22 "Profiling Regions as Knowledge Regions – Model Cases for Tenerife"

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22.1 Abstract

With the venue of the Knowledge Society subsequent instantiations such as Knowledge… Economy, … Economics, … Management, …Worker, … Capital, … Nation, … Region, …City etc. entered a broader discussion, mainly conducted by philosophers, sociologists, economists and computer scientists. Today, knowledge became the prefix characterizing that the subject under discussion is based on more than just data or information: the aggregation, interrelation and correlation of information items in a larger semantic construct is perceived to be the formalized representation of what we may call knowledge.
A Knowledge Region therefore is formed by its well defined institutions, as well as persons making up the regional constitution, but it goes beyond the nomination of its elements. The challenge is to identify models which combine the different aspects of a "knowledge body" as e.g. once have been introduced through "Intellectual Capital Reporting" models as e.g. are presented in [1]. Such models applicable to municipalities have been invented and applied for different locations, some of which are addressed in this article as model cases. The question addressed especially in this paper is if and how such methodology may be applied to the Canary Island of Tenerife as a model case for a "Knowledge Island".

22.2 What is a Knowledge Region / City / Island…?

In a prospective publication A. Bounfour and L. Edvinson in 2005 with the title "Intellectual Capital for Communities Nations, Regions, and Cities" [2] collected a community of authors who argued on what may be understood as a knowledge region. In accordance to an existing award on the "Most Admired Knowledge Company" [3], F.J. Carrillo in his World Capital Institute (http://www.worldcapitalinstitute.org/) lauchend the "Most Admired Knowledge City Award" (MAKCi). The identification and evaluation of a "Knowledge City" was based on a model, which was introduced by F. Javier Carrillo and Blanca Garcia – see Fig. 1.

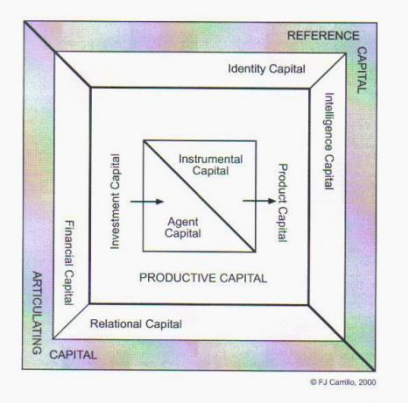

Fig.1 Model for MAKCi Award candidate evaluation

In the same course and around the same period, whole countries were considering to present themselves as “Knowledge Nations” describing this of their nature by means of Intellectual Capital Reports (ICR). One example is the IC Report of the State of Israel [4]. The “model” in most cases of these reports was given by the outline structure of the respective report. It was a narrative and discussion along different aspects of what can be considered to be constitutional for a knowledge municipality.
One driver in this discussion was and is the World Bank which not only created a sophisticated method and associated with it a ranking of what the “knowledge value” of a country is [5], thus providing arguments to nations on their strengths and weaknesses in their knowledge societal constitution.
In Europe at the beginning of this movement mainly two regional players engaged in the definition and identification of knowledge: Scandinavia and the Danube Region with Austria as a pioneer country. The today so called Austrian Institute of Technology (AIT) in 1999 headed by the author published its first ICR, which was communicated in public first time at an OECD conference in 2001 [6]. The model and method described there was picked up by a community in Germany [7] refining the “Austrian method” and applying it to both German companies, but also for profiling regions as knowledge regions. One example was exercised in the so called Ortenau region, which is a German municipality located in the triangle between Karlsruhe, Strasbourg and Freiburg [8].
The major set of reports on knowledge municipalities, however, was produced in the framework of the MAKCi Award (http://www.worldcapitalinstitute.org/makci/makci-awards-most-admired-knowledge-city).

22.3 A few cases of European Knowledge Regions / Knowledge Metropoles: Ortenau, Vienna, Romania, Kosice, Danube Region

The author of this paper was involved in a series of projects profiling regions as knowledge regions which, for the sake of this paper, may serve as references for identifying and constructing one specific approach to be taken for the special case of the island of Tenerife – and further islands as well.

22.3.1 The Ortenau Case [8]

Ortenau is a regional district in the German Federal State of Baden-Württemberg reaching close to France / Alsace, adjunct to the City of Strasbourg, and situated between the wider municipality of Karlsruhe in its North, one of the leading “high tech regions” of Germany with the Karlsruhe Institute of Technology (KIT) in its center, and , in the South, the area of the City of Freiburg, a historic township with a university more than 550 years old. The capital of the Ortenau region is a town called Offenburg with some 60.000 inhabitants.
Being “squeezed” between three heavy knowledge regions, the Ortenau region by its economic policy bodies decided to find a profile as a knowledge region situated “in between”. The approach taken was to apply the German version of the Austrian IC reporting model, which is denoted as “Wissensbilanz – Made in Germany”.
The IC report constitutes a meta model which can be used for different topics and questions, as are:

- What are the advantages in IC of the region, what are the immaterial advantages of the region?
- With given goals what are the most important impact factors to reach this goals?
- If we improve some elements of the intellectual capital of a region, what are possible improvements ?
- What is the intellectual capital profile of a region?
- In the cross impact matrix which will be developed in an IC reporting project: what are the best actions to take in order to improve the intellectual capital?
- There exist many approaches for regional development. Why is intellectual capital reporting an appropriate and good approach for regional development?
  As in the Ortenau project the chosen method was “Wissensbilanz – Made in Germany”, the above questions find their answers as follows:
- The generated IC report provides an insight and intrinsic view of the region profiled.
- The IC report helps the participants from the regional institutions who engage in the development of such report to understand the complex cross-impact relationships (represented in a so called Vester matrix) and reveals the elements which have the most influence in this system of regional interdependencies.
- Intellectual capital reporting (ICR) - as discussed - is a method requiring participation of officials, citizens and representatives of interest groups. To create an intellectual capital report for regions according to the chosen method requires relevant insider knowledge from local experts and interest groups. This is one guarantee for the later broader acceptance of the results.
- The intellectual capital (IC) report for regions is also a method for integrating divergent views. In addition, the IC report allows to integrate different complementary aspects in regional development. The recommendation resuming from the Ortenau case was to combine the IC report with information such as

- regional statistical data
- regional development plan/s and/or regional development program/s
- ongoing regional activities intended to improve the wealth of the region

Intellectual Capital (IC) reporting for regions also allows to reflect the implicit complexity when dealing with regional development. Many concepts / models / methods of ICR may be well founded in a scientific sense, but most of them ignore the inherent complexity which often leads to questionable results and recommendations. By using and discussing the so called cross-impact matrix as one part of the applied method exposing cause-effect chains, participants of the workshops working out the IC report acquire a deep understanding of the dependencies of regional development and its impact elements.
Compared to other methods in regional development, the IC report for regions as was applied in the Ortenau project requires less time to end up with some profound and well arguable results. Depending on the availability of qualified participants in the workshops, an IC report can be completed within a period of two or three months.
A second argument for applying the "Wissensbilanz" reporting methodology to regions is that it includes cause-impact analysis and thereby offers the possibility to construct and analyze cause-effect chains. Applying this specific part of the method allows to generate useful predictions of potential outcomes of any proposed action which is effectively put into practice.
In summary and after the practical experience made by the Ortenau project team, IC reporting demonstrated a superior approach namely that its results can be perfectly used in order to manage the regional strategy planning processes.

The process of establishing an Intellectual capital report for regions

Intellectual Capital Reporting (ICR) according to the model of "Wissensbilanz - Made in Germany" is a process-based methodology. The core process is implemented through a series of workshops each with a specific, well selected variety of participants. These teams make use of the available collection of regional data (e.g. from the office of statistics) and identify the best indicators, many of them also being quantifiable.

Participants of an intellectual capital report for regions

As mentioned at the beginning of this section, the success of an intellectual capital reporting project for regions heavily relies on well planned workshops.
For practical reasons, in the initial phase a series of workshops with each up to 20 participants needs to be conceived. If there is sufficient time available or in case there are more participants interested in taking part, recommendation is to run different workshop series at the end of each the results of the different workshop groups shall be compared and converged.
The selection of possible participants depends on criteria such as:

- What shall be the key question / topic of the intellectual capital report?
- Who are the "customers" of the IC report or who are possible promoters?
- Who, for sure, will be available during the workshop period?
- Who has a solid and sustainable interest in participating in the workshop?

It is helpful and contributes to the validity of the results to have different perspectives represented in a regional IC report. Typical participants therefore would be:

- Members of regional development organizations
- Politicians which are responsible for the regional development
- Members of social and different political parties
- Participants from different education organizations (schools, universities, ...)

- Representatives from the economy of the main branches of the region
- Representatives from the church
- Representatives from tourism
- Representatives who deal with environmental issues

Associated with the invitation to the workshops a short introduction explaining the goal of the respective workshop must be given. In a best case an introductory event is recommended to take place in order to present the methodology and the purpose of the intellectual capital report in a condense and motivating way.

Such participative approach of developing a “picture of the future” for the Ortenau region lead to the effect that the results were well accepted not only by the participants, but also by external recipients of the findings. It goes without saying that the quality of the results depends on the competence of the participants in the workshops knowing about details w.r.t. their region. By experience, the outputs are of much higher quality and credibility than produced by many alternative methods.
Thus the results of the intellectual capital report allowed to derive a precise and concrete action plan the aim of which is to contribute to the future wealth development of the region – in economic and non-economic terms of intangible nature (such as satisfaction, happiness etc.).
An additional important side effect of intellectual capital reporting as was applied for the Ortenau region, which, at the beginning did not yet have had a vision or strategic plan of its own; through the working-out of an IC report they compiled a strategy for their regional development. The conclusion is, that an IC report therefore can be well used as a tool for building a regional development strategy.
Matching the results from the workshop series with indicators from third sources in the Ortenau case allowed to combine soft factors as identified in the group sessions with hard statistical quantitative data.

22.4 The Vienna case [9]

Vienna follows knowledge-based strategies already for decades, not having explicitly named it that way. The current two basic strategies for profiling the Vienna Knowledge City are its “smart city strategy” and the “Research, Technology and Innovation Strategy”. In 2105, 650 years after the foundation of the Vienna University, Vienna redefines itself explicitly as a Knowledge City (“Wissensstadt”), substantiated by publications and specific ambitions.
The capability to enact this aim is demonstrated by the results achieved so far: Vienna has an excellent international ranking, such as by today:

- "Smart Cities": Rank 1 world-wide (followed by Toronto, Paris and New York); Source: Boyd Cohen, 2012, http://www.fastcoexist.com/1679127/the-top-10-smart-cities-on-the-planet
- The World's Most Reputable Cities: Rank 1 world-wide; Source: Reputation Institute / CityRepTrak, 2014, www.reputationinstitute.com
- Quality of living: Rank 1 world-wide (followed by Zürich and Auckland); Source: Mercer, Quality of Living Survey 2015, London, März 29015, http://www.mercer.com/qualityofliving
- Most prosperous city: Rank 1; UN-HABITAT report "State Of The World’s Cities Report 2012/2013" ranks Vienna as the most prosperous city among 70 metropolies of the world. This ranking observes factors such as productivity,

sustainability, quality of life, and infrastructure. Vienna has got top rankings in all categories and has therefore outperformed cities with an equally high quality of life such as Zurich, Toronto, and Brussels.

- Best Cities for young people to live in: Rank 1 worldwide (followed New York and Malta)
  Source: Best Cities for young people to live in, 2013, www.list25.com
- International Congress and Conventions: Rank 3 world-wide in 2013, (preceded by Paris und Madrid); before 2013, Vienna had Rank 1 for seven years! Source: ICCA (International Congress and Convention Association), http://www.iccaworld.com
- European Green City Index 2009: Rank 4 in Europe (after Copenhagen, Stockholm and Oslo). Analysed Categories: CO2 Emissions, Energy supply, Buildings, Transport, Water, Air Quality, Waste, Agriculture, environmental management. Source: European Green City Index 2009, Economist Intelligence Unit, http://www.eiu.com
- The Travel & Tourism Competitiveness Index 2013: Austria ranks No. 3 world-wide with Vienna as the main touristic attraction. Source: World Economic Forum,
  http://www3.weforum.org/docs/TTCR/2013/TTCR_OverallRankings_2013.pdf
- Business Friendliness: Rank 5 worldwide (after Dublin, Manchester, Wroclaw und San Jose). Source: Global Cities of the future 2014/15
- Innovation Cities Index: Rank 6 worldwide (after San Francisco, New York, London, Boston and Paris); Source: Innovation Cities Global Index 2014
- Online Cities: Rank 5 worldwide; Vienna after Berlin, Seoul, Barcelona and New York. Source: A Case Study of 31 informational World Cities - University of Düsseldorf, Germany.
- Startup-Cities where entrepreneurs want to meet-up: Rank 6 worldwide; Vienna after Copenhangen, San Francisco, London, Berlin and New York; Source: Startuptravels, 2014
- Global Power Cities: Rank 10 worldwide. Source: Global Power City Index 2014, The Mori Memorial Foundation.

The lately published statement on the Knowledge City Vienna published by the city government in 2015 demonstrates, that Knowledge is regarded as an ecosystem including a broad range of institutions, relations, assets, responsibilities, infrastructures and more, that all have to cooperate an co-develop well. Therefore platforms for knowledge offerings and exchanges, science, business, culture and politics are key elements for the Viennese Knowledge Identity as proclaimed by the city administration.

The password of Vienna is „Co-Creativity“. This means, that companies, science institutions and many complementary knowledge partners work together and co-create their future with the clearly stated goal, to develop new products, technologies and their applications. This commitment is symbolized by qualified and well identifiable urban quarters such as the “Vienna Tech Gate”, the “Campus Vienna Biocenter”, the “Science Park Techbase”; the “Business and Research Centre” and the “Media Quarter Marx” are best examples of knowledge areas within Vienna.

The Vienna City Administration is following a strict participatory approach to co-create the future together with tenth of stakeholders and citizens. The process “Wien denkt Zukunft” (“Vienna Thinks Future”) is aimed at implementing the vision of a Smart City combined with a Knowledge City.

Independent from the public administration, the so called “Knowledge Partnership” was founded in Vienna in 2009 with strong participation of the New Club of Paris

(NCP - www.new-club-of-paris.org) in the context of one of the several famous national NCP Round Tables, aiming to set the agenda for a national knowledge policy strategy. The “Knowledge Partnership” serves as a platform to connect the Knowledge City Stakeholders, to develop strategies and innovative actions, to innovate together and to recognize outstanding achievements.
Already in 2001, the Knowledge Management Academy (KMA) was founded in Vienna, a world-leading education and training organization with an international faculty (constituted by many members of the NCP), offering certification courses, trainings, in-house programs and conferences in Knowledge Management and Knowledge Policies in Vienna and in several countries of the globe. KMA supported the City of Vienna as well as the Federal Administration, plus the largest companies on spot, NGOs, Scientific Organisations as well as International Organisations like UN bodies such as IAEA and UNIDO in the build-up of their Knowledge Management . KMA as an individual player is the main catalyst and facilitator for the management of the Knowledge Partnership in Vienna.
Last but not least, the world-leading think-tank on the Knowledge Society, the New Club of Paris (NCP), has its formal headquarter in Vienna. Quite a number of university lecturers affiliated with this international think tank organisation have their professional roots in Vienna, where some of them started their academic career e.g. at the Vienna University of Business and Economics.
Social cohesion and inclusiveness in Vienna are key objectives and achievements of the last 70 years of political work after World War 2. The uninterrupted social-democratic government of Vienna today provides comprehensive services for all stakeholders and groups in society, promoting equal rights and professional opportunities for all citizens. The city offers free access to education from kindergarten to university and supports students who cannot afford to study by their financial means. Free access to libraries, a broad spectrum of lectures, pedagogic offerings in museums, a tremendous diversity of courses and seminars make Vienna a paradise for everyone who is curious to learn. And, as a coronary: equal opportunities for women and men and special support and reduced prices for public services for children and retirees. Active integration of and collaboration with immigrants and creation of offers consisting of a growing number of services in numerous languages. The diversity of the public services provides to all talents an opportunity to develop and to find their appropriate spaces to grow.
Very important: every citizen has unrestrained access to the Health System.
The tax-system in Austria and Vienna is highly correlated to the individual income, i.e. people with low income pay a small to reasonable minor amount of tax.
Since 2009 the City implements an ambitious and comprehensive diversity program.
It is seen as a key achievement, that all (!) public services such as transportations and a wide range of media, etc. can be accessed or be used by people with disabilities.
Inclusiveness also means, that all the data, information and knowledge of the city administration are openly accessible (“Open Data”). In cooperation with other cities in Austria and with the Federal Prime Ministry, Vienna initiated “Open Government Data Austria”, which won the United Nations Public Service Award 2014 in the category „Improving the Delivery of Public Services“. (Remark: The Public Services Award was initiated in 2003 to recognize outstanding innovations and achievements in delivering public services. It is the most recognized international award for the public sector!).

22.5 The case of Romania

Studies on the special case of Romania have been sponsored by Romanian R&D Agency uefiscdi and resulted in two reports, one applying IC analysis to universities (already published in 2014 [10]) and one draft report co-authored by the author of this paper, so far existing as an internal document devoted to the identification of intellectual capital on regional level [11].
The report [11] is the result of a series of workshops having taken place in Bucharest headlined "Mutual Learning Workshop" on Intellectual Capital Reporting – International Practicew.r.t Universities, regions and nations and was arranged and organized by uefiscdi. The philosophy of this report is represented in Fig. 2. Its authors claim, that their contributions cover both the historic and the current discussion in IC Reporting. They also elaborate that there exists not yet a consolidate "theory" as a foundation of " Intellectual Capital", first hand understood as a complement to traditional capital theories as exist in economy and economics.

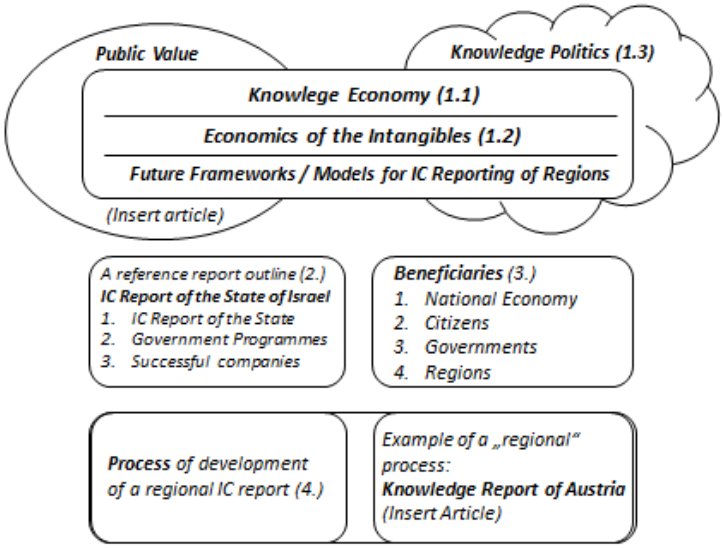

Fig 2.. Structure of this Blue Print report as emerged during work (Ref. numbers refer to chapters in the report [11])

This insight is confirmed by the fact, that the authors discuss several options of framework models for IC reporting, trying to reflect the latest development in national IC reporting and mapping them into compound new framework models. This discussion is not concluded in suggesting one specific model for a future Romanian IC Report, but provides sufficient background to take such decision once Romania would go for an own national and/or regional IC Report and with this decision to design an adapted model of its own.
In order to give a concrete example what the format, structure and content of an IC report on national level can be, the authors of the report [11] suggest to adapt the model of the IC Report which was developed by and for the State of Israel as a reference report. The rough structure derived from this model report for a Romanian IC Report would be

1. An IC analysis, i.e. an identification of the "state of knowledge" and the competitive knowledge advantages of Rumania, mainly using data from

trusted sources as World Bank, OECD, World Economic Forum, IMD's Yearbook or NIC data (as was published by C. Lin, P. Stahle and L. Edvinsson). On national level, as much as available data as e.g. form the office of statistics or from research results as published by the uefiscdi members C. Holeab and A. Curaj in 2013.

2. A survey on government programmes, usually in support of R&D, technology development, funding of science and in support of universities, which contribute to an IC / knowledge (political) strategy of the country. In the case of Romania, this would be fed by the uefscdi agency and ministries in charge of science, research and education.
3. Presentations of examples of successful companies and company clusters, thus demonstrating, how a national knowledge policy potentially resumes in concrete instantiations of competitive advantage. This presumes that knowledge politics transformed into knowledge policy decisions then is translated into a concrete IC strategy and into subsequent actions implementing such strategy.

The author wants to point out, that in IC reporting the underlying, abstract framework models may be independent form the size and level of the subject and scope to be IC-analyzed, but in practice no "one size (i.e. one concrete model) fits it all".

22.5.1 Conclusion for Romania

A national IC report as conceived for Romania has a different structure, size and data basis than a regional IC report. Its construction and production will be a combination of "top down analysis" and compilations from "bottom up" - analyzed results.
In contrast, a regional IC Report as was the case in the Ortenau project (see 2.1) is a bottom-up compilation resulting in or soliciting a regional development strategy, worked out in a participatory process, involving citizens, interest groups and members of the regional innovation networks and clusters, knowledgeable in regional specialties and foundations, thus representing the "genetics" of the region to be IC analyzed.
This division between top-down for the national report and bottom-up for regional instantiations motivated the authors of the report [11] to explain how such bottom-up development of an IC report on regional level works in practice. By experience, the main benefit of organizing a process bottom-up - structured in workshops and well defined steps - is that the respective region (or city) going through this process will convergently find its "strategic picture" plus the subsequent implementation steps directed for the further beneficial development of the region (or municipality).
The reference framework model which is used in all contributions referring to practical application of IC reporting is the quasi "standard model", as was "invented" in the late 1990ies in Austria for its largest R&D organization (then called Austrian Research Centeres – today Austrian Institute of Technology (AIT)) and then further applied in larger numbers of cases in Germany ("Wissensbilanz – Made in Germany" [7]). This model suggests to structure an IC analysis and IC report along four dimensions:

1. Vision, mission and strategy
2. The potential and resources to turn strategy into results, i.e. the intangible capital structured into human, relational and structural capital
3. The key processes to be implemented and to be managed for achieving strategic goals.

4. Outputs, outcomes and impacts.

In (strategic) knowledge management and IC reporting a multitude of methods have been introduced in the discussion. The authors of [11] do not favor apodictically one model only, however, over many years of working with such methods in practice, they came to the insight, that the basic scheme of four dimensions of the framework provides a meta model which has the potential to integrate several complementary methods and aspects known from theories and models in management since long, as already described in [1].

22.6 The Kosice case: Key concern is to convince companies to embark on IC methodologies

When this paper is written, the “Kosice Case” is still under development under the direction of the European Leonardo da Vinci project LEGEND [12], carried out by four partners, a Slovakian coordinating consultancy firm , an expert company in Intellectual Capital (IC) Analysis from Germany, a University of Applied Science in Austria with deep experience in applying IC Reporting and a team in charge for the economic development in the Kosice region. Kosice is the second largest city in Slovakia and the capital of the Slovakian “IT Valley”. The major target groups in the LEGEND project are small and medium-sized companies (SMEs) and their educational counterparts, so called Higher Educational Institutions (HEIs) in first instance universities.

LEGEND is the acronym for "Leveraging knowledge for sustainable innovation and growth" and, as its main objective proclaims, aims at contributing to the increased use of knowledge by Slovak and Kosice IT Valley based SMEs in order to enhance their sustainable growth and potential and generation of innovation. One of the key concerns of the project specifically is to transfer Intellectual Capital (IC) methodologies to SMEs and their partners, especially to the corresponding Higher Education Institutions (HEIs). Results of LEGEND will be used as specific training and reporting tools in the local context, with the aim to contribute to increased competitiveness of SMEs and their partners mainly involved in research and development. The project also aims to overcome the weak interrelations between the labor market and the system of Vocational Education and Training (VET) for Slovak SMEs.

In order to convince the Slovakian SMEs to adopt IC methodologies, experience made in Germany and Austria serve as key arguments as follows:

An IC report on an organisation´s Intellectual Capital combines indicator based numbers with narratives and visualizations, which, in practice, can have two major functions:

- complement management information (internal management function);
- complement the financial statement (external reporting function).

The main idea behind IC Reporting for companies is the differentiation that financial information informs about the past performance of the enterprise but tells little to nothing about its future potential. The future potential of an enterprise lies not only within its financial capital, but at more than 50% - some experts from the auditing community claim up to 75% - in its Intellectual Capital. Creating transparency about the enterprise´s IC will enable it to manage its intangible resources better than

before, to increase its staff´s confidence and motivation as well as imparting greater certainty to investors and other stakeholders about its future earning potential.

An IC Report particularly helps to overcome the differences in knowledge of entrepreneurs on the one side and financiers on the other side (constituting “information asymmetries”) by providing key points and associated narratives which demonstrate that an SME looking for financial support…

- … understands its technologies and areas of expertise – its skills, competencies and capabilities;
- … understands its areas of competitive advantage, its intellectual property (IP) and the technical standards related to its products, processes and markets;
- … understands its customer´s needs, wants, aspirations and the value that its products and services are able to deliver to them;
- … understands its markets and how to access them;
- … has a credible strategy for getting its products and services to market, profitably, despite local or even global competition;
- … has a credible strategy for managing the overall sequence of activities needed to succeed (e.g. value chain positioning and operation management);
- … is able to substantiate the assumptions used in the preparation of financial projections and is able to provide a flow of information to lenders and investors to keep them informed on how the business is progressing.

Although Intellectual Capital Reporting has been applied first hand in around thousand cases in German-speaking SMEs by the method called “Wissensbilanz – Made in Germany” [7], it has remained an exclusive method in comparison to others, e.g. the Balanced Scorecard (BSC) approach. The reason after the author´s experience is simple: BSC translates the different (in total: four major) dimensions of a company´s strategy into concrete and quantitative forecast objectives given to each responsible manager as a scorecard to be fulfilled, whereas IC reporting and conduct requires a more self-responsible intelligent interpretation in the following dimensions:

- market-environmental and competition influential factors,
- the classic, self-conducted trialogue w.r.t. vision – mission – strategy of a company,
- the potential in human, relational and structural capital which a company has at hand,
- the key processes and their optimization – a business which is so common today, that large parts of processes are delegated into software running the company in its clerical dimensions, however, the strategic steering still remains with the managers,
- finally and as an integral part, the presentation of financial results, however, as an equivalent in completion of the non-financial outcomes and impacts which also define the future-proneness of a company.

For large companies of > 1.000 employees, studies say that the time investment required to produce an IC report is less than 0,001% of the total work time. Although there is no empiric or scientific proof to allow extrapolation to smaller scales, reducing the number of employees of a company as low as down to 10, i.e. by a factor of 100, this should keep the reporting effort lower than 1%, which conforms to practical experience made in ICR projects. The gain on the other side of the balance sheet is argued to be 5% in cost reduction, which is made by factors such as

- easier and more effective communication because of better understanding of responsibilities and decision processes,
- less time spent searching and finding, mainly because employees amongst themselves know better who knows what or who has best access to information needed,
- avoiding redundancies mainly w.r.t. meetings, also better preparation, better allocations of responsibilities and better control of follow-ups,
- reducing “underground communication” and gossip, because everybody has a clear picture of the company´s strategy, policies and rationale of decisions.

Of course, the disclosure of previously hidden “secrets” in an organization in the course of an IC Reporting project may raise tensions and even cause “explosions” between certain people with problematic relationships. The experience which the consultants and moderators in IC Reporting projects have gained so far is that in such cases the ICR-project serves as a catalyst for necessary changes. These changes would otherwise be initiated by other triggers usually becoming effective too late to prevent conflicts or with even destructive effects. The rational methodological approach given by IC Reporting can avoid or at least smooth such issues.
To introduce IC Reporting a company needs some extra motivation (just as if one wants to start a “diet” or to exercise a new regime etc.). Compared to other methods for improving competitiveness it requires a deep understanding of the concept of values beyond material values. Due to this abstract condition, this method is more “luxurious” than “hand-crafted” methods such as Balanced Scorecard.
The Kosice project as its main result produced a series of educational material for mainly SMEs which can be accessed via LEGEND’s home page
(http://project-legend.eu/category/publications/project-outcomes/)

22.7 The Danube Region [13]

The area covered by the EU Strategy for the Danube Region (EUSDR) stretches from the Black Forest (Germany / Baden-Württemberg) to the Black Sea (Romania-Ukraine-Moldova) and is home to some 115 million inhabitants. “Official” Member States in this group therefore are: Germany, Austria, Hungary, Czech Republic, Slovak Republic, Slovenia, Bulgaria, Romania and Croatia (as of 1.7. 2013). So called Accession Countries belonging to this group are: Serbia, Bosnia and Herzegovina and Montenegro. Finally, neighboring countries being included in the considerations and consultations are: Moldova and Ukraine.
The Danube Region Strategy which is a top-down strategy addresses a wide range of issues; these are divided among 4 pillars and 11 priority areas (see chart). Each priority area is managed by 2 Priority Area Coordinators (PACs).

The Priority Area Coordinators (PACs) ensure the implementation of the Action Plan by agreeing on planning, with targets, indicators and timetables, and by making sure there is effective cooperation between project promoters, programmes and funding sources. They also provide technical assistance and advice. The coordinators work in consultation with the Commission, and relevant EU agencies and national/regional bodies.
In the pillar “Building Prosperity” one of three priorities besides “Competitiveness” and “People and Skills” is “Knowledge Society”, which is the domain the author addresses with the project on “National IC for Romania” [11]- see 2.3.
Priority Area 07 "To develop the Knowledge Society (research, education and ICT)" which for our project is of major importance is coordinated by Slovakia and Serbia, with the involvement of a wide network of key players.
The EUSDR strategy, as has been documented from its beginning, made a series of suggestions on how develop the profile of a Knowledge (Society) Region. One typical action which demonstrates such commitment is “To strengthen cooperation among universities and research facilities and to upgrade research and education outcomes by focusing on unique selling points”. This means that universities and research institutes in the Danube Region are motivated to engage in stronger cooperation in various fields, such as analyzing existing education and research programmes in the Region and developing joint programmes of common interest, mobility schemes for students and researchers, common research projects, exchange of best practices (e.g. in implementing the Bologna process), or developing innovative education programmes for target groups new to universities (e.g. life long learning programmes for older citizens). Future cooperation should build on existing programmes, such as the EU programmes Erasmus and Erasmus Mundus, Leonardo da Vinci or the Jean Monnet Programme and make best use of existing structures like the Danube Rector's Conference.

Thus, on an action level, a series of initiatives have been triggered since 2011, however, no definition of what a “Knowledge Region” is or shall be so far has been given. The New Club of Paris (www.new-club-of-paris.org) as a competence body in the development of knowledge economy (and Knowledge Society) has taken a series of attempts in order to find and apply methods of characterizing regions and nations as “knowledge regions”; and, this paper aims to contribute to this discussion

The author considers the approaches taken by the Romanian uefscdi agency as well as by the LEGEND project to initiate the development of a National Intellectual Capital Report as two ideal approaches combining top-down and bottom-up strategies for finding the one important identity dimension also for the whole Danube Region i.e. for a large scale knowledge region. Romania and the Slovak Republic – besides Austria and maybe Serbia – are candidates to act as the pioneering regions for developing such extended profile.

22.8 The Potential of Tenerife as a model case for a Knowledge Island

The Humboldt Cosmos Multiversity (HCM) as a Think Tank located in the Canary Island of Tenerife on several occasions addressed the question, if and how this island could be a model region, a kind of a “study lab”, to give it the profile of a “Knowledge Island”. Several studies on the geopolitical role of the island have been

made and reported [14], however, so far, no IC profile has been developed. This chapter of this paper is conceived as a suggestion how to approach such analysis.

The starting point for Tenerife is to first analyze its structural capital as one dimension of an IC Report. A first attempt in this direction was given in a presentation on occasion of the opening of a HCM conference [15]. The aspects of interest are

- The geopolitical positioning of the Canary Islands and Tenerife in specific
- The institutions being existing nodes in the innovation system of the island on which its further development as a knowledge island can be built.

The geopolitical positioning is illustrated in Fig. 3.

This positioning shows a specialty which makes the Canary Islands (and Tenerife) very specific. Their definitional dimensions are

- geographical: close to the African continent (~ 180 km +)
- political: belonging to the European Union, being part of the Kingdom of Spain. In European Commission's terminology, the Canary Islands are denoted as an "Ultraperipheral Region" of the EU.
- Ethnical and cultural: strong bindings to South / Latin America. Symbolically the famous research voyage of A. v. Humboldt to South America started from Tenerife, where he started his first research excursions. Historically, more emigrants of the Canary Islands went to South America than to the Spanish mainland. Some of them founded their own settlements (e.g. "Little Tenerife"). Today many descendants form those emigrants e.g. from Venezuela re-immigrate back to the islands.

Fig 3: The geopolitical positioning of the Canary Islands and Tenerife in specific

Concentrating on Tenerife the key institutions forming the key structural elements of the knowledge infrastructure are presented in Fig. 4.

Fig. 4 Institutions being nodes in the innovation system forming the IC structure of Tenerife

As in other regions, the cooperation between these institutions is still in its infancy. This observation is quite common in places, where the question on best positioning and competitive advantage (if this term ever may be applied to scientific institutions) is not yet sorted out.

By evidence (not formally proven), the island of Tenerife concentrates its intellectual capital in the following competence domains:

- medical and biomedical research (e.g. through its CIBICAN institute being part of the local university ULL)
- astrophysical research and research services as through its international "Institutp de Astrofíscia de Canarias" (IAC) which also is the platform organization of a large telescope field situated on a high geographical level, covering a broad series of astrophysical projects of highest quality (each managed and largely financed by the home nations of the telescopes),
- oceanography which, due to the geographical position of the island in the mid of the Atlantic, is a natural opportunity for marine research. The Spanish Oceanography Institute (IEO) associated with the Canary Islands Oceanographic Centre has its lab facilities on the island. Their field of activity is the study of the sea and its resources.
- Energy farming, which results from the natural advantage of the "island of eternal spring" receiving a lot of sun, as well as being served with constant winds as an effect from its geographical position within the sea.

Since an island has the characteristics of being a well delimited territory with a structure and an infrastructure in itself, it is an ideal subject to become an experimental platform as a whole system. For this reason, profiling such island by means of an IC analysis (and report) is a natural and thrilling challenge.

22.9 One further future perspective: A network of Knowledge Islands

Islands, especially smaller islands, have their own natural profile given by their geography, their position and thereby logistical challenges and economic as well as their special climatic conditions.
The idea of looking at islands as knowledge islands in a first instance was invented in a project conducted by members of the New Club of Paris (mentioned in several instances of this paper) when they studied the history of Dubrovnik (in former times called Ragusa) in the South of Croatia, reported amongst several sources in [16]. Since the coast of Croatia, the Adria, is crowded with hundreds of islands, one of those participants attending the Ragusa workshops declared one of the islands where he was furbishing a hotel with an advanced technical ICT infrastructure to be a "knowledge island" (which, at best case, it was by the fact that the technological foundations existed at that time in the early years of our century).
The conceptual idea to look at an island as a kind of "living lab" – as was mentioned for the case of Tenerife before - generated the idea to perceive such island as an ideal case study for a "knowledge community". In fiction literature – think of Daniel Defoes Robinson's island, Thomas Morus' Utopia, Atlantis sunk in the sea or the tales about Caribean or Pacific treasure islands etc. – islands preferably play frequently the role of a mysterious projection of human fantasies. In the case of Utopia, such island was designed by its author for an idealized society being different from the real existing ones with all their deficits. Why not to conceive islands prototypes for hosting a Knowledge Society?
In the course of several intellectual events taking place under the auspices of the Humboldt Cosmos Multiversity, communication was built between representatives of islands such as Malta, Puerto Rico, Hawaii, Tenerife, … demonstrating interest in creating communication between their islands under the brand title of "Knowledge Islands".
This paper closes by putting this concept in the picture of a worldwide knowledge society as a framework for future work on the subjects discussed, likely hosted by the Humboldt Cosmos Multiversity, which, in itself, is an emerging node in a network of knowledge communities.

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