THE TRIPLE HELIX ASSOCIATION MAGAZINE

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Hélice

VOLUME 3 ISSUE 2 JUNE 2014

EDITORIAL WELCOME

Welcome to this mid-summer edition of the Triple Helix Association Magazine: Hélice. We now present volume vol 3, no 2 , June 2014.

The Triple Helix Association has been occupied with the excitement of preparing for the Twelfth Annual THA Conference to be held on 11-13 September 2014 in Tomsk, Siberia, Russia. This year's event is being organized by the international Triple Helix Association, TUSUR University, and the Association of Russian Entrepreneurial Universities.

In this issue you will receive further information and updates about the event. The conference will be offering a very exciting and stimulating program, with an array of very interesting keynote speakers, invited sessions and workshops. We are looking forward to seeing you all at the conference in September 2014.

In this issue of Hélice, you will find two interesting essays: Regeneration and public participation: a case for an arts, crafts and technology cluster in the London Bridge area (Mahtab A Farshchi and Henry Johnstone), and Future trend of innovations in Latin America (Tatyana V Pospelova).

In the President's Corner, Henry Etzkowitz discusses - A Triple Helix Innovation Strategy for Economic Renewal.

The THA Chapter of Greece successfully organized a roundtable Discussion on Triple Helix Interactions which was held in Nicosia, Cyprus, in June 2014. You will find details of this meeting as well.

We are also delighted to announce interesting news from colleagues and associates of the Triple Helix Association.

We sincerely look forward to hearing from you in the near future and receiving your invaluable feedback, ongoing work, research results and any updates that you want to share with the broad readership of Hélice.

Should you be interested in editing a special issue of Hélice as a guest editor(s), or organizing a Triple Helix event, we would also be delighted to hear from you.

We can be contacted via email at: devrimgoktepe@gmail.com, or sheila.forbes@strath.ac.uk.

We wish you all a pleasant summer, and looking forward to seeing you in Tomsk, Russia!

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June 2014

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CONTENTS

Volume 3, Issue 2, June 2014

TRIPLE HELIX XII INTERNATIONAL CONFERENCE 3

PRESIDENT'S CORNER 6
A Triple Helix Innovation Strategy for Economic Renewal
Henry Etzkowitz

TRIPLE HELIX SCIENTIFIC NEWS

Regeneration and Public Participation: A Case for an Arts, Crafts and Technology Cluster in the London Bridge Area 9
Mahtab Akhavan Farshchi and Henry Johnstone

Future Trend of Innovations in Latin America 16
Tatyana V Pospelova

PUBLICATIONS 20

NEW THA MEMBERS 20

TRIPLE HELIX ASSOCIATION NEWS 24

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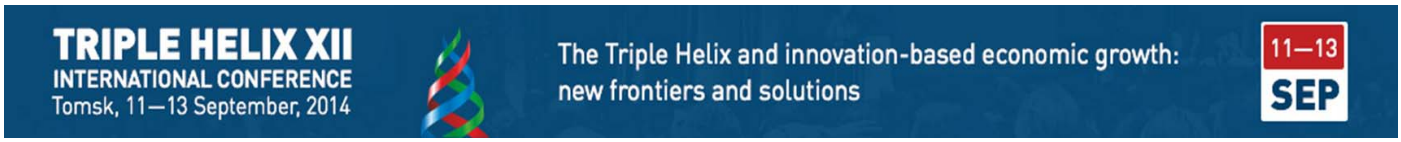

The XII Triple Helix International Conference will take place from 11-13 September 2014 in Tomsk, Siberia, Russia. The Conference is organized by the international Triple Helix Association, TUSUR University, and the Association of Russian Entrepreneurial Universities.

We are pleased to announce the following contributors:

Keynote Speakers

Professor Solomon Darwin
Executive Director, Center for Corporate Innovation, Haas School of Business
UC Berkeley
USA

Dr Anttiheikki Helenius
Visiting Fellow at the European University Institute (Department of Law)
Florence
Italy

Wolfgang Drechsler
Chair of Governance, Ragnar Nurkse School of Innovation and Governance and Vice Dean for International Relations Faculty of Social Sciences, Tallinn University of Technology, Estonia

Oleg Fomichev
State Secretary
Deputy Minister of Economic Development of the Russian Federation

Invited Speakers

Professor Henry Etzkowitz
International Triple Helix Institute (ITHI)
Palo Alto, USA, and
Birkbeck College, University of London
UK

Professor Loet Leydesdorff
Amsterdam School of Communication Research (ASCoR), University of Amsterdam,
The Netherlands

Professor Alexander F Uvarov
Vice-rector of TUSUR University
Tomsk
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Director of the Institute for Innovation Management, National Research University Higher School of Economics,
Russia

Artyom Shadrin
Director, Department of Innovative Development Ministry of Economic Development of the Russian Federation

In addition to the above, the technical programme will include the following Thematic Workshops:

THEMATIC WORKSHOPS

WORKSHOP 1
OPEN INNOVATION : TRENDS, AGENDA, IMPACT

Chair: Tatiana Schofield, Founder and Managing Director, Synergy Lab, United Kingdom

Henry Chesbrough's concept of open innovation and his insights into open innovation models have restructured the world of research and development (R&D) shifting it to search and development (S&D). Organisations are rapidly reshaping their innovation processes, moving from a "closed" in-house R&D to an "open model", where ideas flow in and out of organisations to advance the development of new technologies.

Innovation is spreading geographically, engaging a diverse range of stakeholders and extending from technology to service and business model innovation. In other words, innovation is becoming more open, collaborative, and creative.

What effect open innovation has on the development and growth of the university, its research, education, and translational activities? What are the key trends to watch to remain competitive?

The workshop will be illustrated by case studies on innovative business models.

Workshop 2
Building Entrepreneurial Universities in Challenging Conditions : Lessons from Emerging Leaders

Chair: Dr Ruth Graham, Director, R H Graham Consulting Limited, United Kingdom

The workshop draws on a two-year study commission by MIT and the Skolkovo Institute of Science and Technology (Skoltech) which looked at the conditions and strategies associated with successful E&I transformations for universities operating in more challenging environments. The phased benchmarking study addressed two particular questions: "*which are the world's most highly-regarded university-based entrepreneurial ecosystems operating outside the established technology hubs?*" and, "*what can Skoltech and the international academic community learn from the experiences of these institutions?*" Drawing on almost 200 one-to-one interviews with individuals with an in-depth knowledge of some of the world's most highly-regarded university-based E&I ecosystems, the study as a whole paints a rich picture of the opportunities and constraints facing emerging entrepreneurial universities across the world.

Following a brief presentation of the study outcomes, workshop participants will have the opportunity to discuss the strategies and challenges associated with building effective entrepreneurial universities, and explore how each of these features relate to their own universities.

The study report will be available prior to the workshop from the MIT/Skoltech website.

Key workshop questions to be addressed:

- What are the distinguishing building-blocks of success amongst the group of universities that are building effective entrepreneurial ecosystems within more challenging environments? What can other universities learn from the strategies employed and barriers encountered?
- To what extent could/are comparable strategies employed at the universities to which workshop delegates are affiliated? What are the major barriers to such institutional change?
- What performance metrics best capture institutional potential and capacity in entrepreneurship? How can such metrics be gathered within and across institutions?

Registration

THA members could benefit from a special discounted conference registration fee, as follows:

- 20€ discount for THA individual members
- 25€ discount for THA organizational members

In order to obtain the THA membership discount, please contact:

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Organizers

- **Alexander Uvarov**, Chair of the Organizing Committee, Vice-rector, TUSUR University, Chairman of the Russian Chapter of the Triple Helix Association, Ambassador of the Association to Russia
- **Liana Kobzeva**, Vice-Chair of the Organizing Committee, Head, Center of Strategic Development, TUSUR University

The Triple Helix XII Conference is included in the official annual series of joint events and initiatives to promote EU-Russia cooperation in the field of scientific research, higher education, and innovation. The EU-Russia Year of Science 2014 is held under the auspices of the European Commission and the Ministry of Education and Science of the Russian Federation.

To learn more about the Conference, and to register to participate, please visit

http://tha2014.org/

PRESIDENT'S CORNER

A Triple Helix Innovation Strategy for Economic Renewal

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Introduction

Through the first and second industrial revolutions, until the cusp of the third, the debate continues over whether technological innovation is ultimately job creating or job destroying. The Schumpeterian thesis of creative destruction, of new industries arising from the ashes of the old that more than make up for old losses, has held sway against neo Luddites who deplore the demise of old technologies. The struggle between musicians, and the organizer of a new Wagnerian Opera Festival in Connecticut who proposes to use live singers accompanied by a digitized orchestra, is a poignant case in point. So far one singer has resigned in support of the instrumentalists who have campaigned against allowing orchestral accompaniment from a library of digitalized instrumental sounds. Indeed, since this is a new festival, jobs for singers would be created without any loss of employment for instrumentalists, in this instance. Of course, the instrumentalists concern is that the digitalized orchestras will displace accompanists in venues, like musical theatre, where they are currently employed.

Vincent Khosla, a leading Silicon Valley venture capitalist breaking ranks with his peers, argues that the displacement of jobs by software based upon machine learning may disrupt the dynamic of creative destruction, by deskilling a broad range of knowledge occupations, including traditional professions for the many. According to Khosla, no doubt thinking of his own investments, "If you like medicine and law, producing wealth and jobs for the few and unemployment have a great idea and the technical skills to implement it; you can create disproportionate wealth very quickly" (Khosla, 2014). Khosla's remedy, following the analysis of Thomas Piketty (2014) is to increase taxes on people like him. Nevertheless, innovation is a broader phenomenon than software, and, indeed, the recent diffusion of ICT in Africa suggests that widespread technological innovation can spread economic benefits to the many as well as the few. The question then is how can access to the benefits of technological and social innovation be improved?

With youth unemployment approaching 50% in southern European countries, we ask: what is the peacetime equivalent of wartime economic mobilization? Keynesian strategy was appropriate for an industrial society where the issue was putting existing industrial capacity back to work. In a post-industrial era, a more fundamental, knowledge-based based-innovation strategy is required. Sweden's experience in 1992 provided an early warning canary in the mineshaft warning, but also an indicator of the way forward in its response by foregrounding innovation (Benner, 2012). A third mission was introduced to encourage universities to foster technology transfer and firm formation from advanced research. The VINNOVA agency was established from elements of previous agencies focused on specific technology sectors, to incentivize regional Triple Helix coalitions to revive existing industries and foster the growth of new ones.

How to Pick Winners

The US government has had at least three major successes in picking technology winners: the Small Business Innovation Research (SBIR) program, the Defense Advanced Research Projects Agency (DARPA), and the Office of Scientific Research and Development (OSRD). These may be viewed in chronological order from the Second World War to the 1980's, as representing a descending order of scale and scope. As we confront an escalating economic crisis, government has limited itself thus far to propping up losers: firms and industries that had overreached in the boom era like the financial sector, and those that did not respond to the warning signs of future needs like the US auto industry. As we essay next steps, there is much to learn from past US successes.

There is also much to learn from the UK's past experience of picking winners. For example, in the run-up to the Second World War, the Air Ministry issued specification F.7/30, with general design criteria for a high-speed fighter aircraft capable of mounting a battery of machine guns. The field was open to design innovations since F.7/30 did not specify how to reach these objectives. The Ministry selected two firms' proposals to back: the Hawker Hurricane and the Supermarine Spitfire. In the end, it was the Spitfire, presented by a small firm, that emerged as the clear winner. If the "best" firm had been given all the resources, the ultimate winner would have been discarded. On the other hand, limited resources had to be focused, so a few candidates was a reasonable choice.

British/American scientific collaboration during the Second World War provides an early exemplar of open innovation. The UK sent a mission to the States with the latest advance in radar technology,

the cavity magnetron that led to the organization of a lab at MIT to carry the British work forward incorporating complementary US advances. The lesson leaned under emergency circumstances was that pooling resources and innovations was more productive than pursuing them independently.

The recent Brazilian experience of Sao Paulo State's FAPESP R&D funding agency is also instructive. FAPESP, Brazil's premier state research agency, is constitutionally mandated to receive one percent of budget allocations, even if this commitment is not always honoured. Several years ago, FAPESP was feeling the negative effect of the relative lack of political support. Through a self-study, FAPESP found that a number of its peer reviewed basic research projects had produced significant practical results. Building on this finding, and wanting to improve its public image and political support, FAPESP organized the Genoma project, in co-operation with the Citrus Producers Association, bringing together the resources of various university research groups and government laboratories in a coordinated effort with a time-delimited specific goal.

From the 1958 International Geophysical Year (IGY) to the present, a succession of imaginative global projects with clear objectives has demonstrated how to actualize the nascent popular support for realizing the potential of science. Genoma indicates that a science project combining basic research with practical consequences could capture the public imagination. The objective was to decode the genome of an agricultural parasite, to better understand the stages of its life cycle, as a step towards amelioration. This successful project ran from April 2001 to December 2003, producing not only papers in Nature and other international scientific journals, but also approving comments by Sao Paulo's taxi drivers to their customers. The joint venture generated at least two genomics and bioinformatics spin-off companies. Nor was it a one off instance! The Biota Research Programme, a conservation and sustainable development project analyzing biodiversity in the state of Sao Paulo, followed up Genoma.

Governments' Indirect and Hidden Role

The mantra of recent decades has been an attack on the US government's ability to pick winners. Therefore, government has been relegated to providing support structures, such as basic research capabilities that industry is unwilling to support. However, even while it has been under attack, government has played an innovative role in supporting new high tech firms, through programs like Small Business Innovation Research (SBIR) begun by program officers at the National Science Foundation (NSF) in the early 1980's. SBIR extended NSF's research programs by setting aside a relatively small percentage of research budgets, initially ½%, now 21/2% plus 0.3% for the related university-focused STTR program to support projects that demonstrate potential commercial as well as scientific merit. Researchers apply for SBIR grants and use them as the first step toward firm-formation, moving research ideas forward to commercialization.

SBIR has been augmented by the Advanced Technology Program (ATP) initiated during the Bush senior administration in response to the European Union's Framework Programs, out of concern that US multinationals would move R&D to Europe to take advantage of EU subsidies. The ATP was loosely based on the European Union's Framework Program to support collaborative industrial research, typically led by large firms. ATP followed suite granting most of its funds to consortia of large firms sometimes supplemented by university research groups and centers. Even though some ATPs, such as its automotive initiative, were in the tens of millions, this was an insignificant sum for firms that spend a billion, plus, merely on the transition to a new model.

Opposition to the ATP led to a scale-down of grants, from tens of millions to large-firm led consortia to the low millions for innovative start-ups. This unintended consequence of reduced appropriations turned ATP into a useful follow-on to the SBIR, helping start-ups with new technologies through the "Valley of Death," the gap between government R&D funding and venture capital take-up. The ATP is currently in "deep freeze" in the National Institute of Science and Technology, its sponsoring agency, receiving no new funds in recent years. Nevertheless, the ATP strongly resists redirection to its more useful function of supporting the initial growth phase of high-tech firms across the Valley of Death, were funding in the low millions, that ATP is capable, could make the difference between success or failure.

The ATP could be revived in its downsized format as an anti death valley (de-facto third stage SBIR programme), and SBIR could usefully be scaled up further, but the individual projects it supports are a necessary but insufficient technology policy for the current crisis. Larger scale initiatives are necessary to take advantage of the opportunity crisis offers to renew existing industries and create new techno-economic paradigms as the basis for future industries. From the relatively laissez-faire SBIR approach of choosing among competing ideas that arrive in response to general requests or over the transom as novel proposals; the next step is the more tightly focused and directed DARPA approach. DARPA largely relies on its program officers, highly skilled broad-gauge technologists, and visionaries drawn from universities, like psychologist J C R Licklider who envisioned a new format for computer communication that led to the Internet. Following the DARPA format, invented in response to the Sputnik shock of the late 1950's, Licklider had the freedom and the resources to establish a consortium of firms and universities to realize his vision (Haffner, 1998).

The DARPA program officer, a public entrepreneur, is the key to the DARPA model. He or she has the resources and capability to fashion a technology development team from across university, industry, and government laboratories, and the remit to carry it from "blue sky" research all the way to commercialization and use. More recently a DARPA data mining initiative provided the research resources and objective that provided the framework for the invention of the Google algorithm. Although DARPA is limited to achieving military goals, many of its initiatives have had significant spillover into the civilian economy.

In a knowledge-based society, R&D is the virtual equivalent of physical infrastructure such as roads and bridges in industrial society. A California direct democracy initiative suggests a way forward, utilizing government's capability to generate funds by creating debt. The California Institute for Regenerative Medicine (CIRM) is today the largest source of funding for human embryonic

stem cell research in the world. In 2004, an initiative, through which legislation may be enacted by voters according to the California State Constitution, called Proposition 71, allocated 3B$ (2100M€) to human embryonic stem cell (ESC) research during a ten-year period. A coalition of patient advocates, venture capitalists, and academic researchers, enacted at the state level a policy that the Bush administration had blocked at the federal level (Etzkowitz and Rickne, 2014).

Learning from World War II Direct Experience

The full-scale model of a university-industry-government concerted approach to technological advance and economic development was invented in response to wartime exigency. In the run-up to the Second World War, an elite group of academic and industrial scientists pondered how they could best use their skills and the potential of science to advance the nation's cause in the expected war. Initially recognized as a government sponsored committee, and then as an agency independent of the military, the Office of Scientific Research and Development (OSRD) had the remit to identify problems posed by the military and seek solutions by focusing university and industry research resources. For example, thousands of university researchers were recruited from around the country to a few sites like MIT's so-called "Rad Lab" for the development of radar.

In venues like the Rad Lab, innovation was pursued from all angles simultaneously: forward linear from scientific ideas; reverse linear from military needs, projects that combined research with small-scale production in the lab. These resource rich, time limited R&D projects sent scientists into the field to identify problems in test models, and brought manufacturing experts into the lab to start scaling up experimental devices for production runs before the R&D was completed. The UK found ingenious ways to identify all relevant persons to work on pressing projects like the effort to decode the Enigma cryptographic device used on German submarines and elsewhere. Crossword puzzle contests were run in newspapers nationwide to identify persons with cognate skills that could be useful to the project (Sebag-Montefiore, 2000).

Transcending "Technology Push" versus "Technology Pull"

Wartime supersedes the classic "chicken and egg" debate between proponents of technology push and pull. Even those who believe that market forces should be the sole determinants of which technologies are selected for "productization" put their concerns about government intervention distorting market forces aside in the face of national emergency. In these circumstances, government technology push was acceptable. This approach was further legitimated with the founding of DARPA in response to the 1957 Soviet Sputnik success. Wars were previously fought with weapons available at the inception of the conflict: the objective being to produce large quantities and achieve incremental improvements along the way. World War II introduced discontinuous innovation through the mechanism of a scientist led R&D Agency, the OSRD, as discussed above.

How to Pick Winners

In the following, we abstract from the above instances, some general principles of picking winners:

- Learn from UK aircraft Ministry experience in the 1930: set general guidelines that encourage innovation by leaving the way open to meet specific goals, rather than highly specific design criteria that may inhibit innovation.
- Learn from Brazil's Genoma project: encourage broad collaborative networks, that utilize all available resources to collectively achieve the objective especially under situations of relatively limited and constrained resources.
- Learn from the US/UK radar collaboration during the Second World War, bring together technical advances from various national sources to make a greater whole.

Corollary: learn from the Rad Lab and Genoma: focus relevant technical resources on a clear goal, whether at a common site (Rad Lab), or through decentralized collaboration (Genoma).

It requires a public authority to take the lead, set the goal and provide the necessary resources to complete the project, whether in wartime or peacetime:

- Learn from the ATP: place academic centers at the heart of industrial consortia to encourage continuity and commitment to long range innovation.
- Learn from Japan's 90's experience of massive public works funding. Building roads and bridges in remote regions generated economic effects only during the construction period. However, building universities and cultural facilities, such as museums and aquaria, in those regions produced long-term positive effects.
- Learn from Enigma: think out of the box and seek relevant human resources from unconventional sources and bring them to bear on solving a problem.
- Learn from California's Stem Cell Initiative: finance all phases of the innovation process across various Valleys of Death according to the Venture Capital model in which one great success, or several moderate ones, will eventually pay for the cost of even a several billion dollar government initiative.

Corollary: use debt funding to finance public venture capital to go through the deepening death valleys that emerge in a downturn when private venture capital is less active.

From Creative Destruction to Reconstruction

A focus on developing new industries from advanced research may serve as well in peacetime as in wartime. An innovation strategy outlined above (recreation of a civilian oriented OSRD, foundation of a parallel civilian DARPA, a renewed ATP, expanded SBIR/STTR coupled with expansion of research funding and investment in universities), can take us through the downturn into an enhanced knowledge-based society. Taken together with comparable initiatives in Europe, Asia, Latin America, and Africa, the ground

work for an enhanced knowledge-based economy and society can be created. We must, like Moses, look over the horizon, to the promised land of the knowledge age, develop a far-reaching plan, and take effective action. We may not then be consigned to wander aimlessly in the desert of austerity. A half century intervened from the beginnings of the economic decline of New England in the early twentieth century to its postwar revival, based on the invention of venture capital and the founding of the minicomputer industry.

In contrast to the great depression of the 1930's, when Keynesian measures to stimulate use of existing productive capacities might have sufficed to end depression; the current downturn requires the creation of new productive capacities. Some measures, such as the UKs plan to extend broadband access nationwide implicitly recognize the need to move to a new technological base. In 1926 John Maynard Keynes prematurely noted the end of laissez-faire. In the face of persisting economic crisis, counter-cyclical public venture capital is required to break the "iron discipline" of the business cycle. Public investment in basic and translational research can create new industries and new jobs. The Triple Helix framework legitimates policy initiatives for knowledge-based economic renewal going well beyond addressing short-term market failures.

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Triple Helix Scientific News

Regeneration and Public Participation: A Case for an Arts, Crafts and Technology Cluster in the London Bridge Area

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Introduction

This paper reports on a new initiative aimed at creating an integrated approach to encouraging the formation of a new cluster of Arts, Crafts and Technology (ACT) in London around the London Bridge area by emphasising the importance of identity and branding in urban centres. Here we present the outcome of an on-going collaboration between London South Bank University and Team London Bridge on a Knowledge Transfer Collaboration (KTC) project in order to guide the regeneration plans for this part of London which is currently suffering from an above average rate of unemployment, crime, poverty and other social ills.

This action research project, therefore, aims to apply novel approaches in planning by creating a participatory process which can help develop a deeper understanding of the stakeholders' roles (over time and space), and by using and encouraging a bottom-up approach to policy making. The argument is largely in favour of market forces as the main force in shaping the future opportunities in cities, but it is also strongly supportive of the importance given to the role of stakeholders in determining the activities and responses to planning, use, and development of real estate in urban areas.

Scope of the Study

This paper reports on the on-going research of a one-year Knowledge Transfer Collaboration programme between London South Bank University and Team London Bridge. In an attempt to find an acceptable proposal for the regeneration of the London Bridge area, a collaborative agreement was created between the above parties. The industrial partner, Team London Bridge (a

Business Improvement District) is a not-for-profit private company that provides services such as extra policing, public realm improvements, networking, area marketing and assistance with corporate social responsibility to organisations operating within a designated boundary.

The initial negotiations between the academic advisor from London South Bank University and Team London Bridge revealed that the idea of regeneration using a unifying concept which would help create a strong identity for the area was collectively perceived as a good starting point. This unifying concept was presented to and approved by TLB Board members. The general consensus was to seek the feasibility of encouraging an arts-crafts-technology business cluster as a way of improving the identity of the area while paying respect to its rich historic, social, and cultural heritage. It was acknowledged that this historical part of London is already known for its small and medium-sized arts and crafts companies, but to ensure future success, such activities were to move with the times and develop into smart/progressive types of arts-craft businesses.

This paper will briefly highlight some of the issues and motivations behind this public-private partnership for knowledge transfer to facilitate the regeneration of an inner city area around London Bridge. The paper will explore the role of universities as interactive partners, and will demonstrate how public action can drive private innovation while addressing place-based innovation. We demonstrate the ethos of our on-going research which is to bring businesses, universities, and governments together, to co-innovate and solve econo**mic**, social, and technological challenges.

Aims of the KTC Project

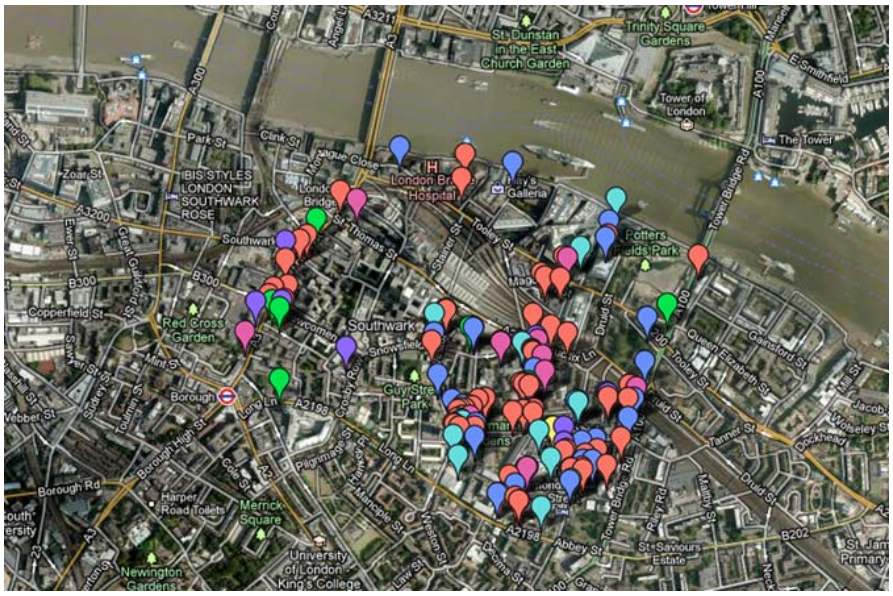
A survey of local businesses conducted by Team London Bridge had indicated that many businesses were concerned with the state of the area's Victorian era railway viaduct - a partially Grade II listed structure that physically divides London Bridge into two distinct communities. While there are large multinational corporations, tourist attractions, and significant regeneration to the north of the viaduct, there exists a significant bohemian and creative community to the south, with small independent businesses and large amounts of residential property. The primary cause of this division and lack of porosity is the physical state of the viaduct - namely its poor state of repair and long, dark tunnels which are perceived as unwelcoming and threatening. The mix of businesses within the arches of the viaduct compounds the problem as many, such as storage units and nightclubs, lack active street frontages, and there is very little sense of 'destination' or 'place'. Resolving these issues of urban decline falls very much within the remit of Team London Bridge, and in 2011 the company committed to do so in their BID Proposal - essentially a manifesto outlining the proposed work of the BID over its five year term.

For the purpose of this proposal the terms 'arts' and 'crafts' include business sectors such as architecture, arts and antiques, traditional local, national, and international crafts (such as those historically embedded in the area, in various locations in the country or abroad but with a potential to be revived) design, fashion, film and video, music, the performing arts, publishing, heritage and the historic environment, galleries and museums. It is also suggested that artisanal food and drink producers (such as cheese makers, bakers, brewers, and so on) would complement the businesses mentioned above. 'Technology', in this instance, refers to the techniques, processes, and tools, which can help create new opportunities within existing or declining art and craft sectors. For example, the use of 3D modelling can assist in the production of shoes. Map 1 shows the spatial boundaries of the project.

The Logic of Cultural Urban Regeneration

As cities compete to maintain their position in the global economy they play a key role in linking national economies to the international sector (Ho, 2000). Several key actors are involved in the decision-making processes, and the strategic decisions of these players will determine the location of investment by multinational companies, and hence the investment promotional strategies of governments. In other words, investment decisions in a city are the outcome of aggregate decisions of multiple agents with reference to other competing locations. In recent decades, the conception of cities as monocentric entities with clear and detectable borders has changed to a conception of cities as polycentric urban regions, i.e., functional urban regions incorporating large areas around the city centre (Vasanen, 2012)

Map 1: Geographical spread of the creative businesses in the study area



Architects

Graphic Design/Marketing/ Advertising/Web Design

Arts and Crafts

Publishing

Film and Animation

Performing Arts

Other

which connect individual centres to the whole urban system.

Modern cities have to respond to challenges of diversity or multicultural demographics; a new urban condition which according to Sandercock (2004) should allow difference, otherness, and plurality. In this age of global economic integration and multiple migrations with continuous and conspicuous redistribution of wealth and power that manifest themselves in spatial expressions, the role of the planner should be carefully considered as those who "*launch struggles for livelihood",* act *"in defence of life space",* and *"in the affirmation of the right to cultural difference*" (*ibid.,* p135).

Planning practices inevitably involve allocation of resources and as such the displacement of the low-income population has always been a dark side of planning which should be avoided. To create social sustainability and a new social consensus to address the complexities of twenty-first century urban life, Sandercock argues that not only do we need planners with interpersonal skills (e.g., listening, empathising, facilitating, negotiating, and creating interpersonal relationships) and technical skills (e.g., model making, map making, plan making, data gathering, and so on) (*ibid.* p136) but that they should also use participatory approaches involving the public in the decision-making process.

The following section will aim to explain the central ideas in relation to the combination of arts, crafts, and technology as a concept for encouraging a cluster of creative firms and organisations in the area.

The rest of this section will explain the extent and nature of the current creative/cultural cluster in the area which suggests that the concept of arts-crafts-technology is not an imposition; rather, the use of the viaduct to house these business types allows the existing cluster to expand. Following this, the rest of the section will focus on the roots of cultural urban regeneration policies in the UK.

Urban Regeneration in an Era of Technological Change

Understanding change is a key factor in the success of cities in a globally connected world. This, of course, relates to how well planners as well as managers appreciate changes in technologies and modes of production on the one hand, and how well they are prepared to respond to these changes on the other. In a study by Hamel and Prahalad (1994) it was found that less than one per cent of the senior business managers interviewed were willing to devote a considerable amount of time to develop distinctive points of view about the future. They observed that *"new competitive realities have ruptured industry boundaries, overthrown much of standard management practices and rendered conventional models of strategy and growth obsolete".*

It has also been perceived that, in future, new technologies will have a radical impact on the structure of medium to small-sized enterprises (Tony, 1989). This view of the future requires planners, policy makers, and managers to evaluate different modes of production, i.e., bureaucratic bias of Taylorism or the product Standardisation approach of Fordism, and to evaluate whether the future of computerised production is transcending Fordism (Bryn, 1997). For example, localised manufacturing and more specifically, retail manufacturing, is the concept of retail outlets using advanced additive fabrication processes to print products on demand. Localised manufacturing allows greater end-user participation in the design process, and gives consumers more control over product features and aesthetics with a high level of customisation to meet unique user needs (Englert, 2008).

Methodology

According to Sandercock (2004), planning is part of the apparatus of the modern state. Global forces and top-down processes are creating economic, social, and cultural polarisation in an overall climate of increasing uncertainty and decreasing legitimacy of governments. In response, she argues that mobilised communities within civil society launch struggles for livelihood, in defence of life space, and in affirmation of the right to cultural difference. In this process "*the role of planner to understand for whom and for what to work; when we look for a job we are not only looking for an income but for an opportunity to do certain kinds of work - these choices reflect our values, our notion of justice, of what matters".* It is also noted that political regimes come and go, but planners working in city and state planning agencies can, and do still, try to influence which urban/environmental issues get addressed and how. The planner plays a political, audacious, creative, and therapeutic role: *" . . . a sensibility that is as alert to the emotional economies of cities as it is to the political economies; as alert to city senses (sound, smell, taste, touch, sight)"* (Sandercock, 2004 p134). In a demographically multicultural and diverse city in the twenty-first century people have to co-exist in the shared multicultural spaces and create the new urban condition in which differences, diversity, and plurality prevail (Sandercock, 2004). In contrast to the twentieth century when planning was regulatory, rule bound, procedure driven, obsessed with order and certainty, the new planning should embrace risk of thinking beyond the short-term (e.g., sustainability of cities), risk of involving the public in decision making (as opposed to mere consultation), and risks in partnerships with planners and citizens (*ibid.*).

Creativity in planning comes in many forms and the social planning endeavour can be seen as the process of bringing people together, not only to share their experiences and work in solidarity, but also to work through their differences in transformative ways. Such language includes a process of emotional involvement and embodiment. In participatory action research, planners place their trust, to some extent, in the creativity of residents; the ability to make space for the creativity of ordinary folks to emerge might be considered another important planning skill (Sandercock, 2004 p137). The use of the participatory approach in planning can be to capture concepts, feelings and emotions, attitudes and beliefs, as well as facts and figures. Different techniques such as the use of association, or analogy and metaphor, can be useful in bringing together seemingly incompatible concepts. In doing so the researchers will make the familiar strange, and the strange familiar (Landry, 2000). Also, the use of other techniques ranging from brainstorming to mind-mapping, daydreaming to visualisation, and a whole slew of techniques developed by Edward De Bono (1971 to 1996) are to encourage lateral thinking. Landry (2000) argues that "*The essence of risk taking for planners is to learn to surrender the obsession with control and certainty and developing the ability to listen to the voices of multiple public".*

INITIAL FINDINGS

- ***Questionnaires, informal interviews, exhibition and networking***

Along with Network Rail, the businesses currently operating within the viaduct were considered to be the most important stakeholders in the project, as any proposal for the future use of the structure is likely to have a significant impact upon them. The owners of each business were approached personally by the research team so that the justification and outline of the project could be explained clearly. During this informal meeting, the business owners were asked to complete a short questionnaire identifying the nature of the businesses; their reasons for choosing to locate in their current premises; the advantages/disadvantages of operating from a railway arch; and how a cluster of arts, crafts and technology businesses may or may not be beneficial to their business.

The results from this questionnaire helped to create a picture of the study area's economic composition in terms of the types of businesses operating there, their size, their geographical reach and whether there was evidence of pre-existing clustering. It also served to gauge initial reaction to the proposal for an arts, crafts, and technology cluster within the viaduct, and identified whether or not they would like to participate in any further research.

The photography exhibition was an attempt to attract local residents, businesses and wider - perhaps previously unknown - stakeholders to participate in the consultation process. This event was inspired by the approach taken by Crimson Architectural Historians during the redevelopment of a stretch of redundant railway viaduct in Rotterdam. Crimson organised numerous cultural events within the empty viaduct space in order to showcase its potential, and catalyse its relatively organic redevelopment into a creative and communal hub.

The exhibition relating to this project was held in a small art gallery that operated from one of the arches in the study area. The exhibition constituted a mix of archive photos of London Bridge alongside contemporary photographs of the area submitted via a competition run by local creative network and charity, IdeasTap. The aim of the exhibition was to encourage those attending to consider the industrial and architectural heritage of London Bridge, and how this might contribute to the area's future. A small section of the exhibition was reserved for information on this research project, providing visitors with an explanation of the proposal for an arts, crafts, and technology cluster, and also information on two similar examples - the Hofplein viaduct in Rotterdam (as mentioned above) and the Viaduc des Arts in Paris. This combination of encouraging people to visit the arch space and learn of the area's heritage and status quo through the medium of photography, was designed to stimulate a discussion on the future of the viaduct, and in particular its use as a space for the creative industries.

A launch event for the exhibition was organised to which all of the stakeholders were invited. During the event a short presentation was given to the guests outlining the proposal for an arts, crafts, and technology cluster which was followed by the screening of a short film on this potential use for the arches and tunnels. The film itself was part of the consultation process, as it involved interviewing the research team, stakeholders and local employees, and provided an excellent platform from which to explain the project and to publicly air the views of different stakeholders. Following the presentation and film screening, stakeholders were encouraged to leave their views and comments on four 'opinion boards' each with a different question:

1. What aspects of this proposal do you support and why?
2. What aspects of this proposal do you oppose and why?
3. What are your alternative suggestions for the use of the arches and tunnels?
4. How do you think the viaduct could contribute to the identity of London Bridge?

These boards were managed by volunteers from a local youth theatre group who facilitated discussion and encouraged respondents to explore various viewpoints. Not only did this aid in the collection of good quality data, but it also demonstrated the potential for the arches to become places for creative and community-based activities. When leaving comments on the opinion boards respondents were asked to indicate their interest in the project, for example, whether they were a local resident, a local employee, potential tenant, etc. This gave the comments much greater context and a clearer impression as to why they were being made. If necessary the proposal could then be adapted to take account of these comments and therefore increase its viability.

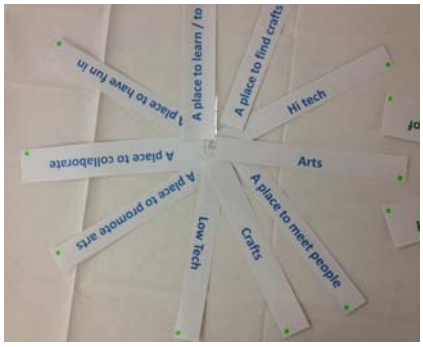
After the launch event, the exhibition was left to run for a period of two weeks and was marketed heavily to local businesses, residents, and tourists. For the duration of those two weeks the research team were on hand at the exhibition to converse with visitors about this research project, and to encourage them to complete a short questionnaire asking for their comments on the ACT cluster proposal - the questions posed were the same four as stated above. As with the opinion boards the questionnaire was able to record details about the respondent's interest in the project. This was important because, unlike the launch event, those completing the questionnaire were not necessarily key stakeholders and relevant weight had to therefore be assigned to their comments. For example it is reasonable that the views of a local resident or business should be prioritised over those made by passing tourists, as they are likely to be most heavily affected by any change in the area. The four opinion boards and the comments they contained remained as part of the exhibition for the two week period with the expectation that this would stimulate and inspire questionnaire responses. The drop-in nature of the two week exhibition allowed for a comprehensive consultation process as those unable to attend the launch event could, if they wished, be consulted at a time which was convenient for them. It is estimated approximately 300 people visited the exhibition in that two week period (this discounts the 120 or so who attended the launch night) (Exhibit 1).

- ***Focus Groups***

Focus groups are a particularly useful participatory research method as they enable a detailed examination of various topics, and the personal interaction allows participants to feel part of the

Exhibit 1: Underdog Gallery Exhibition

Exhibit 2: Focus Groups



Participants for the focus groups were contacted in numerous ways. King's College, Guy's Hospital, and the majority of the local residents all had representatives present on the steering group, so it was through these points of contact that an appeal for participants was made.

With regards to local business owners and employees, these were contacted directly using Team London Bridge's extensive database.

process and that their views are being heard. They are also a useful way of collecting large amounts of qualitative data in a relatively short period of time. However, they are often prone to power dynamics with some respondents dominating the discussion (Robson 1993), and conversing face-to-face can inhibit some from expressing their views due to the possibility of embarrassment or confrontation.

Focus groups with the stakeholders were organised so that the themes which had emerged during the consultation session at the exhibition's launch event could be explored in more detail. In total there were four groups: local residents (within ¼ mile); local business owners/employees (within ¼ mile); staff and patients of Guy's Hospital; and students and staff of King's College London. These particular categories were chosen as they incorporated those stakeholders whose perspectives were judged to be 'important' and 'vital', i.e. those most likely to be affected by any changes to the viaduct (Exhibit 2).

Each focus group session was held in the gallery (which is located in one of the viaduct's arches) in the hope that being physically present in the very space they were discussing would contextualise the conversation and lead to a more stimulating environment.

This notion of 'placing' the focus group was inspired by research conducted by Elwood and Martin (2000), which found that when interviewing neighbourhood organisation staff and residents about their experiences, actions, and perceptions of the neighbourhood, they offered strikingly different kinds of answers depending on where the interview was conducted. Those interviewed at their offices tended to offer explanations and answers based on their organization's viewpoints and priorities.

CONCLUSION

In this paper we reported on the progress made to date on a collaborative research project under a KTC agreement. The context of the project was first explained and the aims of the research expressed in line with the strategic vision of the local business community for the regeneration of the arches and tunnels around the London Bridge area. Academic literature on urban regeneration and planning suggest that cities require a collaborative

Table 4: Local Businesses Focus Group

Type of places preferred by stakeholders (business group)					
	Rank (preferred choice)				
	1st	2nd	3rd	Frequency	% of Total
A place with a buzz	xx	x	x	4	22.2
A place to make/create	xx	x		3	16.7
A place to innovate	x	x		2	11
A place for business			xx	2	11
A place to learn	x			1	5.5
A place to promote arts			x	1	5.5
A place to promote crafts		x		1	5.5
A place to promote technology			x	1	5.5
A welcoming place		x		1	5.5
A well-connected place			x	1	5.5
A place for leisure			x	1	5.5

and inclusive approach in adapting to future needs in terms of social, human, cultural, and infrastructural capital. The heritage of a city must not be lost in the rush for achieving the economic goals, and that regeneration needs to carefully consider and balance the needs of today's generation against that of the future.

Our key contribution to the Triple Helix was in showing how a public-private partnership and knowledge transfer from a university to the local business community has become the source of collaboration and knowledge creation. The paper also showed how bottom-up solutions and extended participation of the community in urban regeneration planning in London can be effectively organised and managed. The novelty of the project was expressed in: i) public-private partnership in knowledge creation in planning by wide participation of stakeholders; ii) methodological innovation by extending the traditional approaches and replacing them with creative solutions, and iii) creation of a permanent hub for innovation and generation of ideas and innovative use of otherwise undesired space.

- ***Policy Implications***

The involvement of stakeholders, local, national, and international parties through research, and the organisation of events, international workshops and meetings, will enforce the concept of a participatory and engaging planning philosophy suited to the needs of cities in the twenty-first century. Polycentric cities as part of an international network of production play a critical role in the competitiveness of nations and this study will provide some lessons on a small scale to inform policies for local, regional and national growth.

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FUTURE TREND OF INNOVATIONS IN LATIN AMERICA

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ANNOTATION

This article is devoted to the analysis of innovation activities in several countries of Latin America. Such components as the role of science, business communities, and public policies aimed at the transition to the knowledge-based economy are analyzed. Based on the Gibbons Model, the innovative models that are implemented in Brazil, Chile, and Mexico are compared. The data obtained may be used as a practical tool in developing countries. In conclusion, the estimation of innovative activity in Latin America is presented.

INTRODUCTION

Silicon Valley continues to be a unique place where one territory assembles the largest and most well-known IT companies from around the world. At various times, many countries have tried to create similar conditions and build their own "Silicon Valley." The Valley phenomenon continues to attract scientists and politicians from different countries who are trying to reveal its secret and adopt it. The experience of countries who have already tried to do this shows that it is impossible to copy the Valley, but it is possible to use the existing mechanisms that contributed to the creation of Silicon Valley, if adapted to the specifics of the country, where it is to be implemented.

Latin American countries are in the neighborhood with the United States; America is a strategic partner of many countries of the southern continent. The interest in IT entrepreneurship in Latin America has increased in recent years. Many promising start-ups are trying to develop business here, in Silicon Valley, where talented people, venture capital funds, and infrastructure are brought together. At the same time, in some countries of Latin America, there have been reforms at the state level, the objectives of which are aimed at creating of a new type of economy based on scientific knowledge and the application of new technologies. At this stage, several Latin American countries are challenged to create a climate that promotes the development of start-up culture and venture capital industry in the country.

Despite the experience of the countries of Asia and Northern Europe, demonstrating the success associated with the construction of the knowledge-based economy, there is a gap in theoretical justifying of the transition to this type of economy; there are no metrics and models that developing countries could use.

Currently, two dominant concepts of regional development can be distinguished:

- The cluster concept, based on the relationship of a number of organizations.
- The Triple Helix model (TH) .

In the scientific world, there is criticism of the TH theory, aimed at the lack of theoretical background of the modal, such as:

1. Inability to do quality measurement of results when applying the TH [Drobot, P N].
2. Failure to account for the specifics of the countries where the TH is to be used.
3. Vague mechanisms of achieving cooperation among science, business, and government.

Some of the answers to these questions can be found in the combination of two models of regional innovation development: clusters and the TH; they do not contradict, but rather complement each other. Clusters can be created and used as a hybrid organizational format of interaction of universities, business, and government, and the TH model can be a tool of regulation among cluster members [Pospelova, T].

Taking into account that some countries are implementing these theories in practice, at the moment there is no tool that would allow comparing the effectiveness and results of the models applied. There is no model that would clearly demonstrate the progress achieved by a particular region in the formation of an innovative model of economics in comparison with other regions or countries.

THEORETICAL FOUNDATIONS OF THE GIBBONS MODEL

One of the existing models, which is an effective tool for comparing and contrasting innovative models in different regions and countries is a model by Professor Gibbons from Stanford University. In the Gibbons Model there are four main elements: the Right Product, the Right Team, Sources of Capital, Appropriate Infrastructure, which, according to the Professor, are key indicators of the formation of the knowledge-based economy. Each of the above items is broken into its components, and their elements are evaluated both qualitatively and quantitatively. As a result, when comparing the performance of these elements, a comparative analysis of two or more models that are implemented in practice can be fulfilled.

Using this model in combination with the Triple Helix concept allows filling in a number of gaps that exist and that draw criticism of the Triple Helix concept.

Gibbons Model

The Right Product 1) Ability to change if needed (can be developed rapidly), 2) Availability of patent or other legal protection that can serve as a barrier to entry for others, 3) Availability of significant market potential.	***The Right Team*** 1) Having high-quality, highly dedicated team, 2) Desire and ability to work for the sake of an idea
Availability of sources of capital • Angel investors • Professional venture capitalists • Large industrial firms • (Previously successful entrepreneurs who are using personal assets)	***Appropriate Infrastructure*** *Technical characteristics:* • Availability of appropriate space for operations • Access to high-quality, basic technology (software development, chip design, etc.) • Allowing startup to focus on its products, and introduce them to the market ASAP - Reduce technical risks. *Social Infrastructure:* • Business climate (The qualitative, emotional nature of the intellectual and business climate that supports start-up) • Tolerance towards failures • Ability to leave a company and form a start-up that directly competes with it. *Educational Infrastructure:* • Formation of entrepreneurial environment in universities • Availability of a solid research base, engineering school and business education • Development of a collaboration between university and business

Source: Eugene Shteyn / Based on the material of the lecture The Greatest Innovations of Silicon Valley (BUS117) / Continuing Studies - Stanford University

Analysis of Innovative Activity in Latin America based on the Gibbons Model

Historically, Latin American countries are divided into two sections: the socialism-oriented North, and the capitalism-oriented South. The northern part of the continent consists of Peru, Bolivia, Venezuela, Ecuador, while the southern includes Brazil, Argentina and Chile. Depending on the orientation of each country, different levels of economic development may be observed. In addition, the decision of the southern countries to move toward an innovation based economy in recent decades led to the formation of even higher economic inequality between north and south. Further on, the base material on Latin American countries gathered through interviews with entrepreneurs and scientists will be presented.

Brazilian Case Study

Brazil impresses by its economic growth rates. Every year, more and more foreign investment flows into the country which has already entrenched the term "Brazilian miracle." Brazilians say that today's miracle is the result of the long-term strategy, which their government has been implementing for the last twenty years. The first step of the strategy was to invest in human capital, in education, and in science. The government's position was as following: the more will be invested in universities when properly run, the higher the academic position of Brazil in the world of science will become. As a result, the scientific school of Brazil is included in top ten most powerful academic schools of the world.

In recent years the country has experienced a rapid growth of start -ups, while entrepreneurs have chosen a unique strategy of creating the right product - copying. In Brazil, all the most popular world services such as Amazon, Groupon, etc, are presented. However, they are delivered by Brazilian startups and adapted to the local market. The main success factor lies in the fact that entrepreneurs have learned to develop the copied product rapidly, taking account of country specifics, which helps to reduce enter barrier. Thus, it is difficult for the original Amazon or Groupon to compete with local companies.

Brazil has been actively promoting the development of incubators, most of which function as accelerators. Programs vary in direction and method of organization. The most famous of the programs in Brazil are described below.

One of the first accelerators in Brazil is the network **Aceleradora.net**, founded in 2008 by Yuri Gitahy. Unlike most of the accelerators that focus only on large cities, Aceleradora.net covers cities throughout Brazil, which promotes the development of the country. The program is designed for three-months and includes the provision of consulting services, mentoring, attending a conference and networking. At the moment, about one-hundred startups are participating in this program.

[1] Pospelova T V and Ivashenko N P: (2013) The process of formation of entrepreneurial universities in Russia. The scientific practical journal "Mir" (Modernization, Innovation, Development) 2 (14), 66-70, ISSN 2079-4665.

Short course, **Startup Farm,** is another example of a program promoting the development of startups. Startup Farm differs from traditional incubator programs. It is designed specifically for aspiring entrepreneurs that come with a project which is at the idea stage. In the course of the month, the participants are engaged in the study with such renowned mentors in Brazil as Felipe Matos and Gustavo Guida Reis (the President of Startup Weekend Rio). At the end of the month a demo day is organized, where business angels and potential investors are invited. The program is based on the Instituto Inovaçao with the cooperation of Microsoft and Brazil Innovators (a collaboration project between Silicon Valley and Brazil.)

21212.com is a network of the accelerators, which is located in two cities : Rio de Janeiro (postal code - 21) and New York (zip code - 212) . Combining two postal codes we get the accelerator name 21212, which focuses on IT-projects. This four-month program includes seed investment of R $20,000 ($12,700), and the help of famous Latin American mentors, such as Fabio Seixas (Camiseteria), Anderson Thees (Apontador) and Paulo Novis (Infoglobo).

Despite the rapid growth of start-ups, Brazil continues to be a resource-oriented country with the dominance of monopoly in the oil and gas industry. Thus, the main principle of development here is the promotion of R&D among industrial and extracting companies.

However, it is possible to track trends that indicate a change in the direction of the development of high-tech and start-ups in the near future. Due to rapid economic growth in Brazil, the percentage of the middle-class population is increasing every year. Even today, 88 million people have access to the Internet, which equals 46 percent of the population of the whole country, and this number will increase. Currently Brazil is the second largest country in the world by the number of users on Facebook and Twitter. Thus, Brazil has great prospects for online businesses.

Venture investment in the country is growing rapidly. It is interesting that at the moment Brazil startups are receiving their investments mainly from the business -angels, as funds began to function only in the last two or three years . According to Brazil Startup Dealbook, in 2012, about fifty companies have invested more than eighty start-ups to the value of approximately $ 250M. Moreover, the list includes business angels, Brazilian and European investment firms.

One of the main urgent problems of Brazil is how to implement investors' exit. In fact, Brazil cannot fully apply the strategy of Silicon Valley, where one of the main startup objectives is the access to IPO. Brazilian BOVESPA is not as liquid as the stock exchange of China and India. So far, the only path of development for startups and investors is M&A with international companies. On one hand, it complicates the process of attracting investors. On the other hand, it is a good opportunity for the growth of the Brazilian economy through international cooperation.

Along with start-ups, Brazil has large companies that are trying to be innovative and adopt international experience. One key example is the cosmetics company Natura - the market leader in Latin America. Out of 500 employees, 300 work in the R&D department. The company was one of the first to apply the concept of open innovation. Natura has created a special portal to discuss potential projects. This portal helped to establish collaboration with international universities. As a result, in 2012 the company entered into an agreement with the Education Innovation Laboratory in Boston. From now on, many projects will be launched jointly with researchers from Massachusetts.

Currently, both the Brazil Government and large companies have been taking part in implementing innovations. While the Government mainly focuses on social projects, large companies are introducing innovations in the industrial field. Examples of such organizations are : Vali, itau, Bangy, Fiat.

The development of the Brazilian economy was originally closest to the South Korea model and was focused on implementing innovations in large companies. In recent years, the situation has been changing to entrepreneurship in small businesses. In addition, special attention is paid to the regional development and an attempt to unload the employment of Sao Paulo, which produces about 40 percent of the country's GDP. The next step after the development of the regions of Brazil, will be an active cooperation and access to the market of the neighboring countries in Latin America.

CHILE CASE STUDY

Chile has its own economic development strategy, which is to analyze the experience of foreign countries and apply the most successful. The system that Chileans try to apply is the closest to the experience of South Korea and Taiwan. The country is developing a system of internships, thus, in recent years there have been more and more students studying abroad. In Chile, special attention is paid to education and patriotic team spirit. The government is not afraid to let its students study abroad. Moreover, it is convinced that the country's economic situation will soon improve, which will encourage graduates come back to their country and contribute to the application of foreign knowledge and development of strong start-up teams.

To strengthen teams and attract international staff, the Start-Up Chile program has been launched. This program lets a foreigner obtain a three-year visa and co-financing from the State of $40,000. The main condition is that the alien must work in a startup, registered in Chile, and be oriented on the Latin American market. For that reason, the number of entrepreneurs coming to Chile from across the continent has drastically increased. The program was launched in August 2011, and 112 projects have already received the grant.

Thus, the state creates conditions for entrepreneurs doing business in the country and training opportunities abroad. The first results of such a trust relationship will be known in a few years when graduates will return to their country.

Another example of promoting the development of high-tech business is a program based on the Founder Institute. Adeo Ressi, in collaboration with the American entrepreneur and blogger Alan Colmenares, are the initiators of the Founder Institute first in

Colombia and then in Chile. Over the last two years, approximately three-hundred high-tech companies from fifteen cities of Latin America have taken part in this program.

The proximity to fast-growing Brazil has a great impact on Chile; Chileans adopt Brazil experience. However, Chile is limited in size, in comparison with the availability of resources and markets in Brazil. What is more, it lacks the foreign investments that play an important role in the development of the Brazilian economy.

Mexican Case Study

The geographical proximity of the country to Silicon Valley promotes entrepreneurial spirit in Mexico. In recent years the government has been focusing on motivating large companies to innovate (GDP from R&D in Mexico is 0.5 %). These companies are looking for new technologies and ideas; therefore, they ask startups for help. Startups, in their turn, are mostly oriented on the U.S. market. This is a significant problem, but at the same time it has some advantages: due to this chain interaction, startups in Mexico have contact with both local and international markets.

Over the past ten years, the situation began to change; recently the orientation has changed from the international market to the local. A special place in the country is given to social innovation. Thus, the government allocates special grants for development. Local startups have priority in obtaining investment from state funds, if their projects are aimed at improving the lives of local residents.

Unlike the innovations that focus on improving existing technologies ("supporting innovation") in the developed countries, Mexico has great prospects for disruptive innovation ("disruptive innovation"), which is characterized by ease of use, and low price, which are designed for a large number of people. An example of disruptive innovation is the creation of portable refrigerators. Not all Latin Americans can afford to pay for fully-featured refrigerators. As a result, many of them create storage in the ground. Thus, the creation of portable refrigerators of lower price range has simplified the lives of many people in Latin America.

The growth of startups in Mexico is slowed down by the cultural aspect. The country has developed a negative attitude towards failure. Reputation plays a big role, and if for some reason the first business was unsuccessful, it will be difficult for an entrepreneur to obtain financing on their next attempt. The situation is completely opposite to the US market, where a bad experience is a valuable lesson and is a proof of commitment for investors. This cultural factor complicates the process of forming a strong team, as many talented people prefer to have a more stable job instead of working in a startup. Due to economic instability in the country investing in startups is considered to be risky. On average, the country experiences a crisis every 5-7 years. In addition, the situation is worsened by corruption.
Despite all the problems, the Mexican market experts see potential in Internet commerce and mobile payments. Thus, such startups as Botetia, votelia, Fuattribe have been successfully operating in Mexico. Two large venture funds are Alta ventures (http://www.altaventures.com/), which is located in Monterrey and 500 in Mexico City.

Conclusion

It is still too early to speak about innovations in the socialist block of Latin American countries today. At first, the problems of social and infrastructural character, such as improvement of the education system and living conditions, must be solved. In most Latin American countries, the time for innovation has not come yet due to socio-political problems.

Despite the challenges, Chile and Brazil are advanced in the development of innovations, which makes them innovation centers in Latin America today. These countries are attracting entrepreneurs not only from neighboring countries but also from recessionary Europe. Along with foreign investors, whose interest in recent Latin American projects has been growing, the countries have been forming their venture communities, consisting mainly of individual business angels.

Thus, the development of such infrastructural objects as incubators and the creation of various startup assistance programs demonstrate the growing interest to innovation among Latin American countries. Despite the fact that programs like Y Combinator, TechStars, and 500 Startups are open to the most promising projects, and a resident of any country can apply to participate, the opening of 21212.com, Startup Rio, Start-up Chile, and Waira in Latin America, proves that Silicon Valley is not the only place for start-up development anymore.

Regarding the creation of the right product, most startups in Latin America are finding a niche in creating social innovations that may be funded by the State, or copying and implementing successful overseas projects by first pre adapting them to the specific conditions of the country. With regard to the formation of the teams, the development of incubators where due to mentoring a new generation of entrepreneurs can be coached, plays a significant role. This factor can attract more talented people who nowadays prefer to work for more stable companies instead of risky startups.

The economic development of Chile and Brazil over the past years clearly shows continued progress of innovation growth in those countries. Besides, neighboring countries will continue to cooperate actively, which once again demonstrates the creation of a strong economic player in the international arena.

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AUTHOR

Pospelova Tatyana is a graduate student of the Faculty of Economics of Moscow State University, Russia. The theory of the Triple Helix and the possibility of introducing the concept in Russia is the main theme of the research activity of the author.

PUBLICATIONS

Inga Ivanova and Loet Leydesdorff, "Redundancy Generation in University-Industry-Government Relations: The Triple Helix Modeled, Measured, and Simulated," *Scientometrics* 99(3) (2014) 927-948 doi: 10.1007/s11192-014-1241-7.

NEW THA MEMBERS

ORGANIZATIONAL MEMBER

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www.espaitec.uji.es
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espaitec is the scientific, technological, and business park, of Jaume I University in Castellón, Spain.

Promoted by the Universitat Jaume I (UJI) and the Castellón Businesspeople's Confederation (CEC), espaitec was set up in 2007 for the purpose of offering a quantitative and recognised contribution to both socio-economic development in the province of Castellón and the diversification of its industrial fabric.

We wish to create a reference environment in Castellón which hosts, supports, encourages and helps innovative business initiatives to grow, and which facilitates active technology transfer in the University.

To go about this, we work in a network with the Spanish Association of Science and Technology Parks (APTE). We are an International Association of Scientific Parks (IASP) member, a European Network of Living Labs (ENoLL) member, an Enterprise Europe Network (EEN) collaborator and an important agent in promoting innovation and enterprise in the province of Castellón.

Apart from its new infrastructures located in a single enclave based on knowledge, some of the actions it performs are highlighted below:

- supporting talent and entrepreneurship
- accompanying and driving business growth
- specialised innovation support services
- connections with the global innovation system
- offering support and soft landing for internationalization
- territorial integration

Basically, **espaitec** is a park which aims to generate wealth, jobs and well-being by creating an economic and business fabric model that goes beyond former models.

Nowadays, it houses more than sixty firms, and it generates more than 750 highly qualified jobs including its own staff members and those of other parties.

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The Research Center for Regional Innovation and Entrepreneurship of Shandong Academy of Sciences includes twenty-one employees among whom nine have a doctorate degree in Management Science and Management Engineering, Government Administration, Science of Science and S & T Management, and S and T philosophy. The research mainly refers to three academic disciplines: management, economy, and public administration, focusing on topics on knowledge, innovation and entrepreneurship.

The centre has been engaged in three key projects since 2010 when it is founded, developing knowledge in science and technology innovation; regional development and industry economy.

Located in Confucius' hometown, the Centre also concerns social development, especially social innovation and cultural enterprises. A virtual research group of the Centre has started the exploration in social innovation and Regional development. This has touched many issues: what impacts have been caused by Confucius' traditional cultural for social innovation?

In Shandong is it important and necessary to support Social Innovation Parks. We believe that some answers can be given by this coming FP7 project, and do favour of a "social innovation park (SIP)" conception and expect its practice in China.

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Georg is currently working on his PhD thesis at the Vienna University of Technology in collaboration with the Austrian Institute of Technology, conducting a comparative analysis of university incubators in Europe and the USA. His interest for the topic came through his work at Stanford's Startup Accelerator StartX in Palo Alto, California. There he was focusing on Mentor Labs, a new StartX initiative that connects the best early-stage entrepreneurs out of Stanford with top mentors from Silicon Valley. Georg currently acts as the Project Manager for the Erasmus for Young Entrepreneurs Program in Austria, and is planning to establish a similar initiative between the USA and Europe. Before StartX, he was teaching at the Entrepreneurship Center of the New York Institute of Technology and supported the establishing of their university incubator. He is an international business consultant, working with the United Nations in the US, Africa, and Europe, and consulting a variety of startups, and projects with a social cause (e.g. shelter for crisis regions, sub-urban farming). Georg initially started his career with Vamed in international project management, dealing with customers and partners in Middle East, Africa, and South-East Asia. For his academic career he was based in Vienna, Austria (where he is originally from), Cambridge, USA, and Perth, Australia. He is a passionate traveler and leads educational tours of American and Canadian groups through Europe in the summer months. He co-authored the book "Beyond Silicon Valley: Examples of successful StartUp Hubs".

Areas of interests in TH research:
Entrepreneurial university, university-industry relations, technology transfer and spin off creation, entrepreneurship ecosystems

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Rolando is employed as a member of the Economics faculty at Northwest Vista College, part of the Alamo Colleges system in San Antonio, Texas. He is a third-year PhD student at the University of the Incarnate Word (UIW). Rolando's field of study is Education with a concentration in International Education and Entrepreneurship. In addition to his academic responsibilities, Rolando serves as President of the Doctoral Student Association. His academic background includes a BA in Economics at the University of Illinois - Chicago, an MA in Economics from The University of Texas - San Antonio, and an MBA from the University of the Incarnate Word. Rolando has been accepted to serve as a guest lecturer at The Hague University in the fall of 2014. He has been able to use his work and academic experiences to travel to other countries and make an impact as an educator and to develop into an international service volunteer. In 2011, he was selected to be part of the TEACH group (sponsored by the Bilateral-US Arab Chamber of Commerce) that traveled to Bahrain and Qatar for two weeks in order to raise awareness, understanding, and cooperation between educators in the United States and the Middle East. During 2013, as part of UIW's Women's Global Connection volunteer mission, Rolando participated in a two-week

immersion and research trip to provide economics and business practice workshops in Chimbote and Lima, Peru. He serves as a Board Member and the Secretary of the San Antonio Business and Economic Society. Other affiliations include active membership in the World Affairs Council, San Antonio, the Free Trade Alliance, and the Comparative and International Education Society. Rolando has written and oral fluency in English and Spanish.

Areas of interests in TH research:
Education and entrepreneurship

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Andreas Bartzos lives in the city of Kavala, Greece. In 2006, he finished his undergraduate degree (BSc in Archives and Library Science) at Ionian University, Greece. In 2010, he decided to redirect his professional goals. Since then, he has worked for one of the biggest retailers of Greece, Diamantis Masoutis SA.. At the same time, in 2011 he decided to expand his knowledge and to focus on the business sector, taking the initiative to study for an MSc in Logistics and Supply Chain Management at the City College International Faculty of the University of Sheffield, which is located in Thessaloniki-Greece.

Areas of interests in TH research:
Open innovation and social and university entrepreneurship

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Liz is currently a doctoral candidate in the CSRM focused on industry-university research linkages and the governance of research integrity. Previously Liz worked in management, policy and research roles in academia and the Queensland State Government. Her work focused on international relations, China, trade, economic development and international education collaborations. Her academic qualifications include a Master of Philosophy (Social Science) from the Hong Kong University of Science and Technology, Master of Applied Anthropology and Participatory Development from the Australian National University (Indigenous Policy), Graduate Diploma Economics from the University of New England, Graduate Certificate Chinese Language and Chinese Economics from Fudan University, and Bachelor of Arts (Chinese) First Class Honours from The University of Queensland. Liz is member of the Australian Anthropological Society, Commonwealth Scholars Alumni, and Golden Key International Honour Society.

Areas of interests in TH research:
Industry-university research linkages, and the governance of research integrity

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Areas of interests in TH research:
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Fotis Gonidis holds a Diploma in Electrical Engineering and Computer Engineering from Aristotle University of Thessaloniki, and a Professional Doctorate in Engineering in Information and Communication Technology from Eindhoven University of Technology, The Netherlands. He obtained experience working in the Electronics (Philips, NXP Semiconductors) and Automotive Industry (DAF Trucks) in the Netherlands. Currently, he is a Research Associate and Marie Curie Fellow at South East European Research Center (SEERC), participating in the Marie Curie Initial Training Network 'RELATE', and studying for a PhD in Computer Science at the University of Sheffield.

Areas of interests in TH research:
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I obtained my MSc degree as a Geographer specialized in spatial/ regional development, urban development, and landscape management in 2001. I have been working at the University of Debrecen Centre for Environmental Management and Policy as a researcher for more than twelve years, and have been participating as a researcher and expert in research and co-operation projects in the field of greening regional development programmes, developing a masters programme on sustainability, governance and ecosystem management, development of regional climate confidence index, sustainable integral management approaches, deploying added value of water in regional development, and particulary university collaboration in regional development spaces. During my work I have had a special focus on efficient stakeholder involvement and management as well as partnerships of university, economic actors and government bodies. My recent research involves studying the role of higher education in regional development focusing on the North Great Plain Region of Hungary.

Areas of interests in TH research:
Higher education in regional development

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Self Employed, IT Finance Consultant, increasingly interested in participating in global sustainability. I found the Triple Helix Association while researching trends, in advance of my new company website launch, which is targeted for Spring 2014. My 15+ years of professional business background have been in Corporate America. Educationally, I have earned an undergraduate degree in Finance from Michigan State University; I earned a masters or graduate degree in Information Systems Management from Loyola University of Chicago. In my spare time, I love to read, listen to music, and enjoy nature. I believe participating in all of these activities has guided me toward seeing the bigger picture of life. And recently, I've found that I want to be a part of the solution, as we move from our current separatist consumerism focused global society, toward a more collaborative intentional community based global culture which supports peace and respect for life. I'm grateful for this association and the space this website has created for sharing and collaboration. I look forward to increasing my participation, as it becomes clearer how my talents/skills are best integrated within Triple Helix.

Areas of interests in TH research:
Innovation, solutions, and sustainability

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1992-2004 - Accenture. Project Manager on international projects in ICT sectors. 2004-2006 - Grupo IT Deusto Valencia. Project Manager and Account Manager for mobility projects, healthcare and telecommunications in the Valencian Community. 2006- current. Chief Innovation and Project Officer (CIO/ CPO) espaitec (Science and Technology Park of Castellon). Expert in Open Innovation, Technology Scouting and Social Media Expert applied to business Expert in R&D+i management at Spanish Association of Science and Technology Parks (APTE). Expert at Directorate General of European Commission (DGREGIO). European Network of LivingLabs Council Member. IASP Advisory Council Member IASP Science and Technology Parks Management Expert (IASP Peer -to-peer Service).

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Professor Abhijit Bhattacharya holds an MSc in Physics and Mathematics from Patrice Lumumba University, Moscow. He has a PhD in economics, and carried out post-doctoral research in Harvard University. He is the recipient of fellowships from Rockefeller Foundation, Japanese Shipbuilding Industry, and others. He taught courses on innovation, strategy, and entrepreneurship, at doctoral and post-graduate levels in different universities in various parts of the world. During 2001-2005, Professor Bhattacharya worked as International Chair Professor and Director of the Centre for Entrepreneurship, University of Natal, South Africa. He set up a Business Incubator in Durban in collaboration with the Department of Economic Development and Japan International Cooperation Agency. In 1995, he used the satellite communication facilities of the Indian Space Research Organization (ISRO) and conducted an entrepreneurship programme from the ISRO Headquarters covering nine Indian states. The programme concept was later adopted by a popular TV channel. As a consultant for United Nations Industrial Development Organization (UNIDO) he assisted some Central Asian countries to create SME development centres. He is currently with The University of Trinidad and Tobago as Professor of Entrepreneurship, and assisting UTT in its transformation to an entrepreneurial university, and drafted various policy documents for such a transformation. Before joining UTT in April,2013, he worked as director of the Centre for Entrepreneurship and Innovation at Arthur Lok Jack Graduate School of Business from November, 2010.

Areas of interests in TH research:
Policy formulation and developing implementation matrix for an entrepreneurial university, Technology commercialization. Academic spinoffs; Business accelerator model development together with university and industry, Innovation management.

If you want to learn more about THA members, visit our Members Gallery: www.triplehelixassociation.org/members-gallery. The Gallery offers visibility to members within and outside the Association, thus facilitating networking and cooperation

We invite THA members non yet included in the Gallery either to complete their profile info on the THA website by logging in and clicking the "Edit profile" link, or to send their short bio and passport size photo to info@triplehelixassociation.org for publication.

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THA NEWS

ROUNDTABLE DISCUSSION ON *TRIPLE HELIX INTERACTIONS* NICOSIA, CYPRUS, 6 JUNE 2014

Cyprus is undergoing significant reforms towards fighting the harsh effects of the economic crisis, and especially the severe economic situation from the past two years. In this context, following the global trend of boosting Triple Helix interactions for proper regional economic development in the knowledge based fast pacing economy; it is of critical importance to set a common roadmap for the Triple Helix stakeholders towards enabling co-creation. To this end, the THA Chapter of Greece has taken the initiative and organized a roundtable Discussion on Triple Helix Interactions together in the frame of the 7th International Conference for Entrepreneurship, Innovation, and Regional Development, held on Friday 6 June 2014 in Nicosia, Cyprus.

The roundtable discussion included eight panellists from various sectors: Parisis Thomas (RTD Talos Limited); Paraskeva Marilena (Cyprus Research Promotion Foundation); Martidou Despina (Forcier, Director of Higher and Tertiary Education, Ministry of Education and Culture); Peroulakis Georgios (Senior Desk Officer in EC-DG Regio); Vorley Tim (Senior Lecturer, The University of Sheffield, UK); Kofteros Stavriana A (Deputy Press Spokesperson Democratic Rally); Dikaiakos Marios D (Professor, Department of Computer Science, University of Cyprus); and Georgiou George (Associate Professor, Department of Electrical and Computer Engineering, University of Cyprus). The discussion was moderated by Professor Ketikidis Panayiotis (President of the Triple Helix Association Chapter of Greece).

The main outcome of this roundtable discussion is the fact that the entire Triple Helix ecosystem (university, industry, government) has to evolve and adapt together in order to properly achieve the co-creation stage by investing in excellence. The government should function as an enabler to give incentives for the involved stakeholders, so that we can facilitate academic-business collaboration. Furthermore, there is a need to answer SME (98% of Cyprus's businesses) problems, but there is a lack of communication between academia and SMEs and there should be coaching provided for all departments on how to commercialize research and approach SMEs. Also, the general view of the panelists was that Triple Helix collaboration is a necessity for receiving funding by achieving a balance between basic research and industry funded research. Entrepreneurialism and creativity is important in each Triple Helix entity, and the needs of SMEs must be carefully taken into consideration.

Good academics are necessary, good entrepreneurial academics are also necessary, but often this collaboration is diminished by bureaucracy and overall framework and mentality. Right channeling

is needed for a good idea and for matching a business with academia. Overall, we need companies to create this interaction between industry and academia. Cyprus does not have it. It is a small market, mostly SMEs, therefore, we need to look outside of Cyprus. In any case, entrepreneurial courses (including intellectual property management) and the related commercialization skills are highly necessary. However, entrepreneurship cannot be thought, but the following can be taught: entrepreneurial skills and soft skills, critical thinking, how to discover opportunities. Students and academics should be encouraged rather than forced to adopt an entrepreneurial attitude. People should be empowered to meet market needs and achieve excellence.

EDUPRIME CREATIVE NETWORK

www.eduprimecreative.net

EduPRIME Creative Network is an education (higher education sector) and research consulting firm. It was founded by Dr Dessy Irawati FeRSA, and Dr Roel Rutten, and is based in Tilburg, The Netherlands. EduPRIME is a boutique advisory consulting firm that delivers custom-made solutions created by researchers, academics, and entrepreneurs. We construct a mutual partnership with local, regional, and international organizations, offering customized research and analytical work.

EduPRIME believe that synergy amongst academics, business practitioners, and policy makers is a great advantage. It creates a meaningful, sustainable, and open-minded way of life and empowers human development, creativity, and entrepreneurship. For that reason, these actors are brought into our projects to serve our clients.

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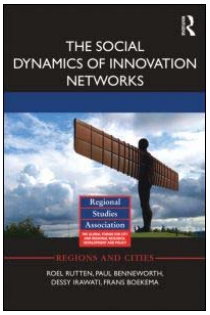

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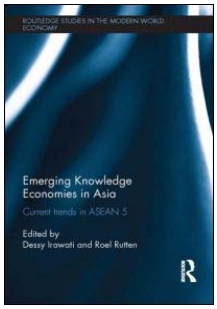

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- Strategic business planning and implementation for innovative and creative businesses.
- Energizing management through innovation and entrepreneurship, from start-up to large corporation.
- Learning and disseminating innovation through co-operation and knowledge transfer between university and firms. We deliver this service based on a deep understanding of the Triple Helix model.
- Corporate social responsibility and green economy.

b Social and Regional Economic Development

EduPRIME develop and implement strategies for social and regional economic development based on the Triple T model: technology, talent, and tolerance. Our approach connects social and economic consideration to encourage creativity and innovation in regions. We provide:

- Regional innovation strategies connecting government, business, and knowledge/research institutions.
- Sustainable development.
- Social innovation strategies.
- Cultural innovation strategies.

c Science Diplomacy Services

EduPRIME organize academic, community, business, and policy events that aim to further creativity and innovation for our clients. We develop the aim of the event, contribute to the event content, and ensure the smooth implementation of the event. We provide:

- Thematic academic workshops, seminars, conferences.
- Brokering between business, policy and research.
- Advancing academic skills such as writing and presentation.
- Career coaching for student and early career academics.

d Skills For Life

As international citizens, we have transferrable skills and experiences that benefit a wide variety of people and organizations. In particular EduPRIME aim to empower women and migrants, to help them advance their communication and public speaking skills, nourish their talents, dealing with cross-cultural-communication, and sharpen their individual assets through coaching and training. We provide:

- Civic integration trajectory.
- Cultural awareness training.
- Business start-up advice.
- Expat coaching.

To find out more about EduPRIME 's services, please contact the following:

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