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Cultural capital of IT developers in Ukraine: exploratory case study

Summary: Article focuses on the analysis of approaches to studying cultural capital of IT developers. Exploratory case study refers to the IT developers' activity and focuses the cultural capital (CC) of the Ukrainian IT sector. Theoretical foundation of the study is based on the cultural capital theory referring to the value of social relations and networks. Research results demonstrate that Ukrainian IT developers accumulate CC through education: individual, in family, at school and with peers. Cultural capital could be transformed into other forms of capital: economic and social ones.

Key words: cultural capital, social capital, creative industry, IT developers

Introduction

Global information systems development can be closely attributed to the process of globalization in which the IT industry is becoming globally interconnected. Global changes contributed the emergence of many new jobs and, consequently, to a formation of the new class of workers. A relatively new profession of IT software developer is closely linked to mass computerization in education, socio-economic and cultural life. The global economy laws contribute to outsourcing of the IT products and services. The topic of the article is relevant in today's changing world, because IT developers form a relatively new class of workers (EAIT 2014). Eastern Europe is providing outsourced staffing for American and Western European clients and this impacts socio-economic processes around the world IT sector. Developed countries shift IT projects to the developing countries for minimizing labor costs. The most popular IT outsourcing destinations are China, India and Eastern Europe (Patel, Lawson-Johnson 2004).

In recent years, the relationship between IT, culture and productivity has become a source of debate. Several researchers have found evidence that IT is asso-

ciated not only with improvements in productivity, but also with consumer surplus, and economic growth (Brynjolfsson, Yang 1996). In the mid-90s in Europe started deep study of culture, which have shown that culture can be a key factor for socio-economic changes (KEA 2006). Researchers concluded that culture, under certain financial investments can be the catalyst of the regional changes. A number of scholars have argued that the existing local, sociocultural context is a critical factor in mediating the globalization process in a specific context and, in turn, will have an impact on the complexity of globalization (Huang, Trauth 2007). To be effective, IT professionals need new and unique capabilities to work effectively with clients, users, vendors, and other IT professionals from different cultures. To date, IT research on culture has focused mainly on the effects of culture on IT management. However, there is evidence that proves the positive impact of cross-cultural communication and intercultural cooperation on IT teams (Huang, Trauth 2007). Eventually IT product becomes a cross-cultural product as the result of a combination of IT developers' cultural capital from different countries, and finds its place in the global commodity market and used in many countries (i.e. Skype, Wikipedia, Amazon, etc.).

Ukraine has become of the well-recognized software engineering destinations for outsourcing in the last 5 years. Besides the proven financial advantage, the Ukrainian IT developers are claimed to provide innovative creative solutions and added-value services rather than just a cheaper offering of routine processing requirements and coding (Global IT IQ Report 2013). So, competitive advantage of Ukrainian IT outsourcing is rooted in the background education and cultural capital of the nation and industry in particular.

The goal of this article is to analyze Ukrainian IT sector through the lenses of cultural capital theory. The key research questions are: how the IT developers' cultural capital is accumulated and what are the methods of measuring the level of IT developers' cultural capital? Cultural capital is analyzed within the following framework: college/university education, additional IT training, professional development IT events (life time learning), IT communities membership, IT work experience. IT developers' cultural capital components include three states with indicators for each state: 1) Embodied state 2) Objectified state 3) Institutionalized state.

Background of research problem

IT sphere is a fast growing developing field characterized by innovative tasks, new technology and creative start-up business concepts. Offshoring and nearshoring of IT products and services have given rise to a relatively new IT strategy: the global delivery model (GDM). The global delivery model aims to provide seamless development and delivery of products and services to clients by combining the expertise of geographically dispersed IT professionals (Marriott and Matlus, 2007). The global delivery model is implemented by establishing centers of excellence around the globe to take advantage of recognized expertise of IT profes-

nals in particular locations (Tholons 2006). Global IT organizations such as HP, SAP, and Microsoft build and maintain centers of excellence across the globe in locations where there is a pool of particular expertise.

Offshoring requires IT professionals to collaborate with clients, users, vendors, and other IT employees in multiple locations. Results of international studies indicate that around 40% of multicultural IT projects fail due to inefficient cross-cultural communication (Huang, Trauth 2007). Researchers see a several key reasons for such cross-cultural deadlocks:

- the traditional concept of IT-office is virtually replaced by online meetings and virtual collaboration via video conference that IT developers often collected from different time zones, language, cultural and religious areas and different corporate cultures and levels of socio-economic development (Dafoulas, Macauloy 2001).
- most delays and gaps of IT project implementation plan associated with a different attitude to the execution time and responsibility for their work among representatives of different cultures (Edwards, Sridar 2006);
- the necessity to communicate and solve complex professional issues in foreign language often lead to misunderstandings among members of the IT team and, accordingly, errors and delays due to the need to clarify the information (Kobayashi-Hillary 2005).

According to CEEOA 2014 Report, Ukraine is in the top 10 world's largest and fastest growing IT outsourcing creative services market (see the Table 1). It is expected that in 2015 number of new working places for IT developers will be around 168,5 thousand, 106 of which are export oriented (outsourced for Europe and the USA). In general, in 2015 350 thousand of developers will be involved in

Table 1. Quantity and Quality of the Global IT Workforce (the chosen countries)*

IT off-shore country	Estimated Number of IT Professionals	Quality of IT Labor
Philippines	Estimated at about 400,000.	Third-largest English-speaking nation in the world. Extremely low need to neutralize accents. As of 2006, estimated annual IT salary about US\$12,522. Center of excellence for customer support. High degree of cultural compatibility with Europe and the U.S. due to historic links. US\$5.2 billion in IT exports in 2008.
Mexico	Estimated at about 390,000. Estimated 60,000 graduates annually from technical schools and IT university programs.	Shortage of English language competency as Spanish is the main language. IT labor known for excellent technical skills. Center for excellence for custom development and customer support. As of 2006, about 44 IT organizations with ISO and CMMI accreditations. As of 2006, estimated annual IT salary about US\$22,484; slightly more expensive than India and China, but lower than many Eastern European locations. Culture is strongly influenced by the U.S. US\$120 million in IT exports in 2005.

IT off-shore country	Estimated Number of IT Professionals	Quality of IT Labor
China	Estimated at about 200,000. Estimated 500,000 IT and technology graduates annually.	Currently lacks IT professionals with English at a business level. Center of excellence for embedded software. As of 2006, estimated annual IT salary about US\$10,095. Low cultural compatibility with English-speaking markets, but higher compatibility with Japanese and Korean markets. Two-and-a-half percent of global IT services market share in 2005. US\$7.6 billion in IT exports in 2008.
India	Estimated at 2,230,000 IT professionals.	Strong foundation in English, the de facto business language. As of 2006, estimated annual IT salary about US\$9,891 with annual increases at 14.5 percent. As of 2006, attrition levels have risen substantially recently, with average rates reaching 20 to 25 percent. Center of excellence for IT development, back office services, and research and development. Good cultural compatibility with English-speaking countries, but a challenge with the non-English-speaking world. Sixty-three percent of global IT services market share in 2005. Estimated US\$47.3 billion in IT exports in 2009.
Poland	Estimated 400 IT companies employing 7,800 IT professionals.	Official language is Polish, but most educated Poles speak one or more foreign languages—English, German, and Russian. Center of excellence in European back office services. As of 2007, estimated annual salary ranges from US\$32,800 to US\$66,000. Well-connected with major European and U.S. cultural and economic centers. US\$310 million in IT exports in 2007.
Ukraine	Estimated 800 IT companies employing 14,000 IT professionals. Expected to grow by 25 percent per year. Estimated 30,000 IT graduates per year	English is spoken widely. As of 2007, estimated average annual IT salary ranges from US\$25,920 to US\$49,600. Considered among the lowest-cost destinations for outsourcing in Europe. High cultural compatibility with European nations, for example, Russia, Poland, and Germany. US\$544 million in IT exports in 2007.

* (Koh et al. 2010)

IT sphere (125 thousand in export/outsource segment). According to the World Bank report, the growth of IT sphere in 2015 will be of 5 billion dollars, in this case Ukraine may become number 6 in the world’s rate of IT export/outsourcing. This innovative creative industry is annually growing in Ukraine, and 16 000 developers with technical majors graduate every year in Ukraine.

The USA and Western Europe are both well-established importers of software development services from Ukraine (Global IT IQ Report 2012, Brain-

Bench Report 2012). Report data confirm that 70% of Ukrainian IT developers work for American and/or European customers. Ukrainian vendors are claimed to provide creative innovative solutions and added-value services rather than just a cheaper offering of routine processing requirements, educated talent pool; cultural proximity; expertise in the outsourcing industry (Pan-European IT Outsourcing Intelligence Report 2012). Overall it is marked by high salaries, young/middle age labor force, no unemployment rate, very high job satisfaction. Public opinion polls (Bionics 2013) indicate that IT field career is considered to be very prestigious and developers have a bright professional future. Their work is considered the most prestigious and promising, and at the same time is the highest paid in the labor market. According to the employment/unemployment survey of 2013 the employment competition in the area is very low. IT developers are also in the field of Top 10 highest jobs in Ukraine (Head Hunter Ukraine Survey 2013).

Besides the proven financial advantage, Central and Eastern European vendors are claimed to provide innovative solutions and added-value services rather than just a cheaper offering of routine processing requirements and coding. Reports explain this competency the following way: This expertise is generated largely by a pool of talent educated to the highest technical standards – in Ukraine, Belarus and Russia it is a legacy of the old Soviet system which still offers clout in today's highly capitalistic environment (IT Sourcing Europe Report 2012). Pan-European IT Outsourcing Intelligence Report 2012 based on the results of all European country-specific surveys with the detailed analytic, findings' comparison outline three key areas for Ukrainian virtual team development: software development, web development, writing and translation, administrative support. Most required Skills for Virtual teams in Ukraine: PHP; HTML; English; Writing; Wordpress; SEO; CSS; Photoshop; MySQL; Javascript.

IT reports explain this competency the following way: this expertise is generated largely by a pool of talent educated to the highest technical standards in Ukraine it is a legacy of the old Soviet system (IT Sourcing Europe Report, 2012). Success of Ukrainian IT industry could be analyzed through the lenses of the cultural capital of IT developers – convertible into social and economic advantage. Analysis of the cultural capital of IT developers can help analyze owner's financial and social advantage in future for IT industry and Ukraine as a whole.

Theoretical foundations

In this study researchers will rely on the concept of Bourdieu, according to which we can hypothesize that the cultural capital of IT developers can also act in three states (Fig. 3): embodied state, i.e. in the form of long-term disposition of mind and body; objectified state – in the form of cultural products (software, gadgets, applications, training videos, computer games, etc.); and, institutionalized state, i.e. in the form of objectification (educational qualifications, intellectual property, which is supposed to be preserved. See the Table 2).

Table 2. The states of IT developers' cultural capital and developing indicators for cultural capital measurement*

	Embodied state	Objectified state	Institutionalized state
The description of IT developers' cultural capital components	the process of learning the ways how to create the IT product efficiently; analyzing IT market for competitors, analogues, future team for IT product creation;	Software (applications, programs) Gadgets; Devices; Web design;	Diploma / certificate Specialization/focus in certain technologies; IT Awards; License /Rights for IT products or proved authorship (as the previous positive experience in creating famous/successful IT products)
The indicators for IT developers' cultural capital measurement	school education (teachers and class-mates influence) – E1; family education, self-education and hobbies – E2; University education (influence of teachers, friends, student associations and interest clubs, and resources of university) – E3; Impact of community/friends on educational interests – E4.	the popularity of created soft, applications, gadgets, devices, (number of users, market share etc.) – O1.	the rating of diploma/certificate according to the university or training center rating – I1; evaluation of status according to salary, the staff managed etc. – I2; number IT of awards – I3; evaluation of intellectual property/ personal brand – I4.

*Developed by authors through the Bourdieu's typology of cultural capital.

Culture is one of the fundamental concepts of various social disciplines, but there were difficulties in defining clearly this term for many decades and it still remains ambiguous.

In sociological terms, culture emphasizes that it is generally tangible and intangible products created by man in the processes of social life within a particular community. It is therefore a narrower understanding of culture: as the output of a social entire. J. Szczepanski defines this word as “general products of human activity, the tangible and intangible values, recognized codes of conduct, objectified and adopted in any communities and sent to other communities and the next generations” (Szczepański 1965). As also pointed S. Czarnowski, culture is the collective achievements including the successive creations of many generations, including creative ideas or items processed by the successors (Czarnowski 2005).

However, the potential of the cultural environment is not only indicated by the context, but it also exceeds their capacity to storage function and broadcast the heritage of culture. The cultural communication acquires the particular importance at the time of economic imbalance, searching the internal socio-cultural provision for the processes effectiveness for modernization in the region. World experience shows that the cultural potential of the region (from museums, architectural complexes to unique cultural places, myths, legends, and festivals) can be used not only for the purposes of education and initiation to the spiritual heritage. Culture can act as a powerful regional resource capable to reverse the crisis

situation and give new impetus to the provincial territory; become the foundation of its intensive development (van Oorschot 2007). As for the term “creative industries” – it is applied to a much wider productive set, including goods and services produced by the cultural industries and those that depend on innovation, including many types of research and software development (UNCTAD 2010).

According to the visual we can see that IT developers and computer developers are the part of almost all models. They are not just a creative personalities, but highly skilled people, having a certain moral and civic position. The creative class prefers to live where there is an opportunity for

creative development, where there are conditions for relaxation, permanent access to leisure and entertainment. As a result, a place with a developed cultural-entertainment sector, creative climate where people can express their ideas realized, becomes a decisive factor for the future development of the region. It is known that creative people usually require special cultural environment, supporting institutions, comfort atmosphere and freedom for creativity. As for the commercial sector in the field of culture – today it is one of the most powerful, fast-growing areas of economic activity, and the contribution of the “creative industries” in the national product of some European countries exceed the contribution of industries (Stam et al. 2008).

According to Bourdieu general definition of cultural capital refers to assets, e.g., competencies, skills, qualifications, which enable holders to mobilize cultural authority and can also be a source of misrecognition and symbolic violence. A key part of this process is the transformation of people’s symbolic or economic inheritance (e.g., accent or property) into cultural capital (e.g., university qualifications). Cultural capital can exist in three forms: in the *embodied* state, i.e., in the form of long-lasting dispositions of the mind and body; in the *objectified* state, in the form of cultural goods (pictures, books, dictionaries, instruments, machines, etc.), which are the trace or realization of theories or critiques of these theories, problematics, etc.; and in the *institutionalized* state, a form of objectification which must be set apart because, as will be seen in the case of educational qualifications, it confers entirely original properties on the cultural capital which it is presumed to guarantee (Fig. 2).

Bourdieu argues that cultural capital has developed in opposition to economic capital. Furthermore, the conflict between those who mostly hold cultural capital and those who mostly hold economic capital finds expression in the opposed so-



Fig. 1. Cultural industries as the part of creative industries
Source: UNCTAD (2008)

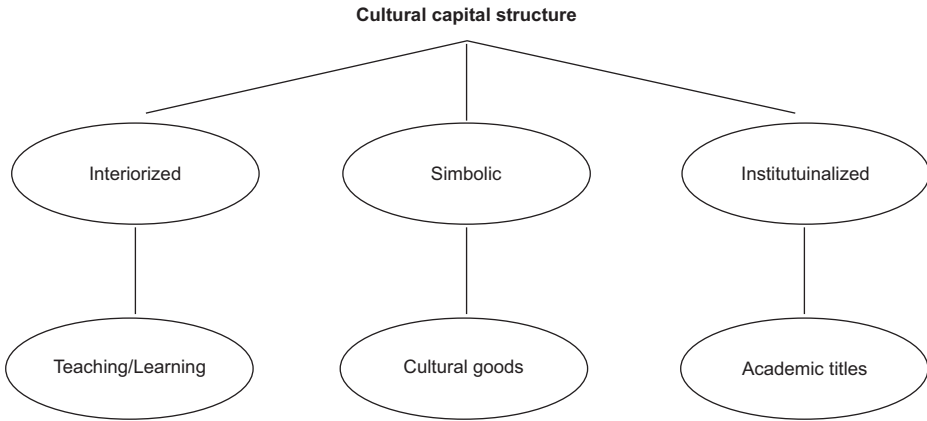


Fig. 2. Cultural capital structure according to Bourdieu

cial fields of art and business. The field of art and related cultural fields are seen to have striven historically for autonomy, which in different times and places has been more or less achieved. The autonomous field of art is summed up as “an economic world turned upside down,” highlighting the opposition between economic and cultural capital (Bourdieu 1996). He extended the notion of capital, defined as sums of money or assets put to productive use. These assets could take many forms which had not received much attention when he began writing. Bourdieu lately refers to even more principal forms of capital: economic, symbolic, cultural and social (see the Fig. 3).

To conclude, there are actually different relations between forms of capital which will be illustrated in the following Fig. 4.

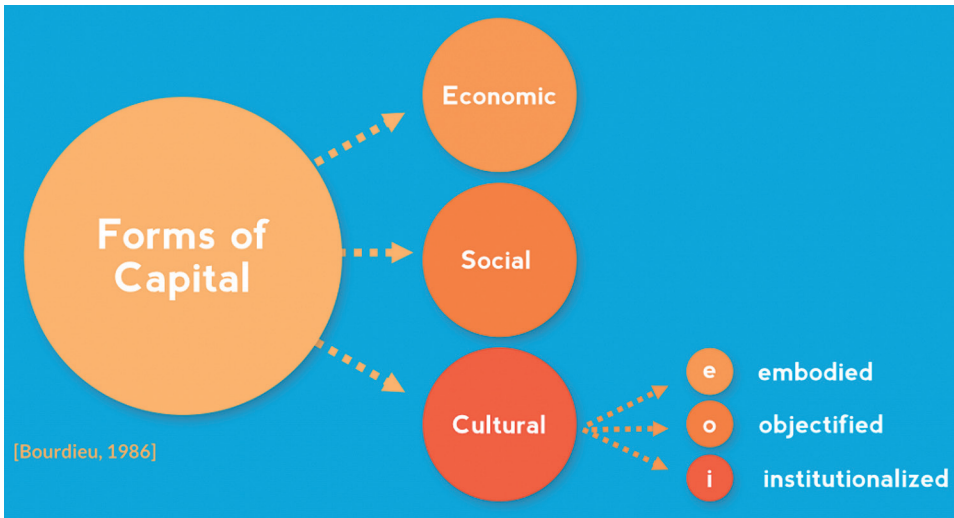


Fig. 3. Forms of capital according to P. Bourdieu

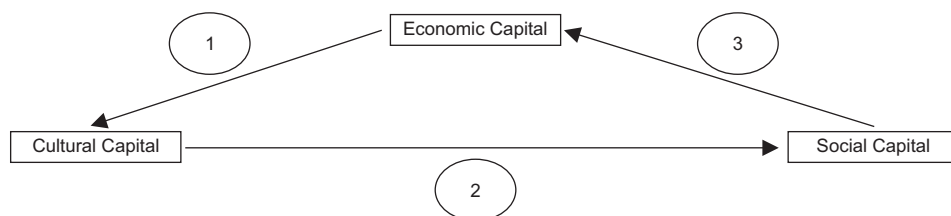


Fig. 4. Interrelations and transformations between economic, cultural and social according to Bourdieu capitals

Depending on the field in which it functions, and at the cost of the more or less expensive transformations which are the precondition for its efficacy in the field in question, capital can present itself in three fundamental guises: as *economic capital*, which is immediately and directly convertible into money and may be institutionalized in the forms of property rights; as *cultural capital*, which is convertible, on certain conditions, into economic capital and may be institutionalized in the forms of educational qualifications; and as *social capital*, made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital and may be institutionalized in the forms of a title of nobility (Bourdieu 1986).

Cultural capital adds a new dimension to the earlier concept of capital, which include:

- financial/resource capital or equity (Marx, Engels, 2012, Smith 2014);
- human capital – the quality of the labor force (Becker 1994);
- social capital – the inherent tendency of society to promote the union of its members (Loury 1992, Putnam 1995, Fukuyama 1996, Coleman 1998).

Also cultural capital is closely related to the human and social capital it can be seen as a key condition for promoting growth of the latter. The societies where education and success are evaluated more, have higher level of human capital; the societies that emphasize on ethical behavior and trust, have higher level of social capital. But social capital is unevenly distributed between societies and cultures, so that some societies have more benefit from civil community than others.

The key idea is that social capital – is, in fact, a cultural phenomenon. To nurture it in the cultural environment, which is characterized by a low level of confidence, it is necessary to strengthen cultural factors that build trust, such as a strict code of ethics, everyday virtues, self-identification. The cultural capital strongly influences the social capital, so we may even say that the social capital is «formed» through cultural one (Harrison 2012).

In this study researchers use the concept of Bourdieu in the relation to the cultural capital of IT developers. IT developers' cultural capital components include three states with indicators for each state: 1) Embodied state 2) Objectified state 3) Institutionalized state. Researchers summarized the interpreted the adapted concept for IT industry (see Table 2).

Research Methodology

The research purpose of this exploratory case study was to analyze Ukrainian IT developers cultural capital in IT industry in Ukraine. Cultural capital is analyzed within the following framework: college/university education, additional IT training, professional development IT events (life time learning), IT communities membership, IT work experience. IT developers' cultural capital components include three states with indicators for each state: 1) Embodied state 2) Objectified state 3) Institutionalized state (see Table 2).

Sample and procedures: Population group selected for this research project consisted of Ukrainian IT developers – team leads; highly skilled, educated, well paid developers. Sampling: different regions of Ukraine (western, southern, central, eastern Ukraine), 12 men and 8 women (25 + y.o.), 73 % of all IT teams linked to big and medium-size Ukrainian cities.

Respondents: 20 IT leads interviews and 5 expert interviews with HR IT experts were conducted. Expert interview goal was to identify general trends and patterns in cultural capital formation, and insights in the IT HR area with the help of in-depth interview (45 minutes). Expert interviews added professional HR perceptions on the cultural capital impact on skills, education, market supply/demand and recruitment of Ukrainian IT developers at the global market.

In order to make a sample more representative, respondents were selected from all regions of Ukraine. It's important to add that IT companies are located all over Ukraine. Analytical reports identify six main outsourcing centers in Ukraine: Kyiv (Central Ukraine), Kharkiv (Eastern Ukraine), Lviv (Western Ukraine), Dnipropetrovsk (Central Ukraine), Odesa (Southern Ukraine) and Crimea cluster. Six outsourcing centers carry 85% of all IT outsourcing resources in Ukraine. The remaining 15% of resources are concentrated in other smaller Ukrainian cities (report of Ukrainian HiTech Initiative).

Data collection and instrument: The research for this study encompassed desk (2012–2014) and field qualitative research (Summer/Fall 2013). Desk research was based on the analysis of aggregated European and Ukrainian IT reports, ILO and, WB reports. It also drew extensively on existing studies, research papers, and ongoing IT HR and IT development projects and conferences. The second component included field data collection in Ukraine (funded by ERSTE Foundation Fellowship for Social Research). Instrument: Interview guide was based on adapted version of quantitative Social and Cultural Capital Questionnaire (Khodadady et al. 2011). Initial questionnaire with 35 questions was reformulated into the interview guide with a focus on cultural capital components, which include three states with indicators for each state: 1) Embodied state 2) Objectified state 3) Institutionalized state. Unstructured interview guide questions were focused on the general trends and patterns in cultural capital formation.

Research Findings

Key Ukrainian IT centers are located large cities. The largest is Kyiv with the population (3 million people – see Fig. 5). The second largest pool of IT developers in Ukraine is Kharkiv (2 million people) used to be scientific and industrial center in USSR, so the city has strong technical education legacy. Lviv is the sixth largest city in Ukraine with the population of almost 1 million people. The next is Dnipropetrovsk (over a million people) located in East-Central Ukraine and being one of the biggest industrial centers. Odesa is the fourth largest city and seaport in Ukraine (over 1 million people). The Crimea cluster unites four cities of the South Ukraine and the Crimea: Kherson, Mykolaiv, Sevastopol, and Simferopol. Cities are with the population of less than a million, but with a large pool of IT workforce (Exploring Ukraine. IT Outsourcing Industry Report).

According to the demographics reports, average IT Ukrainian specialist is a male 26–35 years old, higher education, at least 3 years of professional IT experience, 50% of IT developers and leads are fluent in English. Ukrainian IT sphere is a market of rather young, ambitious, happy, self-aware developers. IT career is considered to be very prestigious and popular in Ukraine. Women are also entering the field mainly as tech writers, CQs, managers (HeadHunter, Ukraine 2013).

Interviews with Ukrainian IT developers demonstrated that: all of the respondents are university graduates; all are motivated for future learning/growth and annually participate in additional IT trainings and local educational IT events. All respondents have started professional career while studying at the university.

Highly skilled staff is at the core of the IT industry. The presence of educational institutions with IT majors plays a very important role in the industry development. According to Legatim prosperity Index research (2014), Ukraine was ranked 63rd, but with a score 40 on the Education scale and 40 on the Social

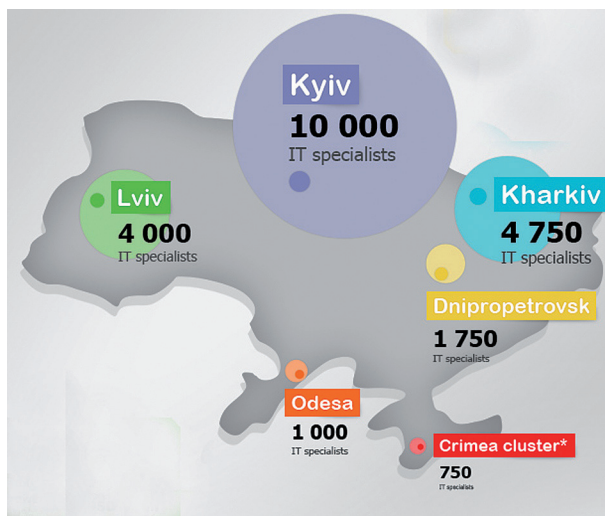


Fig. 5. IT centers of Ukraine (report of Ukrainian HiTech Initiative)

capital scale along with and other popular outsourcing IT destinations. Overall, Ukraine holds the fourth position in the world in the number of certified IT developers, following the USA, India, and Russia workforce (Exploring Ukraine. IT Outsourcing Industry Report 2014).

Ukrainian IT talent distribution is linked to the educational institutions in the listed above cities. Ukrainian state statistics agency provided a prognosis that in 2015 there will be 350 thousand registered IT developers in Ukraine (compared to 215 thousand in 2012). There are many Universities in each of the listed key IT centers of Ukraine where IT degrees are offered. Below is a Fig. 6. with comparative number of Universities per city offering IT degrees in different regions of Ukraine.

HR IT specialists also stated in the interviews that Ukrainian Universities graduate excellent technically prepared IT-developers, however communication (i.e. soft skills) is still their weakest point. Generally they are internationally competitive in the professional sphere, but not actually competitive in communicative skills.

Interviews with IT recruitment companies helped summarize required list of competencies of IT developers. Among most wanted professional and personal qualities for IT-experts are: communication and technical skills (healthy ambitions), foreign languages (English) so that cultural gap is as little as possible, knowledge of latest software and services in IT-industry. Success of IT-teams with international customers is a blend of the following characteristics: active live position & proactive search for interesting projects with international clients; professional experience in development of IT-projects (preferably using more than one programming language); good communicative skills; aspiration and motivation for further development and self-learning.

Developers commented on the fact that working culture and habits of IT teams are often shaped within cross-cultural communication with clients. This

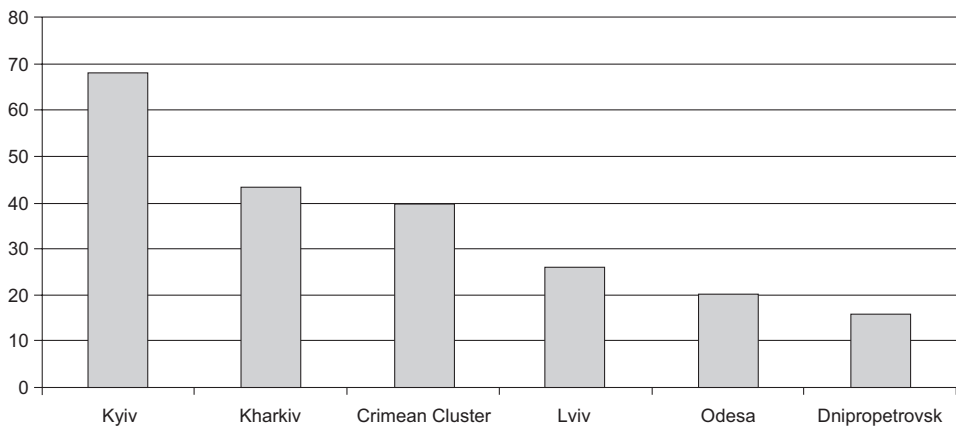


Fig. 6. Number of Universities offering IT degrees in each city: Kyiv 68, Kharkiv 43, Crimean Cluster 40, Lviv 26, Odesa 20, Dnipropetrovsk 16. All these universities prepare skilled personnel for Ukrainian IT outsourcing

adds additional perception of importance of intellectual work in the international setting and often leads to higher job satisfaction and faster professional growth of IT developers.

On-the job education of IT developers helps them gain necessary skills and cover the gaps from formal college education. Several HR IT experts expressed concern with the Ukrainian education system is its inability to prepare Ukrainian IT-developers for work under *international* terms and conditions, i.e. graduates mostly rely on the chance, rather than build and develop thorough strategy. HR developers indicated that even though market is saturated with many professionals, this listed above combination is not often found in Ukraine. Interview fragment “*My clients come to the Ukrainian market to hire IT developers. They kind of assume that they will find good technical developers, technology wise and what they look for the developers to have strong communication skills and I think they often lack this in Ukraine*” (HR1 A.K).

According the assessment of interviewed HR specialists, overall marketability of Ukrainian IT-developers on the international IT-market is rated rather high. Human Resource managers indicated during the interviews that Ukrainian IT-developers are a valuable asset to foreign clients because they 1) have solid educational background, experience and knowledge of technology 2) are more flexible in incorporating the cultural aspects into business ethics i.e. better communication flow, give proper feedback, meet deadlines etc. Interesting comparative reflections regarding staffing solutions is listed in the fragment below “*Compared to Indian IT-developers (based on US customer example). Generally western clients prefer Ukrainian IT-developers over any eastern candidates*” (HR 4 V.K). Here cultural proximity is impacting employment decision of western clients in favor of Ukrainian IT developers.

IT companies in Ukraine compete for talented IT developers (developers, leads, managers) by offering them financial rewards and bonuses, flexible working schedule, professional development opportunities, English language courses, gym card, lunches etc. Many companies conduct large-scale events aimed at employee retention, including workshops, seminars, free of charge trainings to help their employees to grow and develop. In addition to in-country competition, companies also compete with international employers.

Interview fragment from with HR expert below provides insights about demographics of Ukrainian IT leads and perceptions regarding education career development “*Demographic portrait of average IT-specialist: young man or recent graduate (20–30 years old), quick-learner, thus making rapid career development. Such rapid career development is always difficult to understand by the international clients. We often hire recent graduates; they would be learning quickly and really just going to their expertise very quickly. Over a few months you would see someone growing from junior specialist to senior specialist.*” (HR1 A.K).

Ukrainian IT-developers look for well paid jobs with education and growth opportunities. General observation is reflected in the interview fragment “*IT-developers mostly do not care about legal employment, however they do care about their salary and opportunity for growth, i.e. they know that they will always be able to earn money*

with their skills and talents, therefore personal attitude and interesting new assignments are more prioritized than legal employment record” (A.P.)

In order to understand Ukrainian IT market, it is essential to describe its peculiarities and perceptions of employers and employees. Overall it is marked by high salaries, young/middle age labor force, no unemployment rate, very high job satisfaction. Public opinion polls (Bionics 2013) indicate that IT field career is considered to be very prestigious and developers have a bright professional future. Their work is considered the most prestigious and promising, and at the same time is the highest paid in the labor market. According to the employment/unemployment survey of 2014 there employment competition in the area is very low. IT developers are also in the field of Top 10 highest jobs in Ukraine (Head Hunter Ukraine Survey 2013). This social and economic advantage of IT developers is analyzed through the lenses of cultural capital theory.

It is important to remember that the embodied state of IT developers’ cultural capital pretends to be the pure culture and require a lot of time to be accumulated (for example planning mostly takes 50% of IT project timing). If we are talking about IT developers’ cultural capital accumulation peculiarities we should focus at education and gathering specific knowledge during all the life of IT person. There is no possibility to delegate this process or outsource because the final image of IT developers’ cultural capital is the sum of all his/her life experience.

The embodied state of IT developers’ cultural capital could be described in a such way: from the early childhood the prospective specialist is interested in computers and soft, and was spending free time for using different applications, programming, creating media or websites, gaming, designing etc. The earlier the future IT developers got his IT experience, the more amount of cultural capital he/she has received. Such embodied state of IT developers’ cultural capital becomes a part of personality and cannot be divided from the carrier. It could be received in different amount but depends on the period of time, society conditions, social class position etc. And this process of cultural capital receiving is going on smoothly and almost invisibly, especially if family also has solid cultural capital. Thus IT developers’ cultural capital in embodied state is functioning mostly as symbolic capital which makes it the most invisible one. From this point of view we can explain the appearance of “open-source software” (it’s difficult to set the price for Linux OS development as nobody can evaluate the amount of Linux developers’ cultural capital, and they also prefer having “cooperative and constructive competition” through mutual development of this operating system to empower their level of IT cultural capital in synergy.

The other side of this phenomenon is pirate copying of video, games, software, design, content and other non-material IT products. Here we can see that IT developers’ cultural capital is not recognized so not bringing material compensation to the IT product creators. The most famous example is the story of Facebook creation: stealing the idea at the stage of embodied IT developers’ cultural capital when it’s difficult to prove who has invented that idea first.

From the point of that IT developers’ embodied cultural capital assessment we can take the concept of Bourdieu: the linkage between economic and cultural

capital is defined by exact time of that IT developers' cultural capital receiving. That is why the families with high level of cultural capital are able to transfer the maximum amount of cultural capital to their kids and almost invisibly. This "useful time" of IT developers' cultural capital receiving is framed by free time of the kid while he/she is absorbing the cultural capital. Otherwise the families with the poor level of cultural capital often make kids to provide economic activity instead of "pure studying". Those differences could cause the different levels of competitiveness at global IT labor market.

The next state of that IT developers' cultural capital is objectified one and it could be transferred or sold out in materialized way: discs, USB drives, gadgets, applications at devices, downloads to PC, realized design etc. The other way to receive that IT developers' cultural capital is "consumption" without buying, i.e. watching movies in Internet for free, using demo-versions of software, trying IT products at exhibitions etc. Such "secret consumption" bringing us back to the embodied state of that IT developers' cultural capital.

It is also important to remember that buying IT developers' cultural capital in objectified state is often connected with the necessity of paying for the same cultural capital in embodied state, i.e. buying the innovative bio-computer it's necessary to get instructions and understanding the principles of its usage.

The institutionalized state of IT developers' cultural capital is the most visible and controlled one. In the case of IT developers career it looks like: proved qualification through certificates after IT courses or IT diploma after graduation of a university; contest awards for creating IT devices or software; intellectual property rights for design (Apple), software (Microsoft), brand (HP, iPad, etc.). Having the documents which are proving the IT developers' cultural capital level and competence automatically initiate the specific social process – institutionalization of cultural capital. This happens almost independently from the real characteristics of IT developers' cultural capital and its amount, for example in hiring for a job system – at a first stages the candidate is asked for documents to prove his/her qualification. That is why big and over-structured companies often lose the brilliant candidates without IT diploma in return to the graduates of famous universities.

The other side of institutionalized state of IT developers' cultural capital is the phenomena of hackers who never use something like "hacker's ID" and act underground. Even so they have also invented the way of proving their level of IT cultural capital and qualifications: they use the name of institution with information system, which was hacked by them. This information, proved by hacker's nickname in wanted list, is the best "diploma" accepted in IT community.

Implications for future research

Future researchers can examine quantitative scale of Cultural Capital (CC) Ukrainian IT leads – adapted CC quantitative survey is offered in the appendix A. Outlined summarized expectation and perceptions of international clients regar-

ding Ukrainian IT vendors, their cultural capital and cross-cultural perceptions could be used for practical trainings as case studies with listed barrierers. This empirical first hand data from the interviews can be used career training of IT developers. Understanding cultural capital is the first step toward enhancing the quality of the work of the IT developers in Ukraine. The results can be used for important HR practices in Ukrainian IT companies – for training and developing new vision of IT workforce in the international settings.

Limitations

Field data was collected 2013/2014, however social and economical situation has drastically changed due to Euromaidan events and Crimean Crisis in February–March 2014. Political changes impacted young IT developers from Ukraine (and Crimea), since international IT outsourcing clients felt insecurity of operations due to political turmoil in the country. Over the foreseeable future, the Ukrainian economy will probably drastically change, IT industry will be heavily impacted by brain drain.

Ukrainian IT developers demonstrate a high level of work mobility. According to the annual professional migration report every year 5,000 IT developers leave Ukraine to work for other countries (Bionic Hill Research 2013). Due to the social and political changes in Ukraine in 2014 these numbers have doubled and European companies offering “relocate” positions hired many Ukrainian IT developers who previously did not feel a need for relocation and were stationed in Ukraine with international outsourced jobs. So, high work mobility of this professional segment of Ukrainian population was impacted by social changes in Ukraine and resulted in brain drain. Large population groups of talented creative skilled IT developers relocated from Ukraine. This in turn raises a question about further impact of socioeconomically mobile immigrant groups – high skilled relocated IT developers in Europe and the USA.

Conclusions

Researchers aimed to understand cultural capital of Ukrainian IT developers “outsourced” talent in Ukrainian IT sector:

1. Researchers conducted preliminary analysis of cultural capital and identified that Ukrainian IT developers accumulate it through education: individual, in family, at school and with peers. Assessment of this cultural capital is possible while counting the pure time, spent for absorbing the IT cultural capital.
2. Researchers identified social-demographic portrait of successful managers/leaders of teams and IT-developers in Ukraine: education, level of professional training & preparation, abilities and skills – all linked within the IT developers’ cultural capital indicators.

3. Researchers have analyzed how the cultural capital could be transformed into other forms of capital: economic and social ones. The investments into IT developers' cultural capital could be reimbursed through competitive IT diploma or status at global IT labor market. From the point of different states of IT developers' cultural capital we can see here 3 variations: embodied state (as processes of the process of learning the ways how to create the IT product efficiently and invention of new IT ideas); objectified state (as "materializing" the IT cultural capital in IT products such as software (applications, programs); gadgets; devices; web design); institutionalized state (as implementing of IT cultural capital into "legal frame", i.e. diplomas/certificates; receiving IT awards and licenses/rights for IT products as proved authorship).
4. Researchers have found that the cultural product of IT developers exist in the cases of educational software or devices distribution or sharing software which is empowering cultural knowledge.
5. The analysis of Ukrainian IT developers showed that Ukraine is able to provide qualified creative, young dedicated and driven IT developers, ensuring early entrance in the labor market. IT industry is mainly outsourced in Ukraine and a lot of industry operations are shaped by cross-cultural communication, needs and expectations of international clients (unlike any other industry sector in Ukraine). These peculiarities of the sector impacts formation of the cultural capital of the workers.

This research laid the ground work for future studies of cultural capital of IT market in Ukraine, which makes it even more significant in the light of social and political changes in Ukraine 2014–2015. This young, dynamic, cross-culturally shaped Ukrainian industry will be changing due to high work mobility of cultural capital carriers.

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Appendix A. The development of cross-cultural capital questionnaire for IT developers through Ukrainian experience

No.	Social and Cultural Capital Questionnaire*	Social and Cultural Capital Questionnaire for IT developers / indicator	Statement	Always	Usually	Often	sometimes	Seldom	Never
1	I enjoy listening to classical music.	I enjoy creating/using new IT./E2							
2	I enjoy reading literature.	I enjoy reading IT blogs and literature./E2							
3	I am a cultured person.	I am an IT person./2							
4	I know all famous music composers.	I know all famous players in IT industry/E4							
5	I know a lot about literature.	I know a lot about IT./E3							
6	I frequently visit museums and theaters.	I frequently visit IT events (exhibitions, openings, conferences)/E4							
7	I frequently borrow/buy books.	I frequently download/buy soft and devices. / O1							
8	I enjoy reading (in general).	I enjoy knowing about IT (in general)./E1							
9	When a child, my parents regularly encouraged me to read.	When a child, my parents regularly encouraged me to learn about IT/to programming/ to creating something through software./ E2							
10	We have lots of books at home.	We have lots of IT products at home./O1							
11	I used to take or art or music classes outside school.	I used to take or programming or design classes outside school./E4							
12	My mother used to get involved in my primary schooling.	My mother used to get involved in my IT schooling./E1							
13	I like to get involved in activities designed for young people.	I like to get involved in activities designed for young IT developers./I3							
14	I usually get involved in religious activities in mosques.	I usually get involved in gaming activities in computer clubs./E4							
15	My parents usually get involved in my daily activities.	My parents usually get involved in my daily activities./E2							
16	I see my grandparents weekly.	I see my grandparents weekly./							
17	My parents used to help me with my homework regularly.	My parents used to help me with my IT activities regularly./E2							

18	My mom used to attend school meetings regularly.	My mom used to attend school meetings regularly./E1
19	I feel I have a strong help network for my activities.	I feel I have a strong help network for my activities./E4
20	I see my friends weekly.	I see my friends weekly.
21	I had excellent schools with high quality.	I had excellent IT courses with high quality./I1
22	I am highly proficient in using language.	I am highly proficient in using programming languages./I4
23	At home, my parents keep track of my progress.	At home, my parents keep track of my progress./E2
24	My parents know where I am, what I do.	My parents know where I am, what I do.
25	My parents used to have a regular connection with my school.	My parents used to have a regular connection with my school./E1
26	My parents know parents of my friends.	My parents know parents of my friends.
27	I used to participate in school activities regularly.	I used to participate in IT school activities regularly./E1
28	I used to participate in extracurricular activities.	I used to participate in extracurricular activities./E4
29	My parents used to monitor my homework regularly.	My parents used to monitor my homework regularly./E1
30	I usually talk about job/education with family.	I usually talk about IT job/education with family./I2
31	I usually talk about job/education with other	I usually talk about IT job/education with other/I4
32	My parents had a say in school policy.	My parents had a say in IT school policy./E1
33	I feel I have strong ties with my peers.	I feel I have strong ties with my peers./E4
34	My parents have strong ties with each other.	My parents have strong ties with each other.
35	We have an intimate home environment.	We have an intimate home environment.

*(Khodadady et al. 2011).