International Business and Global Economy 2013, no. 32, pp. 269–286
Biznes międzynarodowy w gospodarce globalnej 2013, nr 32, s. 269–286

Edited by the Institute of International Business, University of Gdansk
ISSN 2300-6102

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Urban development strategies and the knowledge economy. A case of Gdynia, Poland

This paper, drawing on the experience of the Polish city of Gdynia, focuses on urban development strategies in the era of a knowledge-based economy. Given that some doubts have recently been cast over the effectiveness of certain urban policies based on innovation generation and creativity promotion, the study constitutes a voice in the debate on the opportunities and threats facing modern cities. It examines these issues through the prism of central and eastern Europe, which – due to a confluence of various politico-economic factors – is seen as a fertile ground for the promotion of new urban strategies. Specifically, the paper, while highlighting the fact that Poland's nationwide business environment is unsupportive of entrepreneurship and new knowledge creation, shows how the municipal authorities act with a view to advancing Gdynia's development. Hence it makes a contribution to the existing body of literature, thereby deepening our understanding of modern urban development patterns.

Strategie rozwoju miast w erze gospodarki opartej na wiedzy. Gdynia: studium przypadku

Niniejszy artykuł, analizując doświadczenia polskiego miasta Gdyni, omawia miejskie strategie rozwoju w erze gospodarki opartej na wiedzy. Mając na uwadze fakt, że ostatnio podano w wątpliwość skuteczność pewnych strategii opartych na tworzeniu innowacji i promocji kreatywności, artykuł stanowi głos w debacie dotyczącej szans i zagrożeń stojących przed współczesnymi miastami. W artykule analizuje się powyższe zagadnienia przez pryzmat doświadczeń Europy Środkowowschodniej, która – ze względu na kombinację wielu czynników polityczno-ekonomicznych – jest uważana za odpowiednie miejsce do wprowadzania i testowania nowych strategii rozwojowych. W szczególności, w pracy ukazuje się – akcentując przy tym fakt, że polski klimat inwestycyjny nie sprzyja innowacyjności i tworzeniu nowej wiedzy – co lokalni decydenci czynią w celu wsparcia rozwoju Gdyni. Artykuł stanowi zatem wkład do istniejącej literatury przedmiotu i pogłębia zrozumienie współczesnych procesów rozwoju miast.

Keywords: urban development, knowledge-based economy, clusters, innovation, entrepreneurship

Klasyfikacja JEL: R11

Introduction

It is hardly disputable that the emergence of a knowledge-based economy [Smith, 2000; Dolfsma, 2008] and the globe-spanning propagation of information and communication technology (ICT) have dramatically affected today's socio--economic reality. There is also little doubt that it is cities that are greatly exposed to the vagaries of these transformative forces and, at the same time, are particularly well-placed to capitalise on the opportunities offered by the new era [Sassen, 1993, 2001, 2002; Gaspar, Glaeser, 1998; Scott, 2000; Castells, 2001; Graham, Marvin, 2001; Simmie, 2003; Boscheken, 2008]. Consequently, much attention has been paid to exploring the effectiveness of urban (regional) development strategies that, often conceptually rooted in cluster-oriented thinking, focus on innovation generation, knowledge sharing, and close collaboration between local actors. And, unsurprisingly, the question of whether – and, if so, how – these processes are actually beneficial to city residents remains a subject of a heated debate.

For example, some researchers cast doubts over the rationale of urban development policies based on cluster-driven innovation generation and knowledge sharing. In particular, the very concept of cluster has been criticised [Martin, Sunley, 2003]. It is also pointed out that ICT networks can splinter and polarise places due to the existence of 'glocal nodes' within cities that link up with similar areas around the world [Graham, Marvin, 2001]. In this way, metropolitan areas all over the world, *de facto* transcending national boundaries, connect with each other, simultaneously being ever more loosely integrated with surrounding (and less technologically advanced) places. Likewise, the direction of the causality between the creative potential of city inhabitants and urban development has been questioned [Peck, 2005].

It has to be stressed that much of the literature draws on the experience of American and western European cities. Yet relatively little research into the above issues has been undertaken in the eastern European context. And it is widely recognised that eastern Europe in general, and its cities in particular, are regarded both by EU officials and national politicians as a fertile ground for the promotion of pro-growth strategies centering on (cluster-based) new knowledge creation. Regional Innovation Strategies programme, implemented with little success by Poland's authorities in 2004-2006, is a case in point [Zientara, 2008].

This paper, which focuses on the experience of the Polish city of Gdynia, aims to shed new light on the question of urban development in eastern Europe in the era of a knowledge-based economy. To address this issue, we employed the case study method [Eisenhardt, 1989; Yin, 2003], which is considered particularly suitable for answering 'how' and 'why' research questions [Yin, 2003]. More specifically, we drew on a content analysis technique [Neuman, 2003] and carried out

semi-structure interviews [Kvale, 1996] with municipality employees and local entrepreneurs to substantiate our arguments. The study is structured in the following manner. The next section provides a conceptual framework. In it, we discuss knowledge-based urban development, and present the controversy over its mechanisms. We also briefly examine Poland's economy and regionalism to provide background information for further discussion. The subsequent part offers a case study of the city of Gdynia that explores the issues under consideration in the context of an empirical example. Building on these insights, the article concludes by summarising the argument and making some policy implications.

1. Conceptual framework

1.1. Theoretical underpinnings of knowledge-driven urban development strategies

Given that technological progress and free trade are widely regarded as the principal drivers of economic growth and societal development [Barro, Sala-I-Martin, 1995], the capacity to innovate [Porter, 1990] and connectivity to the globalised economic system [Alderson, Beckfield, 2007] have assumed a strategic importance. And it is cities that seem to be particularly well-positioned to capitalise on the opportunities offered by the new era [Sassen, 1993, 2001; 2002; Scott, 2000; Gaspar, Glaeser, 1998; Castells, 2001; Kotkin, DeVol, 2001; Simmie, 2003; Taylor, 2004; Boscheken, 2008]. Indeed, large urban areas situated both in developed and developing countries – being embedded in transnational flows of capital, people, and goods – are thriving, thereby becoming local poles of growth [London is a case in point; Duncan, 2012]. It is fair to say, therefore, that most large cities all over the world are increasingly exhibiting similar characteristics and are undergoing analogous transformations. Taylor [2004] even claims that 'all cities are globalising' [p. 42]. However, it is important to note in this context that urban areas 'are effectively nourished by strong electronic links to a wider world, but simultaneously prize their differences from other places, their local institutions and hangouts, and their unique ambiances and customs' [Mitchell, 1995, p. 170].

This differentiation and preservation of uniqueness are of importance since the *local* – not at all paradoxically – still plays a vital part in a globalised reality. Sassen [1998] points out that 'globalization can be deconstructed in terms of the strategic sites where global processes materialize' [p. 392]. What is more, globalisation, by increasing competition, fosters innovation and speeds up technological change (as firms, to preserve their competitiveness, are forced to innovate on a far larger scale than in the past). From this perspective, of particular importance is the way the urban environment facilitates innovation generation processes [Shefer, Fren-

kel, 1998]. As geographical proximity helps face-to-face contacts and, by implication, tacit knowledge exchange – which is seen to lie at the core of new knowledge creation [Lester, Piore, 2004] – urban areas, with their concentrations of businesses, universities, and local-government institutions, increasingly act as 'milieux of innovation' [Castells, 2001, p. 228]. Scott [2000] points out that 'regional systems of creativity and innovation' emerge from 'dense localized production complexes that function as the essential economic backbone of thriving cities and regions' [p. 16].

This thinking – echoing Storper's [1997] 'holy trinity' of technology, organisation, and territory and Etzkowitz's [2001] triple helix of university-industry-government – is, of course, rooted in cluster-centred conceptualisations [Markusen, 1996; Porter, 2000; Morosini, 2004; Breschi, Malerba, 2005; Cumbers, MacKinnon, 2005; European Commission, 2007; Schilling, Phelps, 2007]. These underscore the role of relations and interactions and, by extension, the value of social networks that facilitate collaboration (tacit technical knowledge is hard to codify, and thus does not lend itself well to being transferred without the existence of trust-based social networks). Indeed, there are many case studies focusing on cluster success stories – with Silicon Valley [Saxenian, 1994] and Orange County to the fore [Scott, 1986; Scott, Paul, 1990] – that highlight the fundamental role of social networks in the formation and development of modern clusters (in developed economies). Indeed, Porter [1998] sees social networks as 'social glue' that binds a cluster together and makes it stronger, while Morosini [2004] regards them as a *sine qua non* condition for a cluster's competitive survival.

In this context, it is necessary to mention the 'small world' concept [Milgram, 1967], which takes as its premise that our society is interconnected by a 'small--world' type of network (whose main characteristics are a high degree of clustering and a short path length between network actors). In practice, this means that actors in a human society – which *per se* constitutes a very large network – are separated by only six degrees of separation or six intermediaries on average. One of the major implications of such conceptualisation is that the 'small-world' arrangement – due to its intrinsic features and properties – constitutes an optimal network structure that encourages trust and, by implication, the exchange of tacit knowledge and the flow of information, thereby supporting innovation generation processes [Cowan, Jonard, 2004; Schilling, Phelps, 2007].

But there is far more to it than that. As is well known, participation in cultural events and interactions during entertainment gatherings support formation of social ties, and cities are usually home to various cultural institutions and entertainment venues. Such constituents of urban space as art galleries, concert halls, sports stadiums, bars, restaurants, cafes, and night clubs, forming the backbone of 'cultural industrial complexes' [Kotkin, 2002, p. 130], attract creative people – or, to employ Florida's [2002] term – members of the 'creative class', who 'engage in work whose function is to *create meaningful new forms*' [Florida, 2004, p. 68]. Even

more importantly, all these amenities – together with such culture-oriented events as film festivals and concerts [Kotkin, 2002] – encourage exchange of ideas and views by facilitating interactions (face-to-face contacts). In this way, they contribute to the creation of an atmosphere supportive of new knowledge generation. California's Silicon Valley has proved to be the world's most successful cluster not only thanks to the famous spirit of entrepreneurship and the enthusiastic celebration of creativity, but also, critically, thanks to its unique cultural ambiance [Saxenian, 1994]. Indeed, trend-setting music concerts, showbiz glamour events, and *avant-garde* art exhibitions have always been part and parcel of Californian experience. It follows that the significance of this cultural dimension should not be underestimated while designing urban development strategies.

1.2. The controversy over the rationale of knowledge-based development

However, many of the arguments underpinning the aforesaid theories and discourses have come in for criticism. Specifically, serious doubts have been cast over the rationale of urban (or regional) development strategies based on cluster-driven innovation creation, knowledge sharing, and culture-focused creativity. Martin and Sunley [2003], while directly referring to Porter's conceptualisation of the cluster, employ the word *chaotic* and emphasise the 'fuzziness' of the definition. Specifically, they assert that:

> Porter's cluster metaphor is highly generic in character, being deliberately vague and sufficiently indeterminate as to admit a wide spectrum of industrial groupings and specialisations […] Rather than being a model or theory to be rigorously tested and evaluated, the cluster idea has instead become accepted largely on faith as a valid and meaningful 'way of thinking' about the national economy [p. 9].

Pietrzyk [2000] points out that the cluster-related nomenclature, being marked by a high degree of subjectivity and arbitrariness, is 'replete with interchangeable notions' [p. 54]. Sometimes, the very existence of concrete clusters is put into question [BISER, 2002]. Furthermore, some suggest that the innovation created in high-tech clusters – rather than spilling over to less technologically-advanced surrounding areas – is likely to enter the global network and thence being transferred elsewhere [Castells, 2001]. Related to this, it is argued that ICT networks can splinter (and polarise) places due to the existence of 'glocal nodes' within cities that link up with similar areas around the world [Graham and Marvin, 2001]. In this way, metropolitan areas all over the world connect with each other, simultaneously being ever more loosely integrated with neighbouring places.

Also, it is suggested that innovation generation should be seen as a *multi-scalar* phenomenon, in which the territory or place is just one of the determining dimensions. It follows that innovation processes not only cut across different scales, but also involve non-territorial (sectoral) factors. Oinas and Malecki [1999] capture the

multi-scalar nature of innovation in their functional concept of spatial innovation systems, which refers to 'overlapping and interlinked national, regional, and sectoral systems of innovation which are all manifested in different configurations in space' [p. 10].

MacKinnon *et al*. [2002] suggest that, although the focus on knowledge and learning is highly relevant, most analyses fail to adequately ground the arguments in empirical inquiry. In a similar vein, Hudson [1999] highlights the limits to learning-based development. Moreover, Shalley *et al*. [2004] put into doubt the actual usefulness of creativity and its link with innovation. Referring to managerial experience, they ask a number of provocative questions such as 'how does creativity connect with innovation?' and 'are there negative unintended consequences of creativity?' [p. 952]. And they move on to say that 'we have discussed creativity as though it were a desired outcome that had many benefits for organisations' [Shalley *et al*., 2004, p. 952]. For similar reasons, Florida's [2002] concept of the creative class has been criticised [Peck, 2005; Scott, 2006]. Some researchers argue that in a knowledge-based economy it is *educated* – rather than creative – classes that count. Likewise, the direction of the causality between creativity and urban development has been questioned. In this sense, Peck [2005] claims that:

> Cultural ephemera may follow growth, rather than cause it. And loose correlations between economic development and certain cultural traits may be no more than contingent, or easily challenged by counterfactual cases. This is the Las Vegas critique: high growth, lousy culture, how come? [p. 20].

Well-substantiated as all these critical remarks might appear, they should not be unproblematically accepted either. To start with, even though cluster thinking may be marked by certain fuzziness and inadequate conceptual grounding, there is no gainsaying that in many places all over the world growth-driving and innovation-spurring clusters do exist [European Commission, 2007]. It is already well-known, for instance, that London has a major global financial cluster [Duncan, 2012], while Raleigh, Durham, and Chapel Hill (North Carolina, USA) constitute a dynamic bio-tech cluster. Let us also quote Porter [2007], who points out that:

> […] Cluster policy seeks to reduce constraints and encourage externalities to raise the productivity of competition. […] There are literally hundreds of cluster initiatives all over the world today that are pursuing varying approaches to public-private collaboration to improve the business environment. […] While some of these initiatives will have limited impact, and a few may do harm […], there are strong reasons to believe the cluster/region level will be a growing focus of economic policy [Porter, 2007, pp. 20-21].

Pertinently, the multi-scalar nature of innovation argument, which, to repeat, somehow plays down the significance of the territory and the local scale, is also vulnerable to criticism. However accurately this theoretical construct might reflect the nature of the innovation creation process in the case of bigger companies, it seems debatable to unproblematically apply it to small businesses. This is because

for many SMEs, whose scope of operation is often limited to the local milieu, it is their city (or region) that still matters most. That is not to say, of course, that they have little contact with an international, 'borderless' environment. Indeed, thanks to ICT, they are perfectly capable of maintaining strong international links; still, in practice, SMEs operate chiefly in the local milieu and generate innovation thanks to place-based co-operation. In other words, for most small businesses local links are of greatest importance. This implies that, while it is legitimate to speak of the *global* scales of innovation space in the case of multinationals operating across the world, in the case of SMEs it seems more appropriate to speak of the *local* scales of innovation space.

Furthermore, even if the very notion of the creative class comes across as controversial, it is equally problematic to argue that it is the *educated* class, rather than the creative class, that plays a critical part in a knowledge-based economy. Admittedly, one can hardly deny the universally-recognised significance of education (which produces scientists and engineers) for technological progress. But the relationship between education and creativity is not unambiguous. This is because an ossified, backward-looking education system [OECD, 2008a; Zientara, 2009] – rather than encouraging creative thinking and promoting innovative ideas – may well stifle them (besides, there are many successful IT professionals, including hackers, whose know-how and competence are the result of passion rather than university education). It follows that creativity is not – and has never been – the preserve of the educated only [OECD, 2008b; Zientara, 2009].

All this is of great importance since eastern European cities are regarded as a fertile ground for the promotion of pro-growth policies focusing on new-knowledge generation. With all this in mind, let us move on to present basic information on Poland's economy and regionalism, which will provide necessary background for further discussion.

1.3. An overview of Poland's economy and regionalism

Poland is a country that had experienced communist one-party rule, which – by suppressing democracy at local and national level, and restricting economic freedom – was *ex definitione* hostile to creativity, innovation, and entrepreneurship [Balcerowicz, 2003; Siemianowicz, 2006; Zientara, 2009]. Crucially, however, after two decades of on-and-off reformist efforts, the Polish economy is neither business-friendly nor innovative [Forbes, 2009; Heritage Foundation, 2011; PRO INNO Europe, 2011; World Bank, 2011; World Economic Forum, 2011]. More specifically, the country occupies 68th position in the Index of Economic Freedom [Heritage Foundation, 2011] and 41st in the Global Competitiveness Index [World Economic Forum, 2012]. Being ranked 62nd, it fares badly in terms of ease of doing business [World Bank, 2012]. Equally revealingly, Poland is ranked 26th out of 36

countries on the Summary Innovation Index and 22nd out of the 27 EU Member States [PRO INNO Europe, 2011]. Finally, Poland occupies 69th place in the Network Readiness Index [Forbes, 2009], which measures the propensity for countries to exploit the opportunities offered by ICT.

In 2010, public spending on R&D amounted to 0.41% of GDP [PRO INNO Europe, 2011]. Tellingly, in the same year, business spending on R&D reached a paltry 0.18% of GDP, while only 13.76% of SMEs carried out in-house innovation. Critically, a remarkably low number of patents was filed to the European Patent Office: only 0.31 patent applications per billion GDP in PPP/euro (one of the lowest scores in the entire Community). Likewise, Poland's university education, which – being 'inward-looking' and 'backward-looking' [OECDa, 2008, p. 46] – is institutionally and mentally rooted in communism [Zientara, 2009]. Rote learning is still favoured, with little stress being placed on intellectual non-conformity and creativity (conditions *sine qua non* of innovation generation) as well as practical skills. In sum, Polish tertiary education is 'insufficiently responsive to the diverse needs of the present-day economy and society' [OECD, 2008a, p. 46].

The fall of communism not only triggered economic reform, but also initiated power devolution to regions. In 1989, local self-government was re-established [Szomburg, 2001]. This was based on the premise that in a truly democratic society people living in cities and regions have the right to make decisions that shape their local environment. In 1999, a major reform of Poland's territorial organisation was implemented, whereby 49 regions – deemed undersized and economically weak – were liquidated. In their place, 16 medium-sized regions were created. The idea was to set up fewer but stronger regions on a par with their EU counterparts [Pietrzyk, 2000]. In this context, Christopoulus [2006] claims that the territorial reorganisation opened a new chapter in the history of regional devolution [p. 367]. Nevertheless, it is fair to say that the reorganisation stopped somehow in the midway since, in fact, too few prerogatives were granted to local authorities [Zientara, 2008]. As a result, Polish regions – and, by extension, cities – have a (comparatively) low level of autonomy [Christopoulus, 2006, p. 373]. Such is the background against which we present the case study from the city of Gdynia.

2. Case Study

2.1. Gdynia: background information

Gdynia, which was set up in 1926, is located in Pomorskie region (or Pomerania), situated in the north of the country. The city, which is a big Baltic Sea port and an attractive tourist destination, forms – together with Gdańsk and Sopot – one metropolitan area called Tricity. It is important to note that Gdynia, with

248.702 inhabitants, is Poland's 12th biggest city. Although it is not a regional capital, Gdynia, being one of the most prosperous cities in the country (with GDP per head at approximately 150% of the national average), is marked by very low unemployment (3.1% in 2009) and lower-than-average poverty rates. Critically, it is seen as one of Poland's most attractive cities in terms of business-friendliness and living conditions. One of the reasons for the top places is the pro-business attitude of the municipal authorities.

It needs to be reiterated that Polish local authorities' discretion to encourage individual enterprise and facilitate economic activity is limited [Zientara, 2008]. They can simplify some bureaucratic procedures related to the preparation of a site and can exempt big investors from paying some local estate taxes, but they are unable to cut red tape and non-wage labour costs. That is not to say, though, that there is no scope for shaping individual development policies. Indeed, despite the constraints, municipal authorities do devise and implement innovative pro-growth strategies. And, as will be shown below, Gdynia decision-makers have come up with a two-prong strategy. It is based on support for entrepreneurialism and innovation generation as well as on promotion of large-scale cultural events. The Pomeranian Science and Technology Park (PSTP) is the centrepiece of this strategy.

2.2. The beginnings and functioning of the Pomeranian Science and Technology Park

The PSTP was jointly set up in 2001 by the municipal authorities (with the mayor and deputy mayor of Gdynia to the fore) and the Pomeranian Center of Technology with the aim of encouraging entrepreneurship, stimulating innovation and promoting co-operation between local agents (businesses, universities, R&D institutions). Two separate bills – the law of 12 December 1991 and the law of 29 August 2003 – constitute the legal basis for establishing technology parks in Poland. The latter law defines the technology park as a compound of buildings set up to facilitate – by a variety of means – the flow of knowledge and technology between scientific institutions and individual entrepreneurs. In fact, the PSTP is a combination of a high-tech innovation hub with a business incubator. Its functioning is financed from municipal (public) money (still, the project to expand the PSTP infrastructure, currently under way, is funded by the EU). The Park is managed by a municipal entity, called the Gdynia Innovation Centre (GIC).

More specifically, the PSTP provides support to more than 80 innovation-focused start-ups and SMEs [Innovative Gdynia, 2009], which operate in such sectors as ICT or biotechnology (see Table 1). They can benefit from 10 hours of free services. These encompass: (1) legal and accounting aid; (2) technology and management consulting; (3) training for staff; (4) access to venture capital and

bank loans; (5) data base administration; (6) preparation of applications for EU funds; (7) intermediation between firms and potential customers and scientists; (8) marketing and public-relations support [Polish Agency for Enterprise Development, 2008, p. 103]. Even more importantly, all PSTP-based businesses pay a monthly rent that is below the market rate and are offered access to a biotech lab with a state-of-the-art equipment. Moreover, the GIC organises trade conventions in which PSTP firms can freely participate as well as actively fosters (also through less formal channels) co-operation with university establishments (in particular, with Gdańsk University of Technology).

Table 1. Selected PSTP-based companies

Company name	Sector	Profile of activity
A&A Biotechnology	biotechnology	Isolation of nucleic acids (DNA, RNA), protein purification, enzymes
Cerko	biotechnology	Dermo-cosmetics for skin with problems, CERKO LAB SYSTEM for measurements and control
DNA-Gdańsk	biotechnology	PCR, RT PCR reagents, molecular diagnostics, educational kits, seminars
IMMUNOLAB	biotechnology	Animal salmonellosis vaccines
Ester Eko – Energia Polska	environmental protection	Renewable energy from thermal decomposition (gasification) of municipal waste
Eurolak	environmental protection	Infrared radiators, powder painting of thermo-sensitive materials
Bilander IT	ICT	Business Intelligence, operational data analysis, workflow management
Cama-Soft	ICT	System of cash management in cash dispensers based on Artificial Intelligence
EXTEND.PL	ICT	Online management systems, CRM systems, wind turbine monitoring systems
IVO Software	ICT	IVONA speech synthesizer for business and home application and rehabilitation of visually impaired people
InteliWise	ICT	Innovative software based on Artificial Intelligence algorithms used in the creation of intelligent avatars
MpicoSys	ICT	Microelectronic systems, solutions implementing flexible display technologies
Sphere Research Labs	ICT	Remote education automated systems, intelligent testing of skills and qualifications for HR, outsourcing of programming services
TeleMobile	ICT	Comprehensive service of base transceiver stations from the repair of individual base-station components to a full swap repair service
TeleNet1	ICT	Provision of voice and data transmission services based on the MediaPHONE system

BBS Design	design	Accessibility, building adaptations and interior orientation systems
Micro Art Studio	design	Application of resin composites low temperature melting metals and non-iron metal in design
Esy-floresy pracownia animacji	media	Animation, films, and TV graphic design, cartoons, multimedia
Sounds Great Promotion	media	Recording studio, music composition, advertising, film post-production
Euro-Tech	robotics	Designing, optimisation, modernization and automatization of production processes, machinery, and industrial installations replacement

Source: [Innovative Gdynia, 2009].

Among PSTP-based businesses, three companies are particularly prominent: IVO Software, InteliWise, and MpicoSys. InteliWise makes one of the most technologically advanced artificial-intelligence software in the world (its Avatar for Business, being a 'Virtual Human' application, allows the user to interact with a website through human-like dialogue). MpicoSys works on chip cards with an embedded flexible screen. Yet of particular interest is IVO Software, which is one of Poland's few internationally-recognised high-tech firms. It specialises in the production of speech synthesisers. The company's synthesiser, 'Speaker Mobile', was used in mobile phones designed for the blind and the hearing-impaired. In 2004, this technological innovation earned IVO Software the 'Gdynia without Barriers' Award, which is conferred by the municipal authorities to those who contribute to ameliorating the quality of life of the disabled. In 2004, IVO Software launched 'Intelligent Web Reader', a web browser that reads out (with a synthesised voice) the contents of websites, which enables the blind to use the internet. Yet the company's biggest success is IVONA, a new-generation speech synthesiser, whose vocalisation quality is comparable with the human voice. The English-language version of IVONA won twice the title of the best speech synthesiser in the world in the Blizzard Challenge competition (in 2006 and 2007), outdoing the IBM and Microsoft synthesisers [Innovative Gdynia, 2007, p. 8].

2.3. The philosophy of the Pomeranian Science and Technology Park

All this implies some degree of excellence. Indeed, out of Poland's 32 science and technology parks, the PSTP comes top on eight indicators in the 2008 ranking [Polish Agency for Enterprise Development, 2008, p. 105]. But there is far more to this than meets the eye. The PSTP stands out amongst other Polish parks for its unique philosophy. It is not only an entrepreneurship-cum-innovation centre but, above all, a *space* with an extraordinary atmosphere that integrates business and science with education and culture [interview with Edyta Depta, vice president of

GIS, on 8 July 2008]. This manifests itself in various forms and dimensions. First, the spirit of 'co-opetition' is fostered. This is done also through so-called 'idea islands', that is, special places where staff from PSTP businesses can meet and chat. The islands, coupled with the aura of togetherness, openness, and dynamism, are designed to provide the context or *ba* (which facilitates tacit-knowledge exchange). As Peltokorpi *et al*. [2007] note, *ba* designates not just a physical space, but also a specific time-space or the *relationships* between people in that particular time-space [p. 53].

Thus, the PSTP-specific *ba* is reinforced by cultural and artistic events regularly organised by the GIC. In the words of Edyta Depta, 'we want to promote creativity and nonconformist thinking' [interview on 8 July 2008]. These include modern-art exhibitions, jazz concerts, or workshops for young film-makers and architects. Indeed, 'this place vibrates with life' [interview with Tomasz Jaśkiewicz, vice president of TELEnet1, on 8 July 2008]. Andrzej Belczak, vice president of Cama-Soft, said that if it had not been for the Park, his company would not exist [interview on 22 October 2008]. And he went on to say that at the beginning 'PSTP employees had gone to great lengths to help us […] they really wanted you to grow dynamically'. Equally importantly, the GIS set up the EXPERYMENT Science Centre, which – being part of the creative NET project – is meant to serve as an inspiration for young innovators and explorers. The centre is based on the premise that interaction, fun, and individual hands-on experience are the best ways of learning science. Children are therefore encouraged to touch laboratory equipment and to do experiments themselves [Innovative Gdynia, 2007, p. 11]. This stands in contrast to the way science is taught in Polish primary and secondary schools, where rote learning and boring theory-oriented classes are the norm [OECD, 2008b].

As mentioned above, the success of the PSTP would not be possible if it were not for the involvement of the mayor and deputy mayor of Gdynia. But one needs to recognise that this does not come down only to money. 'Many things would not have been achieved without the knowledge, engagement, and willingness of [Gdynia's] deputy mayor' [interview with Edyta Depta on 8 July 2008]. 'The Park is the mayors' top priority and they go to great lengths to perfect its functioning' [interview with Tomasz Jaśkiewicz on 8 July 2008]. It follows that they are indeed the *spiritus movens* of the entire initiative. However, it has to be stressed that, according to one of the interviewed entrepreneurs, the municipal authorities favoured some companies over others when allocating office space [interview with Marek Trojanowski, vice president of InteliWISE, on 17 September 2008]. While unequivocally acknowledging the merits of the PSTP, he went on to say that this bred acrimony between entrepreneurs.

2.4. Other constituents of Gdynia's development strategy

The authorities do not limit themselves to supporting the PSTP, but also try to foster co-operation-driven innovation creation by other means. For instance, the authorities set up the Gdynia Centre for Promotion of Entrepreneurship, whose aim is to facilitate entrepreneurial activity by, among much else, cutting (wherever possible) red tape [interview with Krzysztof Romański, a municipality employee, on 14 July 2008]. Also worth mentioning is the city's flagship programme called 'Entrepreneurial Gdynia'. Within its framework, a yearly project 'Gdynia Business Plan' has been implemented since 2003 [interview with Jerzy Sontowski, a municipality employee, on 4 July 2008]. It is addressed to would-be entrepreneurs and small-business owners. They submit business plans whose viability is then assessed by a panel of experts. 'Gdynia Business Plan' provides support for all participants in the form of: (1) training (ICT literacy and management); (2) free accounting services; (3) city-warranted credit guarantees; (4) administrative fee exemptions; (5) soft loans for disabled entrepreneurs; (6) free MBA and Business English courses for the authors of the most promising business plans.

Furthermore, in 2006, a project called www.innowacje.gdynia.pl was launched [interview with Krzysztof Romański on 14 July 2008]. Its main objective is to facilitate knowledge exchange between businesses, universities, and R&D institutions. The centrepiece of the initiative, which focuses on four target areas (environment protection, the maritime industry, bio-tech, and ICT), is the internet portal [www.innowacje.gdynia.pl] which serves as a vehicle for developing collaboration between local actors (under the aegis of the city). Although co-operation with maritime-sector representatives has been neither smooth nor productive, a lot has been achieved in the area of university-municipality collaboration [interview with Krzysztof Romański on 14 July 2008]. This hold true, in particular, for the Department of Transport and Logistics at the University of Gdańsk and Higher School of Administration and Business in Gdynia (which bares the name of Eugeniusz Kwiatkowski, one of Gdynia's founding fathers). Of course, as already indicated, Gdańsk University of Technology actively co-operates with PSTP-based businesses.

And the promotion of co-operation manifests itself in other forms, too. The city hosts a convention called 'International Economic Forum Gdynia' [modelled, *toutes proportions gardées*, on Davos Economic Forum]. This international event, which has been held every year since 2000, constitutes an attempt to encourage knowledge exchange far beyond the regional scale. In other words, the idea is not only to debate current socio-economic issues, but also to enable local entrepreneurs and researchers to establish relations with their counterparts from other countries. The convention lasts two days, during which, first, issues of global character are debated (such as climate change or energy policy) and, later, concrete regional

problems (such as the construction of an airport) are tackled. Suffice is to say that the forum participants included such well-known figures as Hernando de Soto.

As for cultural events, every year Gdynia hosts one of Europe's biggest rock festivals, namely, *Heineken Open'er Festival*. So every summer thousands of music fans – not only from Poland, but also from Europe and America – come to Gdynia to attend a series of *Heineken Open'er Festival* concerts. What is more, and no less spectacularly, Gdynia is also the host city of *The* Tall Ships' *Races*, which is regarded as the largest and most important event in the sailing world. This well-publicised event also attracts visitors from all over the world who, while enjoying the impressive scenery, boost Gdynia's tourism-related businesses. Furthermore, every year Gdynia hosts the *Polish Film Festival*, which is the most prestigious competition for Polish filmmakers and a powerful draw for cinema-goers from all over Poland. It has to be stressed in this context that the city co-sponsors and provides part of the funding for the above-mentioned events. It also supports financially the functioning of theatres, galleries, museums, and sports clubs. All this implies that Gdynia is a place that successfully accommodates the creative class.

Symptomatically, the residents of Gdynia appear to be satisfied both with the way the municipal authorities manage their city and the philosophy of entrepreneurship and co-operation they espouse: in 2010 the mayor of Gdynia was re-elected with a nationwide record of almost 88% of the votes [National Electoral Office, 2011]. No Polish mayor has ever been elected (twice) into office with such a high score.

Conclusions and policy implications

It is hoped that this paper will deepen our understanding of the processes of urban development in the age of a knowledge-based economy. We believe that – by drawing on the experience of a dynamic, entrepreneurial, innovation-oriented city situated in a post-communist economy – the paper offers a number of informative insights, which might be of interest to practitioners and theoreticians alike. Our case study should not be seen as an uncritical, PR-inspired account of Gdynia's municipal authorities. Rather than that, it demonstrates that local elected decision-makers – despite a centre-imposed nationwide environement unsupportive of entrepreneurship – can successfully capitalise on new-era opportunities. In this sense, it is fair to say that if it had not been for their involvement and assistance, IVO Software probably would not have become Poland's best-known high-tech company that effectively vies with such giants as Microsoft and IBM.

Indeed, the reason we have focused so much attention on the Pomeranian Science and Technology Park is that it is not only one of the greatest achievements

of the municipal authorities, but, above all, stands out amongst its Polish counterparts for its holistic approach which integrates science, innovation, entrepreneurship, culture, art and education. The PSTP is a *space* that embodies the ideal of an interaction-driven co-operation between various local actors. At the same time, it demonstrates in a *contrastive* manner what should be changed at the level of the economy at large.

What is needed is a re-orientation of nation-state policy. Such a shift would entail improving the country's business climate. This could unfetter the entrepreneurship of Polish citizens. A lower overall tax burden and less red tape would also allow SMEs to invest more in R&D and ICT. In this way, the promotion of local-level innovation-focused collaboration – via, *inter alia*, science and technology parks – would be far more effective. Furthermore, there should be a re-prioritisation of government spending: more money should spent on R&D, ICT deployment and education. But this would have to be accompanied by a profound reform of the entire education system. That would involve modifying curricula, with far more stress laid on creative thinking, hands-on experience and individual analysis.

The present paper substantiates the claim that large cities are particularly well-positioned to benefit from modern-day processes. By shedding light on the initiatives undertaken by municipal decision-makers in a former communist country, it shows that patterns of development as practised and identified in the West might as well work in the East. Of course, we have employed a qualitative approach; much more (quantitative) research is needed to substantiate some of the claims made in the course of this paper. Thus, it is hoped that this study will prompt further investigation into the issues at hand.

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