Lateral Thinking,
Parallel Thinking and
Synectics embodied
Christian Byrge and Søren
Hansen

This paper introduces The Creative Platform as a didactic approach for teaching creative competences. The Creative Platform has been used for teaching competences of creativity, entrepreneurship, innovation and personal development for more than 11.000 students in Denmark. We have 140 certified teachers in The Creative Platform covering disciplines ranging

from engineering science, social science, and humanistic science to primary and secondary schools. The Creative Platform enables a group to apply their knowledge without limitations of professional, social or cultural patterns of thinking. This it does without teaching reflective tools, techniques, models or theories (from now on called reflective tools).

What is unique in The Creative Platform compared to other didactics for teaching creative competences is its focus on the embodiment of competences rather than developing reflective competences. Internationally known approaches to creativity like CPS, Lateral Thinking, TRIZ and Syntectics seem to focus on tools for giving students a reflective understanding of how to act creative or how to set up a process for creativity. These approaches often lecture on the tools to give a reflective understanding. Along with the lecturing a number of exercises are used to increase the reflective understanding of how to use the tools. The Creative Platform does not provide tools. Neither does it try to develop a reflective understanding. Instead The Creative Platform consists of several hundreds of exercises called 3D cases. By going through these exercises with the students, they will develop competences of lateral thinking, divergent thinking, analogical thinking, and principle thinking. These competences will be embodied as a natural competence in the students. Using The Creative Platform does not provide a common understanding among the students on how to be creative. Instead it gives a personal experience as well as develops a "way of being" amongst the students that makes it easy for them to be creative together.

The key to The Creative Platform is the

3D cases, which are exercises where the simultaneous use of brain, body and attitude constitutes a three dimensional access to learning. The core in a 3D case is an uncompromising use of three fundamental principles. Parallel Thinking, Task Focus and NO Judgement. Parallel Thinking creates a common direction of thought among the students, which create a common experience for learning. Task Focused is to create total awareness on only the learning objective that exists in each of the 3D cases. No Judgement is to avoid judgement on the performance of the exercises and no evaluation of students or exercises during the learning process. 3D cases have some similarities to energizers. However, while energizers sometimes consist of both parallel thinking, task focus and have no judgement, the objectives of energizers are not to learn a new competence. Rather they are often used for creating a creative environment and social relations needed for being creative. 3D cases always have a learning objective. The learning objective in a 3D case can be anything from teaching students to accept wild ideas, saying "yes" to others ideas, accepting mistakes, doing movement, combining principles from different fields/disciplines, using analogies, being spontaneous or any other competence in creativity.

While most approaches give students an instruction of how to be creative, The Creative Platform gives the students an experience of being creative. The 3D cases of The Creative Platform has been termed as manipulation exercises as well as seduction exercises, however, we prefer to call it personal development.

James P. Carlisle
President of The de Bono Group LLC,
USA

James P. (Pat) Carlisle, President of The deBonoGroup LLC, has been recognized, applauded and congratulated by Dr. Edward de Bono for his extensive and successful teaching and training of the internationally acclaimed de Bono Thinking™ methods. Foremost as a leader in the field of de Bono Thinking™, he has organized de Bono distributorships and trained trainers in Argentina, Brazil, Colombia, Mexico and Portugal, and now in the United States. His extensive international experience includes working with the de Bono distributor in China (Beijing, Tianjin and Shanghai) in introducing the de Bono thinking methods to key companies there including Microsoft, Motorola, Air Products, Coca-Cola, Bertelsmann, Trane, 3M, Unilever, and Dow-Corning. While in China, he lectured and presented de Bono Thinking™ methods to the largest Executive MBA program in Asia, CEIBS-The China Europe International Business School. Experienced in leading a variety of programs and processes from Executive Team/Leadership Development in his work with teams and organizations to career assessment, coaching and counseling in his work with individuals, his primary focus is developing the full creative thinking potential of organizations via their leaders and teams.

With a breadth of experience in a variety of organizational settings, cultures and countries, Mr. Carlisle has more than 5,000 hours of coaching experience with executive and organizational leaders. One of the first

Master Trainers, personally certified by Dr. Edward de Bono, and one of twelve certified creativity facilitators world-wide, Mr. Carlisle brings a special perspective of experience in his program and process leadership. A Master Trainer in the parallel thinking program, *Six Thinking Hats*, and in the creativity and innovation program, *Lateral Thinking*, he is also a trainer in DATT, a program for sharpening decision making and problem solving skills, *Simplicity, Focus on Facilitation and Six Value Medals*. He has Bachelor of Arts degree from Auburn University, a Master's degree from Emory University and is presently completing a Ph.D. in Organizational Transformation with the Adizes Graduate Institute. He is President of The Edward de Bono Graduate Institute. A partial listing of clients he and the de Bono Group have worked with include Oracle, F5 Networks, Guidant, Boston Scientific, The US Army Central Electronics Communications Command, BP Exploration, The Defense Intelligence Agency US, Otis, Siemens, GlaxoSmithKline, Colgate, Research in Motion, Lockheed Martin, Proctor and Gamble, The Corporate Executive Board, Cadmus Press, Gillette, Lexmark, Rodel, Flavors of America, Mars Inc., United Technologies, ING Direct, The Wallace Foundation, The Betty Ford Center, Highmark, IMS Health, The Methodist Hospital System, CHI (Catholic Health Initiative), The Federal Reserve Bank of Philadelphia, The Center for Naval Warfare of the United States Navy and MTV (Viacom).

Thinking as a Barrier to Innovation: Findings of the Survey. A collaboration The de Bono Group, LLC & The Center for Business Innovation at Babson Executive Education *James P. Carlisle*

The survey was developed from the point of view of increasing innovation effectiveness and productivity. Given the current economic climate, senior executives will become more risk adverse and conservative. The focus will be on short-term and what can be easily measured. Organizations will be under pressure to minimize risks and maximize returns on new business opportunities. Traditional methods of thinking and analysis can marginalize these innovation efforts and diminish returns. New thinking is required to shift and sharpen the focus on the right opportunities.

The presentation will look at *thinking as a barrier to innovation effectiveness and productivity*. Key issues include:

- Is analysis an enhancement or impediment to innovation effectiveness?
 - What impact does evaluating ideas through past experience have on the end result?
 - How does power and authority inhibit ownership?
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Sandra Dingli Director, The Edward de Bono Institute for the Design and Development of Thinking, University of Malta, Malta

Dr. Sandra Dingli is Director of The Edward de Bono Institute for the Design and Development of Thinking at the University of Malta (<http://home.um.edu.mt/create>). As a Senior Lecturer she conducts workshops and delivers lectures on creativity and innovation management, foresight, the de Bono thinking techniques, philosophy of mind and philosophy of artificial intelligence to undergraduate and postgraduate students. The Institute was initially set up as a Programme in collaboration with Professor Edward de Bono in October 1992.

In 2004 Sandra designed and launched a new postgraduate degree, a Master of Arts in Creativity and Innovation, which she directs. As Director of The Edward de Bono Institute Sandra coordinates eInnForM (European Innovation and Foresight Masters www.einnform.eu), a three-year project funded under ERASMUS curriculum development which involves designing the curriculum and launching a new European M.Sc. (which will commence in October 2009) with partner universities in Finland, Germany and England.

How Innovative is Your Organisation? *Sandra M. Dingli*

How innovative is your organisation?
Does it encourage creativity? Can the

conditions that facilitate organisational creativity and innovation be identified? Is it possible to identify obstacles to creativity and innovation within organisations?

Creativity is essential in all organisations, regardless of the sector within which they operate. But although most organisations pay lip service to creativity and innovation, it is often the case that not enough concrete action is taken to make organisations truly creative and innovative.

This presentation will discuss the factors that distinguish a creative and innovative organisation from another where the status quo is taken to be acceptable. The links between innovation, foresight and entrepreneurship will be explored. It is an accepted fact that organisations that do not take action now to address factors that enable innovation will not continue to exist in the future.

Paul Engles
Principal, Saint Mary's School,
Auckland, New Zealand

Paul Engles is Principal of Saint Mary's School in Auckland, New Zealand. He has been Principal of this school for ten years and in this time has focused on a change model which developed; a community of learners, encompassing students, staff and parents, a community of practice for staff supporting strategic developments in teaching and learning and school cultural capital in addition to distributing leadership where all staff are supported, valued and essential to the schools' future focus.

Paul has been a co-director of an ICT Cluster of Schools, and Director of

Project ACTIVate, a Digital Opportunities Cluster, Ministry of Education, New Zealand. This cluster has published a significant body of research about the use of the Interactive whiteboard (IWB) in education (*Computers in N.Z Schools Volume 17 Number 3 November 2005, University of Otago Press*).

**Communities of Learning,
Communities of Practice
and Distributed Leadership:
Bringing the Theories
together in Practice**
Paul Engles

The bringing together of these three theories into one harmonious solution has been the catalyst in bringing about changes resulting in a cutting edge, future focused learning institution. Lowell Bryan stated at an interview in November 2007, "What I find exciting are ideas that already exist in practice, that have been innovated over the past 10 or 15 years on a small scale, but have not been integrated together on a large scale. The necessary innovation is to adapt the specific organisational-design ideas that enable individual companies to perform better."

In 2002, St. Mary's School developed a future focused model for change. This was to undertake the necessary reforms that the thinking, research and developing pedagogies called us to carry out, in order to improve outcomes for learners. Education was coming to a deeper understanding about learners, their complexities especially the physiology of the brain. Research called for a rethink

of our practice and this resulted in pedagogical and cultural changes. The development of pedagogy collaborated amongst the learning community that invited all learners to take up the challenge to investigate and understand, it also invited a rethink of traditional models of school management.

Through dialogue with staff it was evident that the establishment of the 'Learning Community' model was a first step. Coupled with this, the theory of 'Community of Practise' (Jean Lave, Etienne Wenger) called us to deepen this and to establish a sustainable model for Professional Learning and Development (PL&D). Latterly the 'Distribution of the Leadership' (Wilson – Harvard University) invited staff to be active members to co-construct the future focus and development of the school.

Gary Hamel, author of *The Future of Management* states, "the outlines of the 21st-century management model are already clear. Decision-making will be more peer based; the tools of creativity will be widely distributed in organizations. Ideas will compete on an equal footing. Strategies will be built from the bottom up. Power will be a function of competence rather than of position. In terms of the future of management, we're at the beginning of what will be a fairly long journey."

The school continues to uncover its pathway and to develop its future. Being at the cutting edge is always exciting, creative and inventive. Sound practises that support the theories are tailored to meet challenges. Professional Learning and Development was one significant thrust which resulted in a positive change to our cultural capital. Professional readings that supported the theories

helped to legitimise the process.

Communities of Learning, Communities of Practise & Distributed Leadership; the application of these three theories to our learning institution has assisted an environment for accelerated growth, energy and commitment for personnel. Managing the understanding and implementation of the theories and ensuring ownership by all members of the organisation is key. The process continues to require constant reassessment, reviewing and rethinking. What are the innovations used to ensure success? What creative changes inspired a shift of attitude? What is next?

**Jamal Ghamari,
Iran**

I studied Industrial Engineering in Amirkabir University of Technology which is one of the most prestigious Universities in Iran. Engineering at the Tehran Polytechnic developed my critical thinking skills but at the same time I felt that I was developing an interest in social and human sciences. I finished my bachelor studies and I immediately started to work.

I joined a project of strategic marketing planning for an industrial group in Iran and it was a turning point in my life. I became familiar with the literature of management and marketing and for the first time I was enjoying what I was doing enormously. After having become familiar with great books in the field of management, a need to study management grew inside me and I joined the MBA program at MMU (Multimedia University) in Malaysia. I am now teaching many of my classmates

and friends and they always keep telling me that I must become a teacher. This competence will make me able to be a strong university lecturer in the future.

I have specialized in marketing but the field I belong to is Strategic Management. I think it is the most important discipline that analyzes, explains and predicts the success and failure of companies. I am interested in conducting research whereby the roots and drivers of the manager's strategic behaviour are explored. I am keen to study the management's mental models with respect to strategy. Furthermore, I take every opportunity to study possibilities of and obstacles to innovation management.

Management Innovation Possibilities: A Study on the Leading Iranian Car Manufacturer

Jamal Ghamari

Management innovation has been the source of sustainable competitive advantage for so long in the companies that stand out of the crowd. The advantages resulting from innovation in the ways managers do their jobs have been more sustained than any other kind of innovation and anything that "came out of a lab or focus group" (Hamel, 2006). Yet, there seems to be certain obstacles in organizations to become the places where management innovators can create breakthroughs and new ways of organizing and leading.

This paper discusses the hindrances that may hold an organization back

from becoming a place where managers have the discretion and possibility of deconstructing their orthodoxies and becoming management innovators. The study has been conducted in Iran Khodro car manufacturer which is the leading car manufacture in Iran and certain obstacles have been identified that suggest management innovation must be considered a phenomenon that is affected by different personal, social, cultural, and structural aspects of an organization and all these facets determine the possibilities of gaining a competitive advantage from management innovation.

Riitta-Liisa Heikkinen-Moilanen*,
Sam Inkinen**, **Jari Kaivo-oja****
and Vesa Heikkinen*

***University of Lapland, Finland;**

****Finland Futures Research Centre
(Turku School of Economics),
Finland**

Riitta-Liisa Heikkinen-Moilanen (M.Soc.Sc) is a Doctoral Student at the University of Lapland. Her doctoral thesis' subject is *Innovation Economy and Employability*. She has done Business and Strategic Management studies in 1990-1995 at the University of Jyväskylä. Since 1993 she is project manager and team leader at the University of Lapland managing regional, national and international EU projects. Since 2004 she is director of Regional Development and Innovation Services at the University of Lapland. She owns a multidisciplinary orientation and her scientific interests are in the field of innovation and competitiveness of regions and working life.

Dr. Sam Inkinen is a well known Finnish scholar, lecturer, writer, journalist and consultant. He lectures regularly at various European universities and acts as an advisor for several R&D projects. Sam Inkinen writes for several magazines. His areas of expertise include (1) the media and information society, (2) the experience economy, (3) creativity and innovation management, (4) networks, tribes, identities, (5) new media technologies, (6) content production and (7) electronic aesthetics.

Sam Inkinen has written, edited or co-edited numerous books. He is the editor of the anthology *Mediapolis. Aspects of Texts, Hypertexts and Multimedial Communication* (Walter de Gruyter 1999). Instead of technological determinism, this volume focuses on an analytical approach to contemporary media, future technologies and electronic environments. Dr. Inkinen has co-edited the four-volume *The Integrated Media Machine* (1999–2005) and *Kyborgin käsikirja* (The Cyborg Handbook, 2007). Publications also include *Tulevaisuus. Nyt – Riskiyhteiskunnan haasteet ja mahdollisuudet* (Future Now, The Challenges and Opportunities of the Risk Society, 2002), *Framtiden i nuet. Om konsten att möta det okända* (Future in the Present Time, 2003) and his doctoral dissertation *Teknokokemus ja Zeitgeist. Digitaalisen mediakulttuurin yhteisöjä, utopioita ja avantgarde-virtauksia* (The Techno Experience and Zeitgeist. Communities, Utopias, and Avant Garde Trends in Digital Media Culture, 1999).

Sam Inkinen's recent publications include: *Eesti ja uus Euroopa. Uurimisreisil naaberrahva ajalukku ja tulevikku / Viro ja uusi Euroopa. Tutkimusmatkalla naapurikansan historiaan ja tulevaisuuteen* (2006), *Minne matka, luova talous?* (Quo

Vadis, Creative Economy?, 2006), *The Culture of Food. The Dialectic of Material Conditions, Art, and Leisure* (2006), *Merkitysten maailmantorilla* (On the Marketplace of Meanings, 2008) and *The Illuminating Traveler, Expressions of the Ineffability of the Sublime* (2008). As a cosmopolite of the "global village" Sam has travelled extensively and visited one hundred countries on six continents during his trips and explorations.

Dr. Jari Kaivo-oja is Research Director at the University of Lapland. He received his undergraduate degree (International economics) in 1990, Lic.degree in 1998 and Ph.D. in 2004 from University of Tampere. He is an active member of Nordic Foresight Forum and COST A22 Network (Foresight methodologies) and European Sustainability Strategy Network. He is a member of the international advisory group of Foresight Laboratory of Örebro University, Sweden. In his long career in the FFRC he has worked for the European Commission (Terra2000/RAND Europe, Leiden RAND Office, the Netherlands), European Foundation (EUFORIA/PREST, Manchester Business School, UK), European Parliament (with UN MERIT and Sustainable Europe Research Institute) and Eurostat (Ecostat/Panteion University, Athens, Greece).

Jari is currently Research Doctor at the Academy of Finland. He is the author of 210 scientific publications. He has worked in the advisory team of Prime Minister Matti Vanhanen in writing process of the Finnish knowledge society strategy in 2006. He has worked as expert evaluator of Preparatory Action in the field of Security Research in 2006-2007 at the Enterprise Directorate General Directorate H: Aerospace, security, defence and equipment in

Brussels. Dr Kaivo-oja has recently worked as an expert to build networked Think-Tank for service innovation development in Europe. He has worked as a key expert in PRO INNO EUROPE Team 1: To establish a trans-national think-tank on future innovation policy strategies addressing the challenges of a "service oriented" society. He coordinates in the FFRC CID Research Group and Lab research activities. Dr Kaivo-oja is an editor and a reviewer in many scientific journals related to foresight and innovation research.

Vesa A. Heikkinen Ph.D., is a Senior Adviser for Tourism, Hospitality, Lifestyle and Food research at the University of Lapland and Lapland Institute for Tourism Research. He has 27 years experience in the tourism, hospitality, experience and food industry and education, consulting and executive training services to industry, professional associations and academic institutions in the travel and tourism sector. In his developing and consulting activities, Heikkinen has worked in more than 20 countries. He has extensive experience in successfully coordinating international, multidisciplinary research and development projects and conferences. His research topics are analysis of the productivity and competitiveness of companies in tourism & hospitality sector, service innovations at tourism and hospitality industry, knowledge management of companies in tourism & hospitality sector and foresight of tourism & experience industry markets. He has (co)authored and (co)edited 15 books, 20 scientific articles and 60 professional articles. His latest publications discuss the hospitality industry, restaurants and experience economy: *The Illuminating Traveler. Expressions of the Ineffability of the*

Sublime (2008), *The Culture of Food: The Dialectic of Material Conditions, Art, and Leisure* (2006), *Lived Images* (2003) and *In Search of Competitiveness in Hospitality and Tourism Management Schools* (2003).

European Cluster Strategy and the Tourism and Experience Economy Cluster's (TE Cluster) Critical Momentum: New Emerging Aspects of Creative Processes and Innovations in Tourism and Experience Economy

Riitta-Liisa Heikkinen-Moilanen, Sam Inkinen, Jari Kaivo-oja and Vesa Heikkinen

It seems that Europe is and will be the most important tourism region in the whole world. Asians, Americans and Australians want to experience European atmosphere and purchase its innovative and good services. Tourists also search for new destinations and experiences in Eastern and Northern Europe. European Tourism and Experience Economy Cluster (TE cluster) is facing, however, a critical and challenging momentum in the global tourism business. Australia, Africa, Dubai, China, India, etc. will not be passive actors in the competition of global tourism market. Instead, they make aggressive and innovative moves to develop their service sector and experience products.

Europe's challenge is to ensure its

innovativeness in the future developments of tourism and travel services. This could mean the combination of service (especially tourism) innovation competences and the traditional cluster thinking (cf. Porter). In the European cluster policies special attention should be paid to *service innovations*. By the TE Cluster our research group means:

- Tourism sector (eg. destinations, travel agencies, operators, logistics, airports, harbours),
- Hospitality sector (eg. restaurants, hotels, resorts),
- Wellness sector (eg. spas, clinics, sport resorts),
- Experience sector (eg. events, tour operators, culture houses, program producers, zoos, amusement parks)
- Meeting industry (eg. meetings, conferences, fairs)

Tourism related services play a crucial role in the regional economies of the European Union. To create more economic growth new tools and methods are needed (eg. to take full advantage of the new opportunities offered by ICT developments). With the boom of e-commerce, tourism products have become one of the most traded items on the internet.

Key factors that create structural changes inside the TE cluster are: (1) ubiquitous and ICT (r)evolution (including so-called social technologies and web 2.0 developments), (2) increased global pressure to create new service innovations to move towards innovative and productive service economy, (3) increased global competition in the global business of tourism and experience economy, and (4) increased pressure to find better balance between tourism

development and environmental and sustainability due to global warming and related challenges.

Especially important in the European innovation processes are the connections, contacts and communication between different fields of industry and the related expertise, as well as those at the interfaces of the fields where serendipity may occur. Recently, growing attention has been devoted to the concept of Open Innovation, both in academia as well as in practices of business life. Henry Chesbrough describes (in *Open Innovation: The New Imperative for Creating and Profiting from Technology*, 2003) how companies have shifted from so-called closed innovation processes towards a more open way of innovating. This approach is a great challenge and opportunity for the European Cluster Strategy and the TE Cluster's future.

The new idea and challenge in Europe is to combine the European cluster strategy with the new innovation paradigm: *Open Innovation*. Some key challenges for the European Cluster Strategy and the TE Cluster's future are:

- How to develop the competitiveness and productivity growth of the TE cluster by creative and innovative tools and methods?
- How to strengthen the East and North European growth and public image in the TE cluster?
- How to find new work opportunities and create new dynamic companies in the TE cluster?
- How to upgrade the innovation grade of European tourism sector?
- How to solve the new innovation toolkit methodology as a developing method to solve the actual

problems of tourism companies and TE cluster's co-operation?

- How to help the TE cluster to benefit from ideas and inventions in other European clusters?
- How to create models for European cluster co-operation which could help the TE cluster to grow and increase its productivity?

The paper will discuss how innovation strategies and competences can be combined with the European TE cluster strategy. New ideas and platforms on how European TE cluster can reach excellence in the global marketplace by adopting open innovation strategies and more efficient cluster strategies will be presented.

Stefan Heinemann
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Dr. Stefan Heinemann is Executive Advisor for Strategy Excellence, Business Ethics and Special Requirements and lecturer in Strategic Management, Finance, Entrepreneurship and Business Ethics at the FOM University of Applied Sciences for Economics and Science.

The focus of Dr. Heinemann's activities is on the media/entertainment sector. Over the past 20 years he has been involved in the capacity of managing director/director/partner in the formation, development and management of various listed and private companies. He was one of the cofounders and from 1999 to 2000 marketing director of listed

company Phenomedia AG, where he was responsible for strategic marketing of well-known computer/video game brands such as "Moorhuhn" and "Gothic".

In 2004 he co-founded the first European full-service agency for the interactive entertainment market, IMC, InteractiveMediaConsulting GmbH in Cologne (agency clients include ATARI, Eidos, EDEL). In 2005 he developed and marketed "Crazy Frog", a brand originally brought to fame by ring tones, for the computer/video game segment.

As partner at mid-sized communication agency *imagepeople*, Dr. Stefan Heinemann was management consultant for Strategy and Communication and to this day continues in his capacity as an advisor on projects for prestigious clients (including DKV Euroservice, T-Mobile, Microsoft, Volkswagen) and associate partner. In 2007 he was Chief Consultant at computer/video game publishers dtp entertainment AG and in 2008 saw Dutch company Next Generation Entertainment N.V. onto the stock exchange as its CEO.

Dr. Heinemann studied Philosophy and Theology at the University of Duisburg-Essen and the University of Notre Dame (Summer School 2003) (USA). He was awarded his doctorate (summa cum laude) in Catholic Theology at the University of Duisburg-Essen with a concept of the metaphysics of business ethics.

Dr. Heinemann is currently working on a professorial thesis in video game ethics (University of Duisburg-Essen) and publishes work in media economics and the associated cultural sciences and humanities fields such as business ethics. His main areas of academic research are business ethics, entrepreneurship and strategic management. His special field is video game ethics.

In 2001 he co-founded the Gesellschaft für Philosophie und Wissenschaft e.V./ Society for Philosophy and Science, which he continues to support in an honorary capacity as Vice President; he is also a member of the Förderkreis Gründungs-Forschung e.V. Entrepreneurship Research (Bonn, Germany), European Council for Small Business and Entrepreneurship (Turku, Finland), International Institute of Information Design (IIID) (Vienna, Austria) and EBEN - European Business Ethics Network (Leuven, Belgium). He is a founding member of the Europäischer Wirtschaftsverein Pyongyang in Deutschland e.V./European Economic Association, where he is general representative of the office for academic relations. He is also involved in the Ruhr Games Commission as part of Ruhr.2010.

Why Business Plans need a Special Entrepreneurial Ethical Commitment and how it can be incorporated in Practice *Stefan Heinemann*

An entrepreneur identifies value creation potential as, or even before, it emerges and knows how to couple these market opportunities with personal entrepreneurial skills to achieve economic utilization of the information in the necessary time frame. In this sense, entrepreneurship research is concerned with a twofold discrepancy: firstly, the unequal distribution of information in imperfect markets, and secondly, the distribution of skills in the people taking the action. According to the (early)

Schumpeter, an entrepreneur is a creative destroyer, a very special kind of person without whom the economy would simply stagnate. In the present climate, political discourse throughout Europe at least is pointing towards the relevance of innovators as success factors for the global economy.

Realising entrepreneurial ideas often involves finding financial backing and investors who ultimately need to be convinced of an idea. Both for systematic reasons and from the sales perspective of raising funds, the business plan is the key instrument. Apart from the analytical skills required to create a valid business plan, at the normative level there is also the question of scale. For instance, if a plan is overly ambitious, can it be justified by the fact that the potential investor is not in a position to recognise it as such? This clearly raises the question of an ethical aspect to the preparation of business plans.

For well over 20 years, entrepreneurship research has been examining the specific demands on founders at an ethical level, albeit generally by describing observations relating to the founders, their behaviour and their moral judgements. However, if we assume that ethical rules are not relative and fungible, and that the creativity of the founder should not necessarily affect how the business plan is compiled, it may be useful to ask what basic ethical requirements a business plan should meet. Concepts such as "corporate social responsibility" and "business integrity" are buzzwords in the discussion of business ethics, yet as far as it is possible to observe, the kind of business plans founders tend to come up with are more likely to be judged from a legal

and economic perspective. Naturally, the details must be truthful and should have been compiled properly, but while a compliance or corporate governance section can often be found in company reports today, business plans at founder level generally start with a management summary and end with the financial section – with no mention in between of any particular ethical commitment on the part of the founder or the founding team.

Sirkka Heinonen
Finland Futures Research Centre (FFRC),Turku School of Economics.
Finland

Sirkka Heinonen is Professor of Futures Research with Finland Futures Research Centre (FFRC) at Turku School of Economics. Her expertise is concerned with futures research, technology foresight, knowledge society, innovation studies, social media, and sustainable development. Professor Heinonen was commissioned to report on futures research activities in other countries to help organise Finnish futures studies in the early 1980s. In the late 1990s she was involved in preparing the Finnish Government's Futures Report to Parliament and in renewing the Finnish National Strategy for Information Society. She is a member of the steering group of the Finnish national foresight network of SITRA (The Finnish Innovation Fund) and an active member in the Finnish Society for Futures Studies. Sirkka is Co-Chair of the Helsinki Node of the Millennium Project (<http://www.millennium-project.org>) and since 2005 Member to the Club of Rome.

Creative Foresight Space

Sirkka Heinonen

This practical session will demonstrate how Creative Foresight Space can be applied to organizations. With it the innovation process is connected to the foresight process. Creative Foresight Space means building a physical, digital and virtual space at the same time in order to stimulate creative and future thinking in an organization.

Nicolae Ionescu*, Aurelian Visan*, Cristian Vasile Doicin* and Daniela Hincu**
***POLITEHNICA University of Bucharest (UPB), Romania**
****The Bucharest Academy of Economic Studies (ASE), Romania**

Eng. Nicolae Ionescu Ph.D. graduated with an engineering degree from the POLITEHNICA University of Bucharest (UPB) in 1989 with a research project entitled 'Research regarding electrical discharge machining with tool-electrodes cooled at cryogenic temperatures'. In 1999 he obtained his Ph.D. within UPB with a thesis entitled 'Researches regarding ultrasonically assisted machining'. Following his first degree Nicolae was employed as an engineer at "AE- Electrical Components" in Titu, Romania. His responsibilities included; injection moulds manufacturing, electrical discharge machining and CNC machining.

Between Mai 1990 and October 1998, Nicolae worked as a Scientific Researcher at "ICTCM – Mechanical Research Institute", Bucharest, Romania,

where he developed and conducted various national projects covering fields such as manufacturing technologies, equipment design and technological forecasting. In 1992 he began collaborating as an associate with the Faculty of Engineering and Management of Technological Systems (IMST) and between 1998 and 2004 he occupied the post of Lecturer in the same faculty. Since then he has occupied the post of Associated Professor of IMST and is the principal lecturer of a number of courses including Manufacturing Technologies, Flexible Manufacturing Technologies, Special Non-traditional Machining, Invention, Innovation and Intellectual Property.

To date, Nicolae Ionescu published over 50 articles in national, international conferences and in technical journals. He is the co-author of four scientific books, research project coordinator for 15 projects and involved in other 28 projects. An important achievement to date has been the introduction and adaptation of the TRIZ methodology in the student courses, with the collaboration of Prof. Aurelian Visan. Since 2006, Nicolae Ionescu has been collaborating with Romanian Applied Economy Group and delivered over 15 feasibility studies for investment projects regarding financing from European Structural Funds. In 2007 he was the co-founder of the Centre for Promoting Intellectual Property and co-organizer of the International Conference on Intellectual Property (www.aobab.ro).

Eng. Aurelian Visan Ph.D. graduated with an engineering degree from POLITEHNICA University of Bucharest (UPB) in 1973, with a project entitled

'Research regarding modular concept applied in manufacturing technologies'. In 1992 he obtained his Ph.D. from UPB, with the thesis 'Contribution regarding increasing electrical discharge machining precision of dies and moulds'. Aurelian's academic career progressed from university assistant in 1973 to lecturer in 1982, associate professor in 1994 and university professor in 1996 – a post he still holds to date at the POLITEHNICA University of Bucharest, Faculty Engineering and Management of Technological Systems, Manufacturing Technologies Department (TCM).

To date, Aurelian Vişan published over 90 articles in national and international conferences and in technical journals. He is the author or co-author of 14 scientific books, he is the research project coordinator for 22 projects and he is involved in 13 projects and 4 patents. One of the most important achievements so far has been the introduction and adaptation of the TRIZ methodology in the student courses, with the collaboration of Ph.D. Eng. Nicolae Ionescu. Ph.D.

Eng. Cristian Doicin Ph.D. graduated with an engineering degree from POLITEHNICA University of Bucharest (UPB) in 1990 and an economic degree from the Academy of Economic Studies, Faculty of Finance, Banks, Assurances and Stock Exchange in 2000. In 2001 he obtained his Ph.D. from UPB, with the thesis 'Researches regarding computer aided process planning of shafts'.

Cristian was employed as an engineer at 'The Institute for Electrotechnical Industry' in Bucharest (Aug. 1990 – Sept. 1991). His area of specialisation has

included the design of dies, moulds, jigs and fixtures and injection moulds. In 1991 he was employed at the University POLITEHNICA of Bucharest as tutor. His academic career progressed to assistant professor in 1993, lecturer in 1997 and associate professor as of 2003. He is the subject director for the following courses: Engineering Economic Analysis, Product Development, Computer Aided Project Management, Computer Aided Production Scheduling.

To date, Cristian Doicin has published over 40 articles in national and international conferences and in technical journals. He is the author of 2 scientific books and co-author of another 6, he is the research project coordinator for 5 projects and he is involved in other 23 projects. In 2007, Cristian started collaborating with the Romanian Applied Economy Group and accomplished and delivered feasibility studies for investment projects regarding financing from European Structural Funds. He is member of an expert group working at EC within the multiannual programme 'Entrepreneurship in higher education, especially within non-business studies'.

Daniela Hincu graduated in 1992 from The Bucharest Academy of Economic Studies (BAES) with a specialization in Economic Forecasting and Cybernetics and then joined the Ministry of Industry, Romania. After a short stage, she joined the Management Faculty, Academy of Economic Studies in Bucharest and moved on from university assistant to full professor in the Economic Efficiency Department. In 2000, she finished the doctorate degree programme, completing a doctoral thesis 'Decisions

for management for technological transfer in Romanian Industry in the field of Management – The investment efficiency and technological progress'. She attended some postgraduate training programs in management, simulation, forecasting and technology management in various universities including Carlos III University in Madrid, IESE, University of Navarra in Barcelona, The George Washington University in Washington DC, Central European University in Budapest and Harvard Business School in Boston.

Her main career activities are teaching, various didactic works, research and training. The subjects taught relate to quantitative management, modelling and simulation, decision theory, management of technology transfer, investment and economic growth. She published over 15 articles in professional reviews and academic publications in the field of management. She participated in some research groups in various research grants and programs awarded by the Romanian scientific bodies for research, development and innovations. She published and co-authored textbooks and student's guides for the course disciplines addressed to the undergraduate and graduates students of Management Faculty.

Benefiting from the Teaching Experience with Triz Method in Technical and Economic Field

Nicolae Ionescu, Aurelian Visan, Cristian Vasile Doicin and Daniela Hincu

The paper presents as an introduction an overview of TRIZ methodology, with some emphasis on the main idea, on the involved techniques and tools, and on the range for possible application and implementation. It describes the incipient developments of the TRIZ subject, as they were conducted in the two major players of the higher education public institutions – Politechnical University and The Bucharest Academy of Economic Studies.

The core of the paper consists in presenting the contributions of the authors in writing didactic presentations and in adopting applications. As an original aspect, the 39 parameters and the 40 inventive principles, restructuring the Su-Field analysis, and setting – a coherent methodology for applying TRIZ for innovative problem solving, in general, and for product development in particular, are formulated. As an example, the seventh principle named ‘Matrioshka’ according to the original denomination has received the tag ‘Nested Doll’ in the US literature, both terms being difficult to comprehend for Romanian students. As a consequence, it was adapted and the newly suggested terms was “Placing one object inside the other” or “using telescopic devices”. Many of the 40 innovative principles were readjusted to the specific Romanian industrial and technical

context. All efforts were unavoidable for allowing a proper implementation of the TRIZ method for teaching purposes. By involving different academic institutions, a more comprehensive understanding was available, in both technical and business perspective, for recognising the theoretical and practical value of the TRIZ methodology.

The teaching experience with the students is presented, following the curricula for course subjects including; innovation and invention, innovation management, management of technology transfer, using a set of case studies and applications.

Michael Match Luther
Creative thinking consultant and
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Germany

Michael Match Luther is a creative thinking consultant, ideas facilitator and innovation navigator, who lectures and works for organizations, companies and institutions in the EU, Canada and USA. His clients come from all walks of life and include DAX-noted business enterprises and start ups, executive managers and entrepreneurs, inventors and university affiliates as well as sports athletes, artists and private individuals. He has delivered presentations and workshops about creative thinking and innovation at international conferences such as CPSI (US), Mindcamp (CAN), CREA (IT) and MindAkademie (G). He is an avid pathfinder who aligns four strands, the researching, developing, professional field working and connecting aspect of creativity and innovation.

As a wholehearted lateral thinker and

ardent ideas activist he particularly champions the notion of CreActivity and more interdisciplinary hands-on approaches to creativity. His pioneering R&D work in the field of systemic creativity led to contributions such as Idealog-strategy, IPC-profiler, periodic tablet of creativity techniques and the overarching “New Code Creativity” concept. He authored numerous books and business games about creativity, invented Braincards and developed several Thinking Tools. Known for his contagious enthusiasm he rejoices in spreading the word of creativity; he instituted the German Creativity-Portal Creajour.de, is the spin doctor of CiC-Crea network, mainspring for the online-encyclopaedia Creapedia.com and founder of the German CreAcademy-conference. On 2009 and the EU-endeavours for creativity and innovation his passionate thoughts are: Yes we can – so: let’s go create 2009! Inspiration he gains from vibrant chats, multifaceted food for thoughts, excitatory travels as well as from wacky mind-stretches (www.ideaktiv.eu).

Leonardo goes Business
Michael Match Luther

Leonardo da Vinci was famous for his multifaceted talents, which resulted in numerous inventions and interdisciplinary developments. However, his achievements were based on some plain strategies which are still effective if today’s challenges require that one should creatively think on one’s feet.

Leonardo goes business is a highly interactive session which encompasses

the essential strategies of the creative genius and customizes them for the day-to-day use in personal and professional life. Participants will get a hands-on insight in the course of action and underlying principles of creative problem solving processes, explore their personal creative preferences and experience how to align thinking styles with given requirements.

Upon completing the session, participants will be able to:

- successfully structure ideation processes, meetings, project sessions and personal modes of operandi in an easy yet efficient way
- identify their personal creative preferences, their potential and their areas of improvement
- align personal thinking styles and strategies with the requirements
- optimize the composition of project teams

Adriana-Teodora Manea*, Laurentiu - Claudiu Manea*, and Steliana Toma**

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Adriana-Teodora Manea is licensed in Mechanical Engineering and achieved her Ph.D. at the University “Transilvania” of Brasov with the thesis ‘Fuzzy Systems, Fine Mechanics and Mechatronics applications in automotive engineering’.

Adriana-Teodora is a University professor of Mechanical & Automotive

Engineering and Director of the Department of Self-Distance Education & Lifelong Education at the "Ovidius" University of Constanta, Romania. Ahe teaches Mechatronics, Technical Drawing, Technological Education, Methodical Application of Educational Science in Mechanical Engineering High School and University Learning and is project coordinator for Constanta County Educational Management for pre-university learning programs. She is a specialist in Automotive Engineering, Mechatronics and Fine Mechanics and published more than one hundred scientific papers, studies and books and participated in projects and studies concerning Engine and Automotive Engineering, Technological Education, and Distance-Education for Engineers.

Laurentiu-Claudiu Manea is licenced in Automotive & Mechanical Engineering and International Economics achieved his Ph.D. at the University "Transilvania" of Brasov with the thesis 'Ignition Process Optimization in Spark Ignited Engines with Detonation Control in Automotive Engineering'.

Laurentiu-Claudiu Manea is a University Professor of Automotive Engineering & Economics for Engineers and coordinator of the Self-Distance & Lifelong Education programme in Automotive Engineering Sciences at the Mechanical Engineering Faculty of "Ovidius" University Constanta, Romania. He teaches Automotive & Naval Engines, Enterprise Economics, Mechatronics and is Constanta County project coordinator for the Educational Management for pre university learning programs. He is a specialist in Automotive Engineering, International Transactions, Mechatronics

and Automotive Construction and published more than one hundred and fifty scientific papers, studies and books and participated in projects and studies concerning Engine and Automotive Engineering & Prototyping, Technological Education, and Distance-Education for Engineers.

Steliana Toma is licenced in Pedagogy and Romanian language and achieved her Ph.D. at the University of Bucharest with the thesis 'Education and Self-Education in The Lifelong Education Perspective'. As university professor of Educational Sciences at the Technical University of Civil Engineering of Bucharest, Romania, she teaches Pedagogy, Technological Education, Decision Making Psychology, Educational Management, and is project coordinator for the Educational Management Master programme and for two postgraduate programmes of specialization on Informatics and on Technological Education.

She is a permanent expert of the Romanian Agency for Quality Assurance in Higer Education Institutions, expert of the National Agency for the Qualifications of the Educational, Economic and Social Medium and vice -president of the Specialized Commission for Continuing Training Programs Accreditation, National Center for Teacher Training Program Accreditation. She published many scientific studies and books and participated in more than twelve international projects and study visits on: Curriculum Design and Evaluation, Academic Assessment and Accreditation, Initial and Continuing Teachers Training, Critical Thinking, Romanian Qualification Framework, Technological Education

and Distance-Education. Since 1996, she is the Director of the Teachers Training Department at the Technical University of Civil Engineering in Bucharest.

Challenging Creativity in Automotive Engineering Department of 'Ovidius' University

Adriana-Teodora Manea, Laurentiu Manea, and Steliana Toma

As professors in the Automotive Section within "Ovidius" University of Constanta, Romania we are challenged to promote creativity during each lecture we give to our students. They appear to be theoretically too scientific, especially those dedicated to our common passion 'automotive vehicles', they require much learning and a constant effort. Beyond the polytechnic discourse we address to our students another message that comes from our didactical experience and from our education philosophy as follows:

"You are so caught by our courses that you remain *creative* just for a little while ... *knowledge* is of course essential, but it is not the same with *project and creation*. Solving many problems requires some *creativity*: but if you do not have time to manifest it in an *autonomous manner*, in the end, it is no use at all ... and what we tried as your professors would partly reach the final goal. Although, the rigours of our academic teaching impose a strict "*curricula*" in training automotive engineer and members of the teaching staff want to implement all knowledge

in a complete and correct manner, you should not forget that you have the duty to fight difficulties, investigating ways of stimulating creativity ... If you ask yourselves if you could do something with your time in maintaining interest in creativity, the answer is affirmative: don't stop filling your mind with new facts; be informed; no matter how busy you are, you can read biographies of famous scientists and inventors ... you might even discover your teacher's effort involved in interesting projects that can become a reference for you and a point of departure for your future discoveries. Undoubtedly, one course at a high level may transmit, along with scientific information, *the interest*, even the *passion* for a discipline, but nothing can replace *your independent work*, debates and seminars, courses, work in student scientific teams, stages of practice, bibliography search and consultation, test and finally, the developing of original independent scientific papers. Therefore, *search* in your university's courses and in your professors' speeches, alongside the formulae, demonstrations, principles, tools, machines, circuits and many others, *references* that bring to light how a certain theory waited for centuries until it was revealed, or how final results of a project appeared after years of team effort... You could think of some original projects to solve... and always think about the issues related to them; they might never be materialized, but they will maintain the *creative hope*, and thus you will achieve a large part of your wishes. Linking technical education, research and economic environment's needs, with the bold ideas that may come in "*teacher-student debate*" (by giving up the traditional academic discourse), we

are sure that you will acquire, in a team effort and in a creative environment the essential steps both for the thorough assimilation of professional knowledge and also for general engineering skills. Do not forget that the first purpose of any act of learning, beyond the pleasure that it can generate directly, is *the future utility of the results ... not just learning to reach some goals ... It should allow you to continue research at the next stage*"

Our desire is related to the strength and determination of the next student generations in following the examples of their colleagues and in taking their example... *NEMO* prototype (an *amphibious car* that crossed Constanta Lake, *TRIO urban prototype* (a city vehicle that materialized the work of over three hundred students), *MIXTRA* (a roadship complex developed to take part in the fight against natural disasters) *Sym* virtual car driving simulator, *HY* (a prototype of a *hybrid car* the current generation working project, etc. These are just some of the examples presented in the paper and beyond them a didactical work, carefully conducted for the benefit of our future automotive engineers.

Aliyah Marr
Author, Speaker, Imaginator,
Creative consultant and coach, USA

Educated at the famous École Nationale Supérieure des Beaux-Arts in Paris, France, Aliyah Marr is a multimedia artist, graphic designer, and educator. She has explored painting, design, artistic gymnastics, sculpture, music, dance, poetry, prose, theatre, and improvisational humour. As a visual artist, she works in a variety of media from painting and sculpture

through to interactive art and video art.

A creative director with a stellar client list of Fortune 100 companies, the author is a creative consultant for companies and entrepreneurs. As an educator, she has taught graphic design, art, interactive programming and new media at three top design schools in New York City, Parsons School of Design, Pratt Institute and The School of Visual Art.

Parallel Mind, The Art of Creativity *Aliyah Marr*

Are you ready to live the life you were meant to live? Do you dream of a life filled with magic and adventure? Whatever you can dream is available to you, but first you must know how to use your creative potential.

Artist, designer, poet Aliyah Marr has produced the world's first book on the process of creativity told from the standpoint of the visual artist. *Parallel Mind, The Art of Creativity* reveals how you, as a creative individual, can mould your life with the power of your thoughts and how those thoughts can be used to create whatever you want in life.

Art is so much more than mere self-expression or an exploration of mental/emotional issues. Author Aliyah Marr introduces the revolutionary concept (to anyone else but an artist!) that art can serve not only as a tool for personal self-development, but it is humanity's preeminent tool for the evolution of consciousness.

Aliyah Marr's presentations are like her art: spontaneous, joyful explorations of the moment. Her teaching method is

at once gently playful and fun. Expect to be invited to explore some of her concepts through deceptively simple in-class exercises that will bring you to a new point of view, inspire the flow of creative thinking, unblock your blocks and transport you to the next level in your own development. We will explore the power of creative thought and see how it can impel you to excel in any medium, in any field, or any subject.

This session is for a broad audience: from the professional creative to the person who would like to be more creative in their daily or professional life. It will give you the tools to achieve your dreams, whether you are a creative professional, a student of art, or someone interested in personal development; it answers some essential questions, the most important being: what is creativity, and how can it bring me freedom and happiness? When will you allow yourself the life you deserve? A voice is whispering in your ear: today is the day.

Parallel Mind, Creativity @ Work

Aliyah Marr

Do you have a need for creative thought or innovation at work? How do you generate truly out-of-the-box ideas? This workshop leads you down the rabbit-hole of creative thought. Author / Creative Director Aliyah Marr brings in her experience as designer, artist and author to bear on the practical aspects of the creative experience.

"Creativity at Work" is not a seminar on how to fit creativity into your

business — there are plenty of those — it is about how to think creatively, even while under the pressure of a deadline or competition. True creativity and innovation cannot be achieved by staying within a rigid system. Those who manage to escape the system are then able to do their thinking outside the box.

This session is for business people and entrepreneurs who wish to understand the nature, value and process of creativity; for those who, while they may not be creative themselves, need to understand how to evaluate, hire, and nurture creativity.

**Dana Mietzner and Guido Reger
Centre for Entrepreneurship and
Innovation, University of Potsdam
(BIEM-CEIP), Germany,**

Dana Mietzner finished her studies in business administration in 2000 and gained professional experience in her position as a project manager in a marketing company. Dana joined the Centre of Entrepreneurship and Innovation (BIEM-CEIP) in 2004. She is one of the key persons who developed the institute to one of the leading institutes in entrepreneurship and innovation management in Germany.

Dana has been involved in several research projects as senior researcher and as a coordinator of projects in the academic area as well as for companies. Today she is responsible for several third-party funded research projects in the area of strategic innovation management as well as for the further development of this research field at BIEM-CEIP. She is an expert in strategic foresight with a special

focus on scenario building and planning, intelligence and creativity tools. In her outstanding doctoral thesis she contributes to the further development of strategic foresight approaches. She introduced an open foresight approach and a concept for a systematic strategic foresight concept for biotechnology companies.

Dana is developing a European study program in the field of strategic foresight together with three other European academic institutions (University of Malta (MT), University of Teesside (UK), the Turku School of Economics (FI) and industry partners.

Professor Dr. Guido Reger from the University of Potsdam and in his former position as senior researcher at Fraunhofer Institute for Systems and Innovation Research (ISI) has been involved in various research projects on industrial innovation strategies, globalisation of research and technology, evaluation of science and technology policy. His research focus is on technology and innovation management, entrepreneurship, start-up companies, globalization of research and technology, and national and regional innovation systems. Guido Reger has published numerous books and articles. He is senior adviser to various German Ministries, OECD, and the European Commission and to small and large enterprises.

Professor Guido Reger has experience in research cooperation in Europe and Asia (Peking, Copenhagen, Brighton, Stockholm, Lisbon, Paris, Madrid, Cambridge, and Tokyo). He received the research award of the International Association for Management of Technology (IAMOT) in 2003. In his

position as Director of the Centre of Entrepreneurship and Innovation (BIEM-CEIP) he has experience in cooperation at the local level.

New Market Intelligence Tool: Identification of New Markets and Business Opportunities for High Tech SME

Dana Mietzner and Guido Reger

Strategic foresight is an integrated approach which describes the early detection of new technologies, ambitious competitors, new markets, customer demands and changing social phenomena. Strategic foresight is also the systematic integration of the results of all early warning activities into the strategic planning process. Processes and the degree of method application of strategic foresight are still less investigated in small and medium sized enterprises. Based on case study research in 30 biotechnology companies, six different approaches of strategic foresight could be identified. The study shows how strategic foresight is organised, which methods for strategic foresight are implemented, who is responsible for strategic foresight, what the main characteristics of the different approaches are and how the strengths and weaknesses of foresight practice in the biotechnology firms can be characterised. Furthermore, the firm's requirements for suitable foresight processes and methods are identified within the scope of case study research. The study shows that apart from a

necessary future-open mindset of the management, foresight processes needs to be customized, firstly on the level of branches or segments and secondly at a companies level. There is no “one-size-fits-all” approach of strategic foresight. Furthermore, high tech SMEs are on the one hand confronted with fast changes and uncertainties in the firm’s environment but on the other hand with limited resources and methodological knowledge for strategic foresight approaches.

The proposed pilot tool aims to deliver support and guidance in the foresight process of high tech SMEs. The intelligence tool is implemented as a customized tool to meet individual company’s needs and requirements for the strategic foresight process and can be adjusted individually. Key functions of the intelligence tool are derived systematically from the investigated firm’s requirements. A systematic strategic foresight process can be implemented and supported by a web-based intelligence tool. The three key modules of the tool *information, knowledge transfer and library* and *strategy* are introduced.

In the *information* module, industry *information*, company and market data will be gathered and systematized. The information module accumulates a database which will be evaluated and extended by the management team. An essential function of the module *knowledge transfer and library* is to collect structure and evaluate formal but also informal information. In the strategy module all gathered, systematized and coded information will be integrated into methods of strategic planning and foresight.

Creation of Future Business Models – A Scenario Based Approach

Dana Mietzner and Professor Guido Reger

The aim of this practical session is to develop ideas for future business models by using a hands-on scenario approach. The session is highly interactive and participants work together in creative, interdisciplinary teams. In this session a scenario based creative process will be introduced and implemented. The process integrates the review of the present situation, the identification of driving forces, the development of future projections, and a future business prototyping. The introduced process is based on a scenario approach which is considered as a method in the foresight of new markets and business opportunities. During the scenario development process qualitative and quantitative information are taken into consideration. Thereby, the actual business model is considered against the background of a complex network of influencing factors, which are characterized by different possible future projections. The future projections are the fundamentals for the prototyping of a future business model.

Brenda Murphy
The Edward de Bono Institute for the Design and Development of Thinking, University of Malta, Malta

Dr Brenda Murphy is a Senior Lecturer at the Edward de Bono Institute at the University of Malta, where she supports student research and runs academic

and practical study units across several disciplines (e.g. Sociology, Psychology, Media and Cultural Studies, Creativity and Innovation) at undergraduate and postgraduate levels. She also runs training courses in professional development for advertising professionals and other media practitioners.

She has worked in the advertising industry in London and Dublin and had been an invited speaker at International Advertising Association's [IAA] (Malta) seminars in 2000 and 2004. From 1999 to 2003 she chaired the Gender Advisory Committee at the Malta Broadcasting Authority. She is a member of European Network of Equal Opportunities in Broadcasting (EON), an EU network on equality in the media and is a member of ECREA (European Communication Research and Education Association).

She is active in EU projects, as a research partner, on gender portrayal in the media, is a collaborative researcher with SophiaEuropa, and is advisor and trainer to government bodies e.g. the Malta Broadcasting Authority, the Employment and Training Corporation (ETC) and to private advertising agencies.

Her research areas are: *constructions of identity/consumption of advertising, Diaspora, and gender issues the media*

Reading the Media, Writing Identities: Generating problematic gendered identities and strategic strategies for change

Brenda Murphy

In this paper I argue that the media, in its

varied forms, has the power to write our gendered identities and it portrays men and women in narrow and problematic versions of masculinity and femininity. I also argue that we need strategies for coping with the narrow versions of femininity and masculinity generated by the media.

Starting out from Adorno's position that the media has an impact on us, I write from the well-argued position that the media impinges on our identities – gendered, social, cultural, national etc – however for this paper I focus on *gendered* identities.

This paper excavates and describes contemporary media images and the portrayals, and subsequent shifts in portrayal, of essentialist versions of masculinities and femininities. I draw on Jean Kilbourne's seminal work where she examines images of girls and women in advertising and discusses the impact on these images on women, young girls, men and young boys and I draw on Jackson Katz's broader approach to media where he focuses on masculinities and the impact of contemporary media images on men, young boys, women, and young girls.

In sympathy with these theorists, and alongside feminist and cultural authors, bell hooks and Brian McNair, I present a visual illustration of local (Maltese) media images which supports McNair's and hooks' claims that the media and especially advertising, has become a vehicle for 'mainstream pornography' (McNair 2002) and 'cultural compromise' (hooks 2001), by depicting women and men in problematic visual portrayals – compromising each genders' expectations in themselves and generating problematic attitudes from the opposite gender. (The images located

in Maltese media can also be found in mainstream media across Europe).

In the second part of this paper, I set out to examine strategic and innovative strategies for addressing this media scenario (i) by considering the value of legislation and enforcement (ii) by considering the effectiveness of self regulation by the media industry, and most importantly (iii) by considering the need for, and effectiveness of, media literacy programmes and equity training, as integral elements of primary, secondary and third level syllabi as part of a Europe wide programme.

The methodological approaches utilised for this paper include: *theoretical* structuring from media theory and gender identity theory, *desk research* drawing on existing visual material from Katz, Kilbourne, and a *collection*, and *analysis* of 'local' (Maltese) media texts, exemplifying problematic gender portrayal and to interrogate these texts I utilise *textual analysis* and *semiotics* as methodological tools.

Iwona Nowicka
Ministry of Science and Higher
Education, Warsaw, Poland

I work for the Ministry of Science and Higher Education in Poland (Warsaw) as a Counsellor to the Minister in the Department of Strategy. I am responsible for coordination of National Foresight Programme Poland 2020. I graduated in management and marketing from Warsaw University. Now I am working to get a doctor's degree. I finished the registration and conferment procedure for a doctoral degree at the University in Bialystok in 2005. The subject of my

doctoral dissertation is 'The role of social consultations in defining priorities in the area of research and technological developments'. I wrote 18 academic publications on foresight technology, EU funds, R&D, innovation policy. Besides, I am an academic teacher since 2003. I lecture in management and marketing.

I participated in a lot of courses and conferences regarding technology foresight. The most important of these were: UNIDO Training Programmes on Technology Foresight in Prague (Czech Republic) in October 2003, in Gebze (Turkey) in December 2004 and in November 2006, NISTEP Training course on Technology Foresight and science and technology policy in Tokyo (Japan), in March 2007, STPI Training course on Technology Foresight in Taipei (Taiwan) in October 2007. I was involved in regional and sectoral foresight projects in Poland as an expert of methodology.

Methodology of National Foresight Programme Poland 2020

Iwona Nowicka

Foresight means a systematic method of building medium and long-term vision of development of the scientific and technical policy, its directions and priorities, used as a tool for making on-going decisions and mobilizing joint efforts.

The National Foresight Programme Poland 2020 was being implemented at the initiative of the Ministry of Science and Higher Education by the Consortium comprised of the Institute of Fundamental Technological Research of the Polish Academy of Science (Consortium

Coordinator), the Institute of Economics of the Polish Academy of Science, Pentor Research International.

The scope of realization of the National Foresight Programme Poland 2020 covered three research areas: Sustainable Development of Poland, Information and Telecommunications Technologies, security and expert panels making up each area.

The main objectives of the National Foresight Programme Poland 2020 are:

- setting Poland's development vision up to 2020,
- building consensus with main stakeholders,
- defining priorities in the area of R&D,
- rationalization of the expenditures from public funds,
- promoting Science for Economy,
- creating a social dialogue language and culture of thinking about the future.

The results of National Foresight Programme Poland 2020 should bring the following effects:

- creating scenarios of development,
- implementation the research results into practice,
- economic growth,
- improvement of quality of life,
- cooperation between the society of: industries, scientists, public administration representatives, non-governmental organizations, politicians.

The main result of National Foresight Programme Poland 2020 are the five development scenarios of Poland until 2020:

- Civilization leap (the most optimistic scenario),

- Hard adaptation,
- Difficult modernization,
- Declining development,
- Recession (the worst scenario for Poland).

Scenarios present possibilities of the Polish economic development and they depend on changeability following key elements: European globalization and integration, domestic reforms, knowledge-based economy, social acceptance.

Gill Owens
Doctoral student, Teesside Business School, University of Teesside, Middlesbrough, UK

Gill is presently registered for a Ph.D. in entrepreneurship at Teesside Business School, examining the role of spousal support in entrepreneurial success. Gill returned to education after a successful career in business, having left school at 16 and progressed from entry-level admin roles to being a board-level director in a national business support company. In her role as Business Development Director she facilitated the growth of the business from a thirteen strong team to an industry leader with a multi-million pound turnover employing over three hundred staff.

The sale of this business gave her the financial independence to return to education, and she obtained a First Class honours degree in Psychology before registering for a Ph.D. In addition to her doctoral research, she is interested in the socially constructed identities of entrepreneurs and the crossover effects of work and home life for the entrepreneur.

At the Heart of Things: The Role of the 'married' couple in Entrepreneurship and Family Business

Gill Owens

This presentation develops an expanded conceptualisation of copreneurship, locating it within the family embeddedness perspective on entrepreneurship. It draws upon the entrepreneurship and family business literatures in order to identify the concept of copreneurship within both traditions. In recent years there has been a tendency to broaden this out to an examination of the role of family in entrepreneurship, seeing copreneurship as merely one example. Whilst this approach usefully builds links between the literature on entrepreneurship and family firms, and also locates copreneurship within the broader context of how family and entrepreneurship interact, we argue that researchers have moved away from copreneurship too readily – there is still a great deal to be learned, and examining the family in terms of its smallest unit of analysis (the couple) can still offer valuable insights.

By focusing on the couple as a unit of analysis we inevitably sacrifice some of the complexity captured by family firms research. However, what we lose in narrowing our focus, we may gain in terms of a clearer, more detailed picture of how the dynamics of couples, the smallest unit of analysis in the family, interact and how their relationship impacts upon entrepreneurship and the family firm. We identify areas for future research including: the notion

of spousal support as a construct in the context of entrepreneurial success, crossover effects and their impact on relationship dynamics for entrepreneurial couples, gender and the influence it can have on those couples involved in entrepreneurial ventures and relationship quality and how the varying strengths and components of different relationships can impact on success.

Teea Palo* and Jaana Tähtinen**
*** Doctoral student, University of Oulu, Finland;**

**** Professor of Marketing at the University of Oulu, Finland**

Teea Palo M.Sc. is currently a doctoral student at the University of Oulu, Finland. Her research interests include strategic business nets and business models in the field of emerging technology-based services. She has published in an international peer-reviewed journal (*E-Business Review*) as well as presented papers at international conferences (EBRF 2008) on business networks and their business models. She has co-written a book chapter on ubiquitous commerce.

Jaana Tähtinen is Professor of Marketing at the University of Oulu, Finland, where she earned her doctorate in 2001. Her main research interests relate to management and value creation in business nets and dynamics of business relationships. She is one of the founders of the biannual Nordic Workshop on Relationship Dynamics (NoRD) and a founding member of Business Relationship Dynamics Group

(BuRD). She has published in the *European Journal of Marketing*, *Industrial Marketing Management*, *International Journal of Service Industry Management and Marketing Theory*.

Business Model Scenarios for emerging Technology-Based Services

Tea Palo and Jaana Tähtinen

The fast development of new technology is changing the business environment continuously (e.g. Möller & Svahn, 2008; Srinivasan, 2008). This creates a need to find innovative business models to operate in the dynamic business environment as well as to capture value from a specific new technology (Chesbrough & Rosenbloom, 2002). Thus, innovation is needed in the way companies cooperate and share resources and competencies, in leveraging information and communication platforms and in the way value is created (Bouwman & Fiel, 2008).

Business models have been traditionally viewed from a single firm's perspective (e.g. Amit & Zott, 2001). However, in the emergence of new technology and technology-based services, a diversity of activities and resources are needed from multiple actors (see e.g. Komulainen et al., 2006; Lundgren, 1995; Möller & Svahn, 2008). Hence, the underlying business models have to be attractive to all the actors, not just a single company (Bouwman & Fiel, 2008). Therefore, the current study suggests that the concept of business model needs to be expanded

from a network perspective (see also Komulainen et al., 2006) and examines the business models for the net of actors involved.

This study explores future business models for emerging technology-based services in the field of ubiquitous computing. Ubiquitous services combine information and networking technologies (Shin & Lee, 2005) as well as mobile and pervasive computing (Lyytinen & Yoo, 2002). The aim of the study is to plan alternative business model scenarios for this kind of new technology-based service. In pursuing this goal, the paper builds on research on business models (e.g. Amit & Zott, 2001; Komulainen et al., 2006) and the strategic or value net approach (e.g. Möller et al., 2005; Parolini, 1999).

In the empirical part, the study employs the scenario planning method that is closely related to futures studies (see Cole, 2001). Scenario planning does not aim to predict the future but to provide alternative scenarios of how the future may evolve (Schoemaker, 1991; Moutinho et al., 2002). It is especially useful in a dynamic business environment such as in the case of fast technological change (Moutinho et al., 2002). Hence the method was considered suitable for the current study as its focus is on future business model in the field of fast-changing technology. Firstly, we will plan preliminary scenarios, which will be presented to experts in the field of technology and business. In the future we also plan to continue with the evaluation and further development of the scenarios with the Delphi-method.

As a result the paper presents alternative business model scenarios for an emerging technology-based service

in the field of ubiquitous computing. The scenarios describe the service, the business net of actors and their roles according to the specific technology, and the value-creating exchanges among the actors (see Komulainen et al., 2006).

Markus F. Peschl
Professor for Cognitive Science and Philosophy of Science,
Department of Philosophy,
University of Vienna, Austria

Markus F. Peschl is professor for Cognitive Science and Philosophy of Science at the Department of Philosophy (Research Group Philosophy of Science: Cultures and Technologies of Knowledge), University of Vienna, Austria. He spent two years at the University of California, San Diego (UCSD, cognitive science, neuroscience, and philosophy department) and some months at the University of Sussex for post-doctoral research. Furthermore, he has studied philosophy in France.

His focus of research is on the question of knowledge (knowledge creation/innovation, construction, and representation of knowledge) in various contexts: in natural and artificial cognitive (neural) systems, in science, in organizations, in educational settings, as well as in the context of knowledge technologies and their embedding in social systems. The philosophical, epistemological, anthropological, technological, and cognitive foundations of the human person and his/her knowledge are at the centre of his attention. He follows a radically interdisciplinary approach integrating

concepts from the natural sciences, philosophy (of science), the humanities and from (knowledge) technology.

Working on the concept of “socio-epistemological engineering” he integrates concepts of knowledge creation/innovation, knowledge technologies, educational technologies (alternative approaches to e-learning processes, knowledge didactics, etc.) with epistemological and social aspects of knowledge creation, and social innovation/engineering. Furthermore, he works in the fields of interdisciplinary curriculum development (e.g., joint masters degree in cognitive science (MEi:CogSci), ‘studium generale’, etc.) and personality development for gifted students.

Markus is working in the field of radical innovation where he developed the concepts of Emergent Innovation and Enabling Spaces. He has published six books and more than eighty papers in international journals (<http://www.univie.ac.at/knowledge/peschl/>).

Creating Sustainable Futures by Innovation from within

Markus F. Peschl

This paper presents a newly developed and empirically tested approach to radical innovation aiming at bringing forth profoundly new knowledge and realizing it in concrete innovations: Emergent Innovation. ‘Profoundly new knowledge’ means that this knowledge is both radically new (in the sense of a radical innovation) and yet respects what is already there. It therefore

fits organically into the core of the innovation-object (be it a business model, service, product, idea, etc) and its systemic environment. The theoretical foundation of this interdisciplinary socio-epistemological innovation technology/framework can be found in models of (situated) cognition, C.O.Scharmer's theory-U, dialogic and reflective approaches, etc. These models have been developed further on a theoretical level and translated into an integrative, concrete, operational and empirically tested innovation process/strategy/framework which we refer to as 'LEAP'.

The basic idea is that this kind of innovation emerges from within the organization out of a process of understanding profoundly the core of the innovation-object, reflecting and letting go of pre-defined patterns of perception and thinking, by entering a space of 'enabling emptiness'. In the first step, the goal of this process is to discover and explore hidden latent qualities of the core of the business, the innovation-object, the service, product etc. (plus its environment/systemic context). In a second step these latent qualities of the core are converted into potentialities which, in a third step, are realized in a concrete innovation project. Hence, we differentiate between latent qualities of the core and potentialities. Whereas the latent qualities of the core are concealed and extremely difficult to identify, potentialities are already, at least in their vague shape, 'visible'.

The demanding task is to identify these latent qualities since they are extremely fragile. On the one hand they are concealed yet in most cases they 'want to break forth'. That is why this approach

is referred to as 'Emergent Innovation from within'. These are cognitively as well as epistemologically demanding tasks. Hence, in the first phase of the LEAP-process there is a strong focus on the cognitive and epistemological processes being involved in this kind of innovation work namely; learning to see/observe, to reflect, to discover and understand one's own (hidden) assumptions and patterns of perception and thinking, becoming competent in systematically exploring, changing and letting-go of them.

In the second phase the innovation team enters into an empty, however, sparsely structured space in order to explore the field of hidden latent qualities. The knowledge emerging out of this process is highly fragile and has to be cultivated and nurtured into an emergent design. By that, sustainable futures can be created which both 'surprise' by their game changing character and respect as well as organically fit into what is already there in the organization, market, society and culture, by bringing them to a next level of development.

Besides the unorthodox procedure of this approach to innovation, one of the interesting points is that the LEAP-process is not restricted to innovation processes but systematically integrates them into strategic work and personnel development.

Shirley Pulis Xerxen
**The Edward de Bono Institute for
the Design and Development of
Thinking, University of Malta, Malta**

Shirley Pulis Xerxen obtained a Master of Arts in Creativity and Innovation from the University of Malta in 2006 and a postgraduate Diploma in Education (Administration and Management) in 2005 after having read for a B.Ed. (Hons) degree. Shirley currently lectures at the University of Malta on thinking systems and innovation, creativity in education, entrepreneurship and educational leadership. Shirley's work experience includes eleven years teaching in Maltese State schools and she regularly provides workshops and training in thinking systems with diverse local organizations, including NGO's, Local Councils and other private corporations. Shirley was selected in 2000 to design the thinking skills programme that is currently being implemented in local state schools. Shirley's research interests include creativity in education and creative organizational culture.

**Creativity in Schools:
A Maltese Perspective**
Shirley Pulis Xerxen

Educators today are faced with the ever-growing call for entrepreneurial citizens who value openness, diversity and creativity, who are able to design the future in all areas of their life. This demands that the school's curriculum must be open and flexible enough to accommodate these new perspectives. The paper focuses on the need for

a holistic approach to creativity in education, an approach that takes into account all the aspects of creativity where education is concerned. Promoting creativity in education has to take into account the apparently conflicting factors included in creativity such as divergent and convergent thinking, intrinsic and extrinsic motivation, the need for contradictory personality characteristics such as a relaxed attitude as opposed to perfectionism, or the benefits of an environment that tolerates non-conformity and at the same time requires the exercise of discipline.

Creativity in education is concerned with the definition of creativity as a skill that is within every person's reach, a skill that can be fostered and that is required in all areas of human activity. For many involved in education, the promotion of creativity is of central importance. With regards to creative learners, schools' curricular choices can stifle creativity. A curriculum which is predetermined, compulsory and which is predominantly focused on the acquisition of knowledge and rote learning poses challenges to the promotion of creativity. Nevertheless, creativity does not imply a matter of letting go – creativity in education involves a balance between teaching knowledge and skills and encouraging innovation.

René Rohrbeck
Head of Innovation Management,
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University of Technology;
Chair for Innovation and Technology
Management, Germany

René Rohrbeck is the head of innovation management at the European Center for Information and Communication Technology (EICT) and associated researcher at Berlin University of Technology, Chair for Innovation and Technology Management. His research interests are: Corporate Foresight, open innovation and university-industry collaborations.

Before joining EICT he worked at the Deutsche Telekom Laboratories (T-Labs) where he coordinated the technology intelligence activities and worked on the improvement of innovation management tools.

In 2007 he founded the European Conference on Corporate Foresight, an annual forum for foresight professionals. Prior to T-Labs, Rohrbeck worked as a business development manager for a technology consultancy and for two years as a management consultant in the automobile industry.

René Rohrbeck is member of the European Industry Research Management Association (EIRMA) and the International Society of Professional Management Association (ISPIM).

Innovating for the Future: The Roles of Corporate Foresight in Innovation Management

René Rohrbeck

The strategic management literature emphasises that in order to ensure long term survival and competitiveness, companies need to develop ambidextrous capabilities that will enable them to develop incremental innovation and create new markets with radical innovation in parallel. In innovation management, scholars and practitioners alike have engaged with great interest in understanding how large companies can develop radical innovation, concluding that separate organizational structures and processes need to be put in place. In this presentation we explore how companies use corporate foresight to enhance their ability to develop both radical and incremental innovation. Using empirical evidence from 19 case studies in multinational enterprises and over 100 interviews, we identify three roles of corporate foresight systems: Initiator, Strategist and Opponent.

Elena Seghedin **University of Iassy, Romania**

Elena Seghedin is a Lecturer in the Educational Sciences Department, Psychology and Educational Sciences Faculty at the Al.I.Cuza University, Iasi, Romania.

From 1986 to 1990 she was a primary school teacher; from July 1993 to 1995 she was a part-time research assistant for the National Institute of Inventics, working on

some special research themes including the psychological and educational elements of technical creation. From January 1995 to September 1997 she was research assistant (full-time) with the National Institute of Inventics in the Psychology and pedagogy of technical creativity Department. From 1996 to October 1997 she was associate professor for pedagogy seminars on the Psychology and Educational Sciences Faculty and other faculties from the Al.I.Cuza University, having a part time contract with the Teacher Training Department, (seminars for the following disciplines: Introduction on pedagogy, The theory and methodology of formal education, Education theories, Educational management); from 1997 to 2005 she was associate lecturer with the Educational Sciences Department, Psychology and Educational Sciences Faculty at the Al.I.Cuza University, Iasi, Romania.

Elena is interested in developing a society through the education sector. She believes in the success of an educational reform if it is based on some solid quality thesis. She thinks that quality in education is very important for developing good professionals for the education sector.

Developing Children's Creativity: From the parents' creativity to the children's creativity

Elena Seghedin

This study presents some reflections starting from experimental data. The author and two primary school teachers have tried to see if it is possible to find a useful connection between the parents'

creative potentiality and their children's creativity.

The steps which were followed on designing and experimenting an educational program for developing the parents' (of primary school pupils - ages between 6/7-10/11 years old) creativity is presented. The starting idea, which became the hypothesis for the experiment, was that if the parents manifest high levels of divergent and flexible thought and creativity in their usual activities with their children, the latter will express/manifest it in their school and day to day activities.

The paper presents the findings after the experimental phases and some reflections under the formula of a list of implications for an educational system. For the theoretical foundation we used theories, applicative ideas from the Romanian literature written on developing the human creativity potential and numerous titles from the international literature dedicated to creative, divergent and lateral thinking (for example, Caluschi, M., Roco, M., Stein M., Stenberg, de Bono etc).

The main synthetic conclusion was that the program for developing the parents' creative potential for an indirect goal – to sustain, encourage and develop the children's creativity – is one of the best practices for the development of well-prepared next generations.

Olga Semenko
Director of School for Creatively Gifted Children, Samarkand, Uzbekistan

Olga Semenko is the founder of an alternative School for Creatively Gifted Children, the only School of that kind in

Uzbekistan. She was awarded an IREX CI exchange program and did her research in the USA. She is an ECHA member since 2002.

Interrelations between Cognitive and Affective Components in the Creative Thinking Classroom

Olga Semenکو

Complex Thinking can take many different forms. An essential element in developing a thinking culture will be explicit teaching of thinking skills to all students. Using a variety of models in designing teaching and learning activities will encourage students to think in different ways, to apply thinking tools and strategies in everyday situations and in solving problems they encounter in the real world.

Critical or creative thinking is an outcome of the educational process, the practice of thinking. Clearly this will require both a whole-school approach to the explicit teaching of thinking skills and ongoing application of an extensive range of models and thinking strategies by teachers as they create meaningful learning activities for students.

Brainstorming technique elaborates upon four cognitive components, such as fluency, flexibility, originality and elaboration. But to make the learning process more effective, especially with young students, we must use affective components – feelings, imagination, children’s natural curiosity, their readiness for risk taking.

These extra components seem to be basic for developing a range of activities at lessons, extending children’s opportunities.

Radu Serbulescu and Daniela Hincu
Research economist, Centre for Industrial and Services Economics, Romanian Academy, Bucharest, Romania

Dr. Radu Serbulescu is research economist at the Centre for Industrial and Services Economics, a part of the Romanian Academy research system, since 1990. He graduated the Academy of Economic Studies, Faculty of Commerce, in Bucharest in 1981 and obtained a diploma in International Relations, Master of Economics. In 1999 he obtained his PhD in Economics from National Economic Research Institute with a thesis entitled ‘The Role of the Information to Generate Market Mechanism’.

As research economist at the Centre for Industrial and Services Economics, Dr. Serbulescu conducted 19 research programmes from the Romanian’s Academy fundamental research programme, in the area of informational economics, network economics modelling and communications systems. He proposed and obtained two research grants from the Romanian Academy: The model of the Economic Transition Processes: an Approach based on Network Economics (1996) and The Measure of Economic Processes: a non-statistical approach.

He also participates in 28 research programs directed by the National Research Agency, in cooperation with

other Romanian research and academic institutions in the field of managerial modelling, regional development and environmental management. As a result of these research programs Dr. Serbulescu published more than 80 articles and 20 papers in collective volumes, most of these in Romanian.

His research activity is extended through his academic teaching, at the Academy of Economic Studies in Bucharest, as European project coordination and as PHARE expert for evaluating the impact of European assistance for Romania, in the finance and banking sector. He initiated and created the IRSCA foundation for gifted education (<http://www.supradotati.ro>).

His training experience is extensive and includes participation in European programs – COST A22 – and international conferences and seminars both in Romania and abroad: Germany, France, England and Greece. Recent research includes the impact of the information theory in epistemological and economic modelling (two volumes are expected to be printed in 2009), cultural patterns, studies on intellectual property rights, non statistical measurement of economy and economic processes.

Professor Daniela Hincu graduated in 1992 The Bucharest Academy of Economic Studies (BAES) – specialization Economic Forecasting and Cybernetics and then, joined the Ministry of Industry, Romania. After a short stage, she joined the Management Faculty, Academy of Economic Studies in Bucharest, and passed to the successive steps of the academic career – from university assistant to the full professor position in the Economic Efficiency

Department. In 2000, she finished the doctorate degree programme, completing a doctoral thesis *“Decisions for management for technological transfer in Romanian Industry”* in the field of Management – The investment efficiency and technological progress” under the supervision of Prof.dr.eng. Marcel Stoica, Faculty of Management, BAES. She attended some postgraduate training programs in management, simulation, forecasting and technology management in various universities as Carlos III University - Madrid, IESE, University of Navarra - Barcelona, The George Washington University – Washington DC, Central European University - Budapest, Harvard Business School - Boston.

The main area of activity refers to teaching, various didactic works, as well as research and training. The subjects taught relate to quantitative management, modelling and simulation, decision theory, management of technology transfer, investment and economic growth. She published over 15 articles in professional reviews and academic publications in the field of management. She participated in some research groups in various research grants and programs – awarded by the Romanian scientific bodies for research, development and innovations. She published, in collaboration or as single author, textbooks and student’s guides for the course disciplines addressed to the undergraduate and graduates students of Management Faculty.

Cultural Patterns and the Ability to Foresee: A Challenge for a Common Future in a Globalized World

Radu Serbulescu and Daniela Hincu

One “official” (CORDIS) definition of foresight states: “Foresight covers activities aiming at thinking the future (foresight attempts to identify long term trends and thus to guide decision-making), *debating the future* (foresight is a participative process involving different stakeholders) and *shaping the future* (foresight aims at identifying possible futures, imagining desirable futures, and defining strategies)”. Foresight processes suppose, two different kind of activities, (1) creating a vision on futures events – *thinking and debating the future* and (2) finding the adequate way to attain the fixed goal. Consequently, the success of a foresight program depends both on the accuracy of vision and the policy enforcement.

In a global world this is not an easy task. The fact that we have a common future and all of us are depending on the solutions for global challenges, like pollution, global warming or depletion of the non-renewable resources, is easier to imagine. Empirical research and theoretical approach suggest that cognitive processes and patterns of reasoning are complementary and, on this basis, different cultural patterns might be emphasized.

According to Peng and Nisbett (1999) Western intellectual tradition includes the three rules, the basic laws of Aristotle’s

logic: *the law of identity, the law of non-contradiction and the law of the excluded middle*. Eastern reasoning is opposed at its roots to the formal logic tradition, namely the dialectical approach. Peng and Nisbett characterizes dialecticism by three principles: the principle of change, *the principle of contradiction and the principle of relationship or holism*.

Nisbett, Peng, Choi, and Norenzayan (2001) show that Europeans are thinking *analytically*, while Asian people are thinking *holistically*. The authors’ conclusion is that “the best explanation for the cognitive differences that emerged in these studies is that there are different cultural preferences for the use of cognitive strategies to solve the same problem.” The two patterns of reasoning are likely to be complementary.

The paper will show that reasoning and thinking are also complementary with the perception type, learning styles and behavior, and at least another cultural pattern might be defined. Perception type, learning style, inferential rules and the pattern of thought are the mark of the specific environment where one individual is educated and where he lives and is the basis for creating the vision of future. Behavior will be considered the basis for shaping the future, and the most important component is the relation with the legal authority.

If globalization will lead to a uniform cultural pattern there will be no gain. A global issue, or the issues relating to more than one cultural environment, requires a common understanding of the problem, where all possible views – or meanings – are equally considered. The future’s perspective differs from one cultural frame to other, but in a special way: one vision is not better than other,

they are qualitatively different, and they are equally relevant for foresight process.

Simeon Spiteri
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Simeon Spiteri is a Doctoral Student at the School of Education at the University of Southampton. His main area of research encompasses the development of a non-traditional approach towards the management of post 16 education to promote entrepreneurship as a life-long learning skill in Malta. Simeon is particularly keen on creativity, which he considers as the main competitive advantage in the business environment.

Prior to such formal studies, Simeon worked as a Chartered Public Accountant and also as an Accountancy Lecturer with the Malta College of Arts, Science and Technology (MCAST).

Presently Simeon is also an active member of The Centre for Higher Education Management and Policy at Southampton (CHEMPaS) that is primarily engaged in Research on Higher Education. This centre comprises a number of doctoral students, professors lecturing and researching at the University of Southampton and Visiting Professors. CHEMPaS is enriched with the vast number of international students that come from different cultures and hold differing views on Higher Education. Indeed discussions between doctoral students and professors are frequent with the aim of enhancing the flow of knowledge that will result in better studies.

**New Entrepreneurial Issues:
The same solutions?**
Simeon Spiteri

The main aim of the presentation is to outline the importance of lateral thinking for entrepreneurship. This will act as the basic ground to highlight the room for further research in the Maltese scenario, which is the fulcrum of my present study. In this respect, the presentation will commence by stating the salient new entrepreneurial issues in the business environment. This will be followed by a brief overview of the old solutions to entrepreneurial issues, which encompass formal training, informal training and the mixed approach (experiential learning).

Under formal training, the traditional teaching style is considered. This teaching style was highly criticized by a number of authors, like O’Gorman (2004) and Vinten and Alcock (2004) on grounds that it fails to enhance entrepreneurial skills. The other extreme of entrepreneurial learning, informal training, will also be considered. Under such a facet, key areas of skill that training courses should be designed to develop will be highlighted, like creativity skills and negotiation skills. This will be followed by a brief description of the merger between formal and informal training, which encompasses the experiential learning approach. The experiential teaching style states that students learn by direct involvement at different points of the programme.

The importance of creativity will then follow as a new solution to entrepreneurial problems. After a brief description of the functions of the left and right brain, the notion of a “balanced brain” for effective

lateral thinking will be highlighted as an important element. This will comply with studies carried out by different scholars, such as de Bono (1994), Olsen and Bosserman. In addition techniques that have been developed to enhance the right-brain will be pin-pointed.

Once the salient topics of entrepreneurial learning and lateral thinking are discussed, the presentation will close by stating that entrepreneurial learning and lateral thinking should not be considered in isolation, but entwined with other important factors present in the business and educational environment, which necessitate further research.

Steliana Toma* and Adriana Teodora Manea**

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Steliana Toma is licenced in Pedagogy and Romanian language and achieved her Ph.D. at the University of Bucharest with a thesis ‘Education and Self-Education in The Lifelong Education Perspective’.

As university professor for Educational Sciences at the Technical University of Civil Engineering of Bucharest, Romania, she teaches Pedagogy, Technological Education, Decision Making-Psychology, Educational Management and is project coordinator for the Educational Management Master programme and for two postgraduate programmes of specialization on Informatics and on Technological Education.

She is a permanent expert of the Romanian Agency for Quality Assurance in Higer Education Institutions, expert of the National Agency for the Qualifications of the Educational, Economic and Social Medium and vice-president of the Specialized Commission for Continuing Training Programs Accreditation, National Center for Teacher Training Program Accreditation. She has published many scientific studies and books and participated in more than twelve international projects and study visits on: Curriculum Design and Evaluation, Academic Assessment and Accreditation, Initial and Continuing Teachers Training, Critical Thinking, Romanian Qualification Framework, Technological Education, Distance-Education. Since 1996, she is the Director of the Teachers Training Department at the Technical University of Civil Engineering of Bucharest.

Manea Adriana-Teodora is licensed in Mechanical Engineering and achieved her Ph.D. at the University “Transilvania” of Brasov with the thesis ‘Fuzzy Systems, Fine Mechanics and Mechatronics applications in automotive engineering’.

Adriana-Teodora Manea is a University professor of Mechanical & Automotive Engineering and Director of the Department of Self-Distance Education & Lifelong Education at the “Ovidius” University of Constanta, Romania. Ahe teaches Mechatronics, Technical Drawing, Technological Education, Methodical Application of Educational Science in Mechanical Engineering High School and University Learning and is project coordinator for Constanta County Educational Management for pre-university learning programs.

She is a specialist in Automotive Engineering, Mechatronics and Fine Mechanics and published more than one hundred scientific papers, studies and books and participated in projects and studies concerning Engine and Automotive Engineering, Technological Education, and Distance-Education for Engineers.

Distance Education as an Educational Partnership *Steliana Toma and Adriana Teodora Manea*

Distance Education is a dynamic, two-way process of mutual accommodation and learning. It is expected that Distance Education will become a very actual type of education especially for adults who have a low vocational training (or none at all) and who wish to improve it or to change their first specialization. In all forms of education, success is above all conditioned by good communication and co-operation between the partners involved.

The management of Distance Education has to take more into account some facts: a) usually, the teachers involved in Distance Education have a basic training to teach children and youngsters, not to meet the need of adults; b) the adults and the teachers are not appropriately informed about the specific structure of Distance Education and about the ethical dimension of this specific educational partnership which is the essence of Distance Education; c) students and teachers (adults, as well) are, both, between 'the use of ICT' and 'the learning with ICT'. The paper

refers to the potential to innovate the teaching and learning approaches and the communication and partnership between two Romanian universities in order to better respond to the growing need for innovativeness.

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02/07 - 09/07 Scientific Assistant for the international, interdisciplinary project at the University Ulm: "Consultancy Services for the Development of Gifted Programmes in the UAE"

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Linking Findings in Innovation Management to Entrepreneurship: Clustering potential Entrepreneurs by Innovator Types

Gabriele Weineck, Astrid Lange and Janine Lentzy

This paper demonstrates how findings in innovation management could transfer to entrepreneurship and entrepreneurial problems. At the Brandenburg University of Technology Cottbus (BTU) a large network of co-operators works on a mission to detect entrepreneurial ideas and innovations as well as to find those academics who can contribute resources to the entrepreneurial processes. Those developing structures aim toward the activation and utilization of start-up potential within academic contexts. But because of differences between

university staff (different subjects, different department structures, group-specific differences like gender or nationality, etc.) one cannot assume to realize one strategy for reaching all people and finding all available innovations. One main challenge in the promotion of entrepreneurship is to find out how we could identify the right persons for building entrepreneurial teams which are able to generate innovative ideas, to find market opportunities, and to build up their own firm. In different fields of research there are some trials to cluster entrepreneurial people in categories. One interesting approach of typing derives from Sim et al. (2007) who deduce their categorization from the stages in new product development. They differentiate the inventor, who is settled in the stage of R&D, from the so called champion, that is tied to the stage of opportunity recognition, and the implementer, who is tied to the stage of project execution. Every type has specific skills like the inventor has technical expertise while the implementer has the knowledge for process implementation (Sim et al., 2007). As a fourth type Sim et al. (2007) propose a generalist, called "the serial innovator" who incorporates the skills, attributes, and motives all other types.

Our intention is to test if we could identify the innovator types within a university context. We ask if there are differing groups of people concerning features like idea generation, idea implementation, entrepreneurial intention, and the willingness to foster entrepreneurial actions. We have created an online survey for all professors and members of the scientific staff at the BTU Cottbus.

After the questionnaires of the online-survey are returned to us, we intend to conduct a cluster analysis with SPSS to

examine the emergence of different types. One result may be that pure inventors are staff members who we can collect new product ideas, but champions show a willingness to assist potential entrepreneurs with the translation of ideas to economic valuable products. Perhaps the implementers do not want to give away their ideas but show a high interest in individual coaching. Maybe there will only be some mixed types.

After finishing the cluster analysis we will discuss all results in the light of research results as well as interdisciplinary theories of entrepreneurship and new product development. At the end, implications for the practical use of entrepreneurial types will be drawn, like considerations about the possibilities of matching certain innovator types to promote the generation and realization of entrepreneurial ideas.

Tian Yumiao
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Yumiao Tian is a Ph.D researcher and Lecturer at the University of Teesside. She came from South East China to take a master's course at the University of Wales. She was then offered a studentship to study full-time for a Ph.D. by the University of Teesside. She is currently completing her Ph.D. thesis, which is concerned with international networking strategies and social capital utilisation of the SMEs originating in China and the UK. She lectures on internationalisation and entrepreneurship at both undergraduate and postgraduate levels. She has published papers at ISBE, ICSB and BAM conferences and *Journal of Business Ethics*.

She is involved in the international project eInnForM (European Innovation and Foresight Masters), designing and launching a new European Masters Program in October 2009.

Social Capitals and SME Internationalisation: An Exploration on cases from the UK and China

Tian Yumiao

This paper comparatively explores social capital utilisation strategies of SMEs on the way to international markets. It investigates companies of the Chemical, Pharmaceutical and Biotechnological industries in the UK and China. The research presented here, gets to the heart of interactions between individual SMEs and internationalisation by examining empirically how social capital is utilised by SME owner managers and/or entrepreneurs. The study is qualitatively based on in-depth interviews of owner managers and/or entrepreneurs who have conducted business internationally and adopts grounded theory as a methodological approach to analyse narratives.

The researcher identified various forms of power that individually fertilise the UK and Chinese SMEs in social and business environments. They are classified as 'Inner power', 'Operational power', 'Communication power', 'Moving power', 'Pushing power' and 'Catching power'. The 'Inner power', 'Operational power' and 'Communication power' have shared similar content in each country. The 'Moving power' is especially generalised from the UK context, which smoothly

carry those UK SMEs into international markets, while the 'Pushing Power' is particularly applied in the Chinese social and business environments that strongly motivate those Chinese SMEs to achieve possible business in foreign markets. Finally, 'Catching Power' is a special driver for those Chinese SMEs to penetrate international markets when they are faced with a comparatively disadvantaged situation. By exploring the differentiated aspects of their idiosyncrasies in each country, the researcher therefore provides implications to SME entrepreneurs and relevant parties with effective strategies in international networks.

