

“Ukraine's global strategy in the post-crisis economy: developing an intelligent nation to achieve a competitive advantage”

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Abstract

Ukraine obtained its independence on August 24, 1991. The country has had difficulty capitalizing on its well educated human capital, its abundant resources and its strategic trade position between two major markets, the European Union (EU) and the Commonwealth of Independent States (CIS). This paper assesses the political, business and academic climate in Ukraine and whether collaboration among these stakeholders can be achieved to create a nation of intelligent communities enabling Ukraine to have a competitive advantage in world markets. The September 2010 release by the World Economic Forum of its Global Competitiveness Report 2010-2011 indicates that Ukraine's competitive ranking is 89 of the 139 countries profiled. The political turmoil the country has experienced makes it difficult to find consensus among politicians as to what strategic direction the country should follow. A result of this turmoil is the lack of government assistance to improve the competitive capabilities of the business community. Technology enhancement, for example, is not a priority in Ukraine yet technology is a major driver on the competitive playing field. This paper focuses on technology, specifically the development of a nation of intelligent Ukrainian communities linked by an open access high speed ultra broadband network, to enhance Ukraine's competitive capabilities.

Keywords: Ukraine, intelligent community, competitive advantage.

Introduction

The recent global economic and financial crisis was especially severe in Ukraine, provoking a deep recession and falling living standards. Decline in demand for steel products had devastating consequences for the country which is a major steel exporter. At the same time the impact of the crisis deepened as a result of pre-existing economic and financial vulnerabilities. The political chaos and power struggle between President Yushchenko and Premier Minister Tymoshenko that characterized the years following the so-called Orange Revolution did little to improve the situation. During 2009 Ukraine's GDP fell 14 percent and national debt increased. As noted by Round and Williams (2010), the effects of the crisis were most strongly felt among the most vulnerable members of society as prices of basic foodstuffs rose and social reimbursements were not adjusted accordingly. Even though controversial, the election of Viktor Yanukovich as president of Ukraine in February 2010 has brought more political stability to the country and the economic situation has, to some extent, improved. In the first quarter of 2010 real GDP grew, and after being suspended twice in 2009, cooperation with IMF was resumed in 2010 when a 15 billion USD Stand-By Arrangement (SBA) for Ukraine was approved (International Monetary Fund Press Release, 2010). Economic recovery is slow and dependent upon developments in world markets as well as the new government's ability to implement much needed economic and institutional reforms.

In light of the above this paper introduces the concept of "intelligent communities" and initiates a discussion about how, and if, the creation of such communities could benefit economic development in

Ukraine. An intelligent community is a community that effectively blends the latest relevant advances in information and communications technology with its social, economic and environmental ecosystems in order to provide opportunities and benefits for its citizens, businesses and institutions. According to a recent report by the Vienna Institute for International Economic Studies (2010), Ukraine should have the ability to attract an increased amount of foreign investment as the country offers a lucrative combination of a highly qualified and cheap workforce and proximity to EU markets. Hence this might be a good time for contemplating what development in Ukraine might gain from having an intelligent community strategy.

The few countries that have established intelligent communities have proven that they not only create faster economic growth and employment than their neighbors but they also stimulate business and social innovation. Rosabeth M. Kanter, Professor of Business Administration comments that "Perhaps the urgency of the current economic crisis can provide the impetus [in some countries] to overcome resistance to change and turn problems into opportunities to reduce costs, improve services to communities and make cities smarter" (Kanter, 2010).

Purpose. The purpose of this paper is to analyze the socio-political climate in Ukraine and the impact it has on the country's ability to compete in global markets. In addition, the paper introduces the concept of intelligent communities – a strategy to strengthen the country's economic development and give Ukraine a competitive advantage in global markets.

Methodology. Methodologically the study is based on qualitative research relating to competitive advantage as well as primary research in Ukraine and original and innovative applications of intelligent communities.

Findings. Ukraine has the resources to become an intelligent nation, however, the socio-political situation in the country does not presently portray itself as being at the collaborative stage which is essential to building an intelligent nation.

Practical implications. Support by government to provide the infrastructure for intelligent communities. Upon assurance of this support an Intelligent Community Council of leaders from government, business and academia is convened for each industry relevant to a region within the country. Intelligent communities are then structured and strategic plans are developed.

1. Literature review

Albert, Flournoy & Labrasseur (2008) discusses best practices in developing intelligent communities that allow leaders in government, business and academia the opportunity to connect with each other to build and achieve a sustainable collaboration. Castells (2000) discusses the mechanics for transforming communities through networking. Kanter and Litow (2009) call for leaders to use technology to inform and connect people. They advocate for the creation of smarter communities that are information rich, interconnected and able to provide opportunities to all citizens. According to Krugman (1994) the only way to be competitive is to form partnerships between government and business. Phambuka-Nsimbi (2008) concludes in her paper that clustering has become a major strategy to instill innovative measures among businesses to improve their competitiveness and survive in global markets.

Porter's 'theory' of the competitive advantage of nations was reviewed in its entirety. His diamond framework discusses the competitiveness of countries and country sources of competitive advantage.

According to Raisinghani knowledge management involves the development of advanced technology that provides the resource for superior decision-making.

2. Ukraine background

Ukraine occupies the largest geographic area in Europe and has an estimated population of 46 million, three-quarters of whom are ethnic Ukrainian and approximately 22% are Russian. Other major ethnic groups represented include Belarusians, Moldovans, Crimean Tatars and Bulgarians. Since independence the official language is Ukrainian, however, Russian is still widely used especially in the eastern parts of the country. Ukraine relies heavily on its natural resources to drive the economy. These resources consist mainly of large mineral deposits, coal, grains and sugar. Exports are inclusive of these resources as well as transportation equipment, machinery and other industrial products.

Ukraine was admitted to the WTO on May 16, 2008 which dramatically opened the country's opportunity to export. Record amounts of FDI (foreign direct investment) entered the country over the past several years which, prior to 2008, totaled US\$29 billion. However, the global financial crisis slowed FDI in 2008 and further slowed it in 2009.

Ukraine's GDP fell 14 percent and national debt increased by 59 percent during 2009. Newly elected president Victor Yanukovich has vowed to lift the country out of its economic crisis. Ukraine has been, and still is, faced with corruption and weak laws. The court system is flawed discouraging many foreign investors. Businesses suffer from over regulation and too much government involvement in their strategic decision-making. Although past President Victor Yushchenko made some improvements in the business climate, particularly relating to the ease of starting a business as well as the ease of conducting business, the present investment and business climate is poor and the country remains in an economic crisis. The newly elected president Viktor Yanukovich appointed Mykola Azarov as prime minister, whose name, in some circles, is synonymous with government corruption, ruinous taxation rates and hostility to small business (Motyl, 2010). A recent Commonwealth of Independent States (CIS) report noted that Ukraine's economy was falling twice as fast as the CIS average and four times as fast as Central Europe. Additionally, industrial output in the country was down a stunning 32% during the first quarter of 2009.

The buoyant economy, the bubble, Ukraine enjoyed over the years prior to 2008 has burst. FDI has dried up and prices for its major export commodities have declined. Ukraine did not require an economic strategy to prosper while FDI was pouring in and metal prices, in particular, were rising. Still, today, the country does not have a strategy for economic growth. It is critical, and time is of essence, that the country devise a strategy that includes legal reform, less regulation, less government interference and a simpler and less burdensome tax system. According to a rating system that investigates the ease of paying taxes the Ukraine ranks 180th out of 181 countries.

Ukraine is now waking to the fact it must work toward a more favorable business climate to not only attract FDI but also to allow businesses to operate without the bureaucratic and regulatory burdens they are presently faced with. Businesses must also face the fact they operate in a global environment and they need to be responsive to global markets. Similar to what companies are faced within other countries, companies within Ukraine must trim costs and improve efficiencies to be globally competitive. This often means downsizing and certainly means careful evaluation of the supply chain to eliminate all non-

essential costs, all redundancies as well as maximizing productivity. In order to manage supply chains effectively they need to be equipped with appropriate information software to provide necessary information, such as inventory and schedules in real time.

Volodymyr Lanoviy, president of Market Reforms Center and a former economics minister discounts government action, thus far, in giving subsidies to industries to improve their capabilities to compete globally. "No subsidies will help these enterprises as they don't use new production techniques and so don't have prospects on international markets," Lanoviy remarked (*Kiev Post*, June 19, 2009). According to Oleksandr Shlapak, first deputy head of the presidential secretariat, Ukraine has failed to combat the global economic crisis and, in fact, has shown itself to be weaker than other countries facing the crisis. "We do not see such a steep decline in industrial production in any other country," Shlapak said. (BBC Worldwide Monitoring, July 16, 2009). He estimates the decline of Ukrainian exports in July, 2009 to be about 60% from the previous year.

Since Ukraine gained its independence on August 24, 1991 it has had difficulty capitalizing on its capable human capital, its abundant resources and its strategic geographic trade position between two major markets, the European Union (EU) and the Commonwealth of Independent States (CIS). Clearly the country needs to readjust policies to enhance the economy. However, the political turmoil the country presently faces makes it difficult to find consensus among politicians as to what strategic direction the country should follow. Ukraine's competitive position lags significantly behind most recent EU Accession countries and behind CIS member countries such as Russia, Kazakhstan and Uzbekistan. In fact, the 2008 World Economic Forum reports that the Ukraine's overall competitiveness ranked 73rd out of 131 countries, (Ukraine Competitiveness Report, 2008).

A project carried out annually titled, "Ukraine Business Enabling Environment Project" outlines the following urgent need for reform in the country.

Public and private institutions in the Ukraine rank 115 out of 131 countries and are the weak spot in Ukraine's competitiveness landscape. Reform in this area should be a priority. This is important because a well-functioning institutional framework is critical at Ukraine's current stage of development. Public institutions are opaque and inefficient, plagued by corruption and favoritism; an efficient legal framework is lacking; and weakly defined property rights affect business operations. Because the overall weak security situation in the country imposes unnecessary costs on business, the issue of unreliable police services must be addressed. Underdeveloped private institutions are among the most serious competitive

weakness of the Ukraine and the issue of weak corporate governance standards should be addressed urgently. These issues (in particular) undermine investor confidence (Ukraine Business Enabling Environment (BEE) Project, 2009).

At present the International Finance Corporation (IFC) is involved with a project to create a favorable environment for the development of small and medium businesses and to improve the overall investment climate in Ukraine. The objectives of the project are:

- ◆ To streamline and simplify business inspections and business permits for small and medium enterprises.
- ◆ To simplify technical regulations, i.e., standardize.
- ◆ To monitor the business environment through representative surveys.
- ◆ To conduct outreach, information and advocacy work to ensure adoption and implementation of reforms.

This project is working in consort with Ukraine's government. The task is monumental as most procedures in place in Ukraine still relate more toward the Soviet "command and control" economy rather than toward the present global economy.

Vice-President of the United States, Joe Biden, on a July, 2009 visit to Ukraine talked about energy freedom. "Your economic freedom depends on your energy freedom more than on any other single factor". The Ukraine presently obtains 70% of its gas requirements from Russia and is struggling to meet monthly payments to OAO Gazprom who has all but shut off gas supplies three times during the past three years. Although the reason generally accepted for the gas restrictions is price disputes author Norm Bedford was given the impression by a government official that one of the reasons is Ukraine has been stealing gas. Biden promised U.S. support for Ukraine on the apparent conditions that the country overhaul its energy system (Ukraine uses energy only one-third as efficiently as the European average), fight corruption and build lasting political institutions.

An additional freedom at stake now in Ukraine is the freedom of speech. Under a proposed Article 34-1 change to the Constitution "the use of mass media to misinform society and for anti-constitutional purpose" would be forbidden. Such information "is prohibited and shall be punishable; licenses of the mass media disseminating such information shall be revoked by a court decision without the right to reinstate" (*Kiev Post*, June 19, 2009). Diana Dutsyk a political observer with the Ukrainian Center for Independent Political Research indicates, "It is hardly possible to overcome the economic crisis by restricting political freedoms. In the modern world political freedoms are the institutional means of ensuring other fundamental freedoms, including economic ones".

The 2004 Orange Revolution set the stage for a positive attitude toward freedom in Ukraine. Dutsyk notes that freedom will determine Ukraine's place on the geopolitical map and its prospects for the future.

3. Ukraine's current competitive global situation

Personal interviews and research in Kiev as well as research of current literature have led author Norm Bedford to conclude that Ukraine does not have a current strategy to compete globally. Ukraine is considered a "transitioning economy", however, transition is occurring very slowly. Reforms such as legal and tax are not moving ahead and are impeding the ability of businesses to compete. An additional burden on business is the high level of corruption in the country causing companies and their officers to have little trust in their politicians. Government departments are inefficient and businesses have to deal with complex forms and regulations to move their agendas (strategies) forward. To complicate the situation further, regulations continuously change and government administrators differ on how they should be interpreted. Thus, even though a company may come forward with a carefully thought strategy that complies with present regulations there is the risk that components of the strategy will not be approved. An appeal is always possible but, unfortunately, the legal system is not advanced enough to mediate such disputes and is generally considered to be inefficient.

Although Ukraine looks to the west author Norm Bedford felt, while conducting research in the country, that Ukraine still looks toward the east in some of its business attitudes and certainly some of its political attitudes. Indeed, similar to other former socialist countries, transitioning to a market economy has presented many challenges. Learning how to compete is probably the major challenge and that introduces the need to be efficient, productive and produce a quality product. According to the World Trade Organization (WTO) the country is slow in this learning process and has one of the weakest global performances. The European Bank for Reconstruction and Development (EBRD), which tracks transition indicators, found Ukraine has made little progress in its ability to compete and also found that its enterprises resembled more those found in socialist economies than in market economies (EBRD).

Intellectual property rights (IPR), or the lack thereof, also hamper business and again the legal system is unable to handle related issues. This not only frustrates business but also deters entrepreneurs as well as potential investors. Presently small and medium enterprises (SME's) are not playing a particularly major role in Ukraine not only because of the lack of IPR but also because of the lack of government assistance to improve their competitive capabilities. Technology enhancement, for example, is

not a priority yet technology is a major driver on the global competitive playing field. It is unfortunate that a portion of the vast amounts of FDI that previously entered the country were not directed toward technology. As a result, the ability of Ukrainian companies to absorb technology is limited by international comparison. The Internet has only minimally found its way into public usage with 3.9 personal computers per one hundred people in comparison with Estonia, for example, which has 48.9 personal computers per one hundred people. (Ukraine Competitiveness Report, 2008). FDI has invested heavily into information and communication technology (ICT) infrastructure in Estonia which is allowing the country to move away from low cost production and into higher value-added production. This move by Estonia is important as countries such as Romania, which recently joined the EU, offer cheap labor thus less expensive (low cost) goods. Ukraine is now finding it more difficult to compete globally with its low value-added products. Their labor costs are still relative low, however, non-wage labor costs are high and estimated by the World Bank at 38.8% of a worker's salary.

4. Creating the intelligent nation i-Ukraine – a nation of intelligent Ukrainian communities

The intelligent community movement began slowly twenty years ago driven by the continuing advances and declining costs in computer networks to the point where they began expanding from business and government systems into consumer and general societal applications. Moving through the last decade of the 20th century and into the 21st century, the continuing improvements in performance, and decline in costs, of ICT has enabled the astounding growth of Apple to become the world's most valuable brand. New generations of smart phones, the iPad and other products are appearing daily. The result is the dramatic transformative impact of the evolving intelligent community movement as evidenced by IBM's substantial investment in The Smarter Planet and Cisco's "Smart Connected Community" initiative.

Singapore's Intelligent Island and Silicon Valley's Smart Valley initiatives in the early '90s were two pioneering examples of intelligent communities. For the past fifteen years the New York based intelligent community forum has annually selected the intelligent community of the year. During the same period the initiatives and achievements of the finalists have been even more astounding as the communities have grasped the benefits and opportunities of evolving information and communications technology. The city of Taipei won the award in 2005 and when its mayor, Mr. Ma, was subsequently elected President of Taiwan he introduced a national program in 2008 to create i-Taiwan. Today, many cities in Taiwan are

competing to be the leading intelligent communities thereby creating a nation of intelligent communities or i-Taiwan, the intelligent nation.

Glasgow, Scotland is another successful example. In 2004 it was recognized as the intelligent community of the year because they created 60,000 jobs when they transformed themselves from a heavy industry, ship building economy to a knowledge economy and, in the process, reduced their unemployment rate from 16% to 6%.

In May this year, the creation of i-Canada was announced with author Bill Hutchison as its Board Chair and in the first two months more than three hundred organizations and leaders signed up to participate in creating, i-Canada, the intelligent nation. Ukraine can do the same with committed leadership and an effective plan.

With the development of intelligent communities and intelligent nations gaining a foothold in countries such as Taiwan, Singapore and Canada which, in turn, are giving companies and their communities in these countries a competitive advantage in the global economy it seems an appropriate time for Ukraine to consider the benefits of becoming a nation of intelligent communities. For this to occur there needs to be increased collaboration between business and government, between technology leaders and academia and between financial institutions and company executives. There also needs to be support for creating a globally competitive and cost effective high speed broadband infrastructure, locally and nationally. Various strategies have emerged around the world for implementing globally competitive ultra broadband community infrastructures. Indeed, the process of equipping Kiev with broadband is underway.

One of the most radical approaches was implemented in Vasteras, Sweden when they found their economy was performing poorly compared to Stockholm. This was at a time when Stockholm introduced a series of economic development initiatives. Vasteras citizens decided that they needed to implement one of the world's leading open access high speed broadband systems to reverse the downward trend in their economy. To achieve their goal they raised private funds by canvassing door to door and charging a one-time fee of US\$4500 per home to construct and connect homes and business to a new network.

In 2009 two credible reports were published relating to open access broadband infrastructures. One was financed by the Federal Communications Commission (FCC) and the other by the Organization for Economic Cooperation and Development (OECD). Both studies promoted the benefits of open access public networks as cost effective and offering important competitive strategic advantages.

New open access ultra broadband infrastructures with their next generation of collaborative ecosystems will support the rise of New Silicon Valleys throughout the world and Kiev, in particular, and Ukraine in general are ideally positioned to benefit significantly from such infrastructure. In fact, Kiev could be the economic engine of the region. Of utmost importance is the ability of business, government and academia to collaborate and innovate. The new applications and content that capitalizes on the potential of this infrastructure will only occur through such effective collaboration. Collaboration in Silicon Valley, for example, was promoted through breakfasts, dinners and socials which are legendary in the success of the Valley. The i-COA (intelligent community open architecture) model shows this phase to be the "Collaboration Ecosystem" Level 3 phase in the development of an intelligent community (see Appendix).

The environment for creating an intelligent community, therefore, must begin with strong and decisive leadership in Kiev and Ukraine. The interest and support of government as well as the business community and academia to create an intelligent community must exist. Innovation and collaboration by all stakeholders (government, business and academia) provide the engines of growth and the foundation that leads to long-term sustainable competitive models of economic growth and prosperity for all citizens. Benefits being achieved by the world's leading intelligent communities include FDI, economic growth, job creation and social prosperity. Exporters in i-Ukraine will have greater access to global markets. The talented youth of Ukraine will find challenging opportunities at home rather than having to move out of the country. Global resources whether they be materials, finance or even education that contributes to the building of a knowledge workforce will be more accessible to Ukraine.

Assuming, therefore, there is an interest in creating i-Ukraine the issue becomes the approach to achieving the goal. I-Ukraine will really be a collection of intelligent communities which means that local community leaders have to be committed. Kiev may take the lead although the smaller communities have often been the first to mobilize in other countries. In Canada Calgary, Waterloo, Fredericton and Moncton have been the leaders. Dundee and Glasgow were the first British communities to achieve awards from the intelligent community forum and in Japan it was the small community of Mitaka.

The first step toward creating i-Ukraine will be when a community becomes interested in the development of an intelligent community and assembles an Advisory Council of leaders. The Council then establishes a steering committee which, in turn, creates a committee for each sector (an example being

light industry) that is relevant to the community. The sector committees oversee the creation of a strategic plan for their sector and the steering committee then structure an overview document showing how the plans will be pulled together to establish their intelligent community. Participants in the various committees are recruited from universities, business, social agencies and government. It has to be a joint effort, that is, a “collaboration ecosystem.”

5. The role of innovation

The community moves forward developing clusters of innovation with innovative companies. Achieving that goal requires an effective collaboration ecosystem. California’s Silicon Valley and other industrial clusters succeeded because of their collaboration ecosystems. Other elements are also important for creating globally competitive clusters and these include anchor companies, investment capacity and a supply of talented young people. In the 1960s Boston had more of these elements than California’s Silicon Valley and yet Silicon Valley surpassed the Boston area to create a larger, more influential and wealthier industrial cluster than Boston. It was Silicon Valley’s “collaboration ecosystem” that was ultimately its key success factor.

Many different business, social and community applications will be relevant to the communities who wish to become intelligent communities. For example it is likely that all communities will be interested in the provision of interactive health care into the home. It means visiting the clinic without leaving home for certain ailments and circumstances. It allows the elderly to age better in their homes as long as possible which means that implementing remote measurements of blood pressure, temperature and other simple characteristics should be considered along with the ability for citizens to engage in regular dialogs with the health clinic through an interactive TV set. Provision of the interactive facility in the home will mean that initial consultations for various ailments will be achieved through a dialog with a nurse or doctor for the first one or two consultations. Many times that is all that is required. Imagine the convenience for the citizen and the opportunity for reduction in facilities and costs in clinics and hospital outpatient facilities!

Some communities may have a manufacturing base in which case new logistics systems will be important elements in their intelligent community plans. Others may focus on financial services or some of the new knowledge industries like computer gaming, film and other media industries. They will need very high speed broadband communications at low cost to become globally competitive and attractive to young knowledge workers with graphics design skills. In

summary, there will be a wide range of applications and opportunities for all communities.

The issue will be which communities in Ukraine will take up the challenge to move forward. A high level country wide plan can support the local communities by featuring conferences, exhibitions and traveling road shows to motivate and support these communities. When the “laggards” see the success of the “early adopters,” they too will increase their interest in becoming intelligent communities and ultimately Ukraine will become i-Ukraine, a new intelligent nation.

6. Will i-Ukraine become a reality?

Research conducted by the authors indicates that the socio-political situation in Ukraine might not yet be fully prepared for the creation of an intelligent nation. Although the Orange Revolution was seen as a democratic triumph the political and judicial systems in Ukraine are still weak and severely lacking many important characteristics that feature democracy in Western countries, such as transparency and accountability. As a result the Ukrainian political reality is tainted by both nepotism and corruption and in this context the relationship between business and politics has become seriously compromised. Ukraine, in deference to other post-soviet countries, has a functioning multi-party system and that system does, to a large extent, promote personal or group interests rather than political representation. Selling a post on the party list to business representatives has become a major source of income for the political parties. In the national, as well as local parliaments, a significant majority of the MPs are business representatives. Their political participation enables them to lobby for favorite bills at the same time their positions as MPs guarantee them immunity from persecution. As noted by Wolowski (2008), “in this system, political power is first of all a means of supporting, generating and maximizing economic profit.” The main stakeholders in this game are the so-called oligarchs, the powerful entrepreneurs that made huge fortunes acquiring former state assets undergoing privatization and who dominate much of Ukraine’s political, financial and media markets. Although a main promise of the Orange revolution’s leaders was to get rid of corruption and reduce the influence of the oligarchs, the general consensus concludes that the revolution failed to deliver on both accounts. Puglisi points out that this is not entirely surprising given that a number of big and medium-sized businessmen were actively supporting President Yuchshenko’s campaign in 2004 and also became part of his administration after the revolution (Puglisi, 2008).

Another problematic issue to overcome for the creation of an intelligent nation is the state of the Ukrainian higher education system. With most of

the old Soviet institutional structures (as well as many of the staff) intact, universities in the country are haunted by heavy bureaucracy and an outdated attitude towards the way research is presently conducted. An example is natural and engineering sciences that are continuously being prioritized while social sciences such as sociology, psychology, economics, business, and management are missing the attention and resources that could make them more attractive nationally as well as internationally. Furthermore, the Ukrainian research system rewards local scientific activities rather than international (when it comes to, for example, publications and conference participation) which means that Ukrainian trained researchers are lacking the competitive international advantage of their colleagues in other countries. This has led to a “brain-drain” as most Ukrainians who did their Ph.D. abroad decided to stay there, rather than returning to Ukrainian academia (Gorobets, 2008). While many scientists are frustrated with this situation and are demanding reforms there are certain parts of academia that still appear to be opposing change (Schiermeier, 2006). This could be related to the difficulty of leaving the Soviet mindset behind, referred to, in the following, by Myhul.

Having learned how to manipulate discourses in the Soviet era, many contemporary Ukrainian social scientists have changed their rhetoric only superficially. They have adopted the officially sponsored discourse, without divesting themselves of the former Soviet mode of thinking. All of this has contributed to the continuation of a basically Soviet style of scholarship, which carries only a veneer of the new, indicating the possibility of cognitive dissonance. This staying power of past social learning is reinforced by the continuity of academic institutional structures, and their staff (Myhul, 2002).

It is probable that the unwillingness of these scientists to reform is linked to their loss of influence and privileges in the process. Corruption is a major problem in the Ukrainian higher education system. Despite promises by authorities to battle corruption in the educational field it is actually considered to be one of the industries in the country most affected by this phe-

nomenon. Osipian lists a number of expressions that corruption in academia takes. Bribes, he writes:

“...are but the most explicit manifestations of corruption in education. Other forms of corruption include embezzlement, extortion, misuse of university property, ghost instructors, fraud, nepotism, cronyism, favoritism, kickbacks, gross waste in educational management, sexual misconduct, unauthorized private tutoring, cheating, and research misconduct.” (Osipian, 2008).

Despite the difficult challenges that lie ahead in its development, i-Ukraine has the human as well as the natural and material resources to become a reality. The country has available to it the opportunity to become a nation of intelligent communities that collectively can focus and put into action a strategic plan to capture world markets for its products and services.

Conclusion

This paper has presented the concept of regional “collaboration ecosystems” within Ukraine that facilitate members from business, universities, social agencies and government within a region to collaborate via open access, high speed, ultra broadband networks to create an intelligent community. It then proceeds to illustrate the development of i-Ukraine (an intelligent nation) as a collaborative effort of these intelligent communities with the ability to structure innovative strategies to advance Ukraine’s competitive advantage in global markets, i.e., innovative strategies to improve competitiveness that other countries find difficult to duplicate.

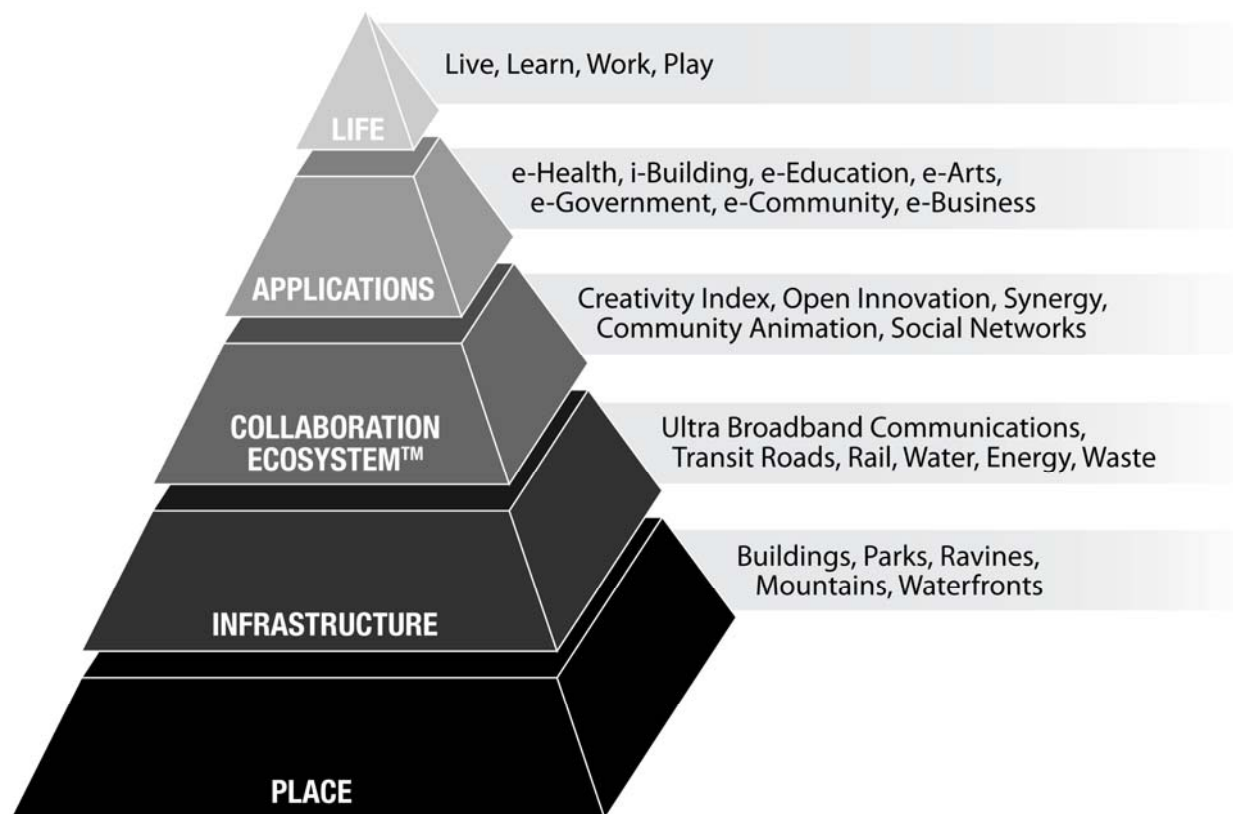
The paper identifies and discusses the obstacles confronting i-Ukraine to becoming a reality. However, certain developments have occurred since the Orange Revolution making it possible that changes are on the way. Some researchers predict the oligarchs will play an important role in the political and economic development of the country. If this is so, a “collaborative ecosystem” may well evolve in Ukraine and i-Ukraine will become an exciting and rewarding undertaking for a country poised to create a buoyant economy benefiting all of its citizens.

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Appendix



Source: Hutchison Management International.

Fig. 1. I-COA: intelligent community open architecture model