

## SOCIAL INFORMATICS

**DEVELOPMENT OF SOCIAL INFORMATICS AS  
A STEP OF OPTIMIZATION THE HIGHER  
EDUCATION PROCESS IN KAZAKHSTAN**

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**KEYWORDS:** Social media network, Internet effects and challenges, social informatics

**ABSTRACT:** The Kazakhstani geopolitical situation raise the concerns on the worsening of the security situation on post-Soviet Central Asia and its involvement into the global informatization demands a development of social informatics as a new educational trend.

<http://dx.doi.org/10.15208/pieb.2015.07>

**PIEB, Vol.15 (2), PP.78-83**

*Source:* Tungatarova L., 2015. "Development of social informatics as a step of optimization the higher education process in Kazakhstan", *Perspectives of Innovations, Economics and Business*, Vol.15(2), pp.78-83, <http://dx.doi.org/10.15208/pieb.2015.07>

### Introduction

With the rise of the Internet, the interaction between society and information-communication technology (ICT) moved to a new level. People spend less and less time interacting with others in real life and those who spend more time online tend to be less socially adopted. Various networked devices have become routine information appliances in people's social lives, and the web has become an increasingly pervasive and important source of information, communication and connection.

Howard Rheingold describes this form of social co-ordination, which utilizes modern technology as the "smart mobs", which "contrary to the usual connotations of a mob, behave intelligently or efficiently because of its exponentially increasing network links" (Rheingold, 2008).

The life and the Internet make us to discover what makes particular technologies relevant to people's lives - researchers have to ask deeper and more profound questions about how our lives have become bound up with technologies. How do privacy concerns vary among particular groups, and what effect does this have on information security? How do the networks such as Facebook, Twitter, Instagram, etc. are changing not only the "style of communication", but the nature of the one? Questions like these and many others have important implications for technology design and usage of ICT, and they are representative of the issues that experts in social informatics may explore.

This process needs to be analysed - as a result the new academic discipline started to be taught at the universities under the common title as social informatics. Social informatics as a discipline - the same as CSI - deals with the interaction between

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\* This paper was presented to PICP Conference Proceedings "Internationalisation in Higher Education: Management of Higher Education and Research", 13.04.2015, Prague

information and communication technologies (ICT) and modern society in three ways, the one of which proves that the interaction of ICT and society takes place at the level of (a) the individual, (b) organizations and (c) society (information society);

Elaborated courses provides a survey of the key social, cultural, philosophical, ethical, legal, public policy and economic issues relating to information technologies. Beginning in the early 1980s, scholars have been peering into and attempting to untangle the complexities of these relationships; many of these investigations were undertaken using the rubric of social informatics (SI). By Social Informatics we mean "...the interdisciplinary study of the design uses and consequences of information technologies that takes into account their interaction with institutional and cultural contexts (Kling, 1999).

### **Content of the social informatics**

General assumption of the content and design of the course face us to the several factors. Teaching the course of Social Informatics is in public demand because it is possible to say that international society needs to analyse social aspects of information technology including benefits and drawbacks of technology implementation; identify approaches to resolving social dilemmas surrounding information technology development, decision-making and use; demonstrate new information technologies in such a way as to convey both the social assumptions built into the system and potential impacts of the system on social relations; describe the value of social informatics in professional and intellectual disciplines (Lamb and Sawyer, 2005).

Two years ago the discipline of "Social Informatics" was included at the Core of IITU as the elective course for the third year the students. The main idea of that decision was that the Kazakhstani geopolitical situation and its involvement into the global informatization demand for a development of social informatics as a new educational course. The other factor is defined through the urgency and importance of the "Nurly Zhol" National program given tasks: Cooperation and integration into the world educational space is the one of the main priorities in Kazakhstan's internal and foreign policy.

The first challenge that we faced was the method of study - the one was extra complicated because the IITU SI course was designed the specific way: it was taught by the professors from both Social Science Department and Department of Computer Science and Software Engineering. Having agreed for doing that combined classes, we assumed that "in the parlance of academic disciplines, neither the computer science nor the sociology views should be privileged. In social informatics, we focus on the web of computing, treating the material artefacts and social practices as bound up together in situated and mutually-constituted activity" (Berleur, Nurminen, and Impagliazzo, 2006).

The given design of the course requires contesting "two emerging theories - socio-technical interaction networks (STIN) and social actor approaches. The STIN approach provides a system-level framework that views the social and the technological networks as fundamentally inseparable components of the system (Kling, McKim, and King, 2003). The social actor approach models users as social beings, embedded within an enabling and constraining social context but with individual agency to shape that context (Lamb and Kling, 2003). Both the STIN and social actor approaches represent current theorizing activities within social informatics" (Berleur, Nurminen, and Impagliazzo, 2006).

The practice of social informatics is trans-disciplinary - spanning such diverse fields as computer science, sociology, communications, education, information systems,

information science, and others. We also agree with one of the principles (Kling, McKim, and King, 2003) that points out that “the design, development and use of ICT are contextualized and socially situated. The social and historical contexts pervade every element of ICT from conceptualization to design and to implementation and use (Berleur, Nurminen, and Impagliazzo, 2006).

It also considered being reasonable if the course introduces the social and behavioral foundations of the Social Informatics and theoretical approaches to how technology is used from psychological and socio-technical perspectives.

Currently the content of it may include the following topics:

- Comparative methodologies for social informatics;
- Human-robot interaction;
- Information and communications technologies (ICTs) and development;
- Gender and technology;
- History of ICTs;
- Political dimensions of ICTs;
- Privacy and security in pervasive technologies (especially health-related applications);
- Scientific work practices, etc.

The WikiLeaks and Edward Snowden scandals brightly have shown that ICT has become more influential force shaping a traditional idea of politics. But significant changes have occurred, as shown by how citizens have refocused their political attention because of ICT “intervention”.

### **Political dimension of ICT**

We would like to mark the Political Dimension of ICT. From a political point of view, the development of ICTs suggests the interaction with political-economical environment as well as governmental organization. It is important today for politics to use ICTs as a state governing tool, because of widespread of ICTs among the vast bulk of population. ICTs can act differently depending on general social conditions, such as political environment or the composition of the level of the knowledge among population (potential users).

Many countries already monitor and censor the Internet on a regular basis, forbidding access to numerous sites that they consider to be subversive or immoral. During recent unrest of 2012-2014, the governments of both Iran and China effectively shut down the internet by taking control of or blocking servers. Combined with switching off of cell phone transmitters, the steps proved effective in isolating dissidents. Undoubtedly, once the laws are in place a terrorist incident or something that could be plausibly described in those terms would be all that is needed to have government officials issue the order to bring the Internet to a halt.

We may be evident how seriously many people especially the young ones are forming so called Virtual community - a group of people with the similar interests, who communicate primarily through the Internet. Many large companies have created communities of employees to build a cohesive teams. When personal relationships installed between the employees, communication within the company may become more efficient. With the development of network communications online community is beginning to play a vital role for the business and the overall economy. Online communities are the new “grass roots” for the brand making. The most important factor here is that people believe whom they trust, and ICT make that “mystery” come true - the members of the virtual communities in most cases trust each other as

if they knew them in any other way than from the Internet community. The power and effect of the Internet and ICT has emerged such a dimension that they are used not only in brand making deal but as anti-brand instrument as well. That is why frequently used tool against trolls - intervention moderator - has becoming a wide spread process.

### **Some prospects for social informatics in Central Asia**

Communication devices or application encompassing: radio, television, cellular phones, computer and network hardware, software, satellite systems as well as various services and applications associated with them - text messaging, e-mails, weblogs, online petitions, photo and video sharing have constituted a sort of new reality the world have never faced before.

Social networking is a tool makes life easier and helps to solve certain tasks assigned to a person, though this form of communication in some cases might be more complicated and requires a virtual person more effort, it is possible to point out the most common ones:

First, possibility of simultaneous communication of a large number of the people being in different parts of the world, and, therefore, living in different cultures; secondly, impossibility of use of the most part of nonverbal means of communication and self-presentation; thirdly, pauperization of an emotional component of communication; and, fourthly, anonymity and decrease in psychological risk in the course of communication (Rheingold, 2008).

Above that there is one more challenge. Earlier, before the Internet, people got information by means of TV, radio and newspapers. All the media had their editors who choose what information to submit. People received only the information that was censored. Now, with the Internet, we don't have any censorship and we get tons of different information. For instance, in social networks, we can enter into interest groups or in Twitter we can receive news that we care about (Porter, 2004).

But in this situation we faced with another problem: we don't have any censor now, content of the Internet formed by users and it is a challenge to determine what information is true and what is false. Sometimes the absence of the censorship may be even socially dangerous - when the young users may become the object of extremist propaganda "covered" by the "innocent" chats on religious subjects.

That is why one of the preventing option that may be offered is to elaborate an interdisciplinary course that consider, for example, the most important issues of Eurasian secular and religious sensibility. While the same issues face almost all modern societies, and indeed the course aims to develop approaches to analysis that can apply to all such societies, we may focus primarily on the post-Soviet situation and the legacies of religious tradition and state policy that are present here (Petrova, 1996).

The Kazakhstani geopolitical situation raise the concerns on the worsening of the security situation on post-Soviet Central Asia and its involvement into the global informatization demands a development of social informatics as a new and urgent educational trend.

Whereas most scholarship on secularism considers it from the point of view of state-centered politics and processes of modernization leading to broad social transformation, SI discipline sets for itself the goal of developing methods of analysis for examining how, for example, the religious or political aspects of social life should be properly ordered in the conditions of aggressive information/propaganda flowing from Internet.

A report published recently by the Brussels-based International Crisis Group claimed that up to 4,000 recruits from Central Asia had joined ISIL in Syria and Iraq. Many of these new recruits are inhabitants of the Fergana Valley, an ethnically diverse region spanning Kyrgyzstan, Tajikistan and eastern Uzbekistan. Most Kazakh experts are positive that for Kazakhstan it is not the real threat, because in Kazakhstan historically Islam even in pre Soviet times never was influential.

The ICG report also claimed that the region's enduring problems of poor governance and repression could create the conditions for a resurgence of radical groups such as the Islamic Movement of Uzbekistan, an organisation that claimed allegiance to ISIL last October (Blackwell, 2015). Now, with the Internet and social networks we get tons of different information - in this situation we don't have any censorship: content of the Internet formed by users and it is a challenge to determine what information is true and what is false.

Sometimes the absence of the censorship may be even socially dangerous - when the young users may become the object of extremist propaganda "covered" by the "innocent" chats on religious subjects.

That is why one of the preventing option that may be offered in this situation is to elaborate an interdisciplinary course that consider, for example, the most important issues of Eurasian secular and religious sensibility. Ultimately, only real and effective efforts by the region's governments to conciliate their citizens will serve to head off the threat of violent extremism.

## **Conclusion**

Social informatics is an interdisciplinary field dedicated to studying the design, uses, and effects of information technology. Using the methods of the anthropologist, historian, and psychologist, we explore how cultural and social contexts shape both how technologies are designed and how they are used. By investigating the complex relationship between people and technology from multiple perspectives, the specialists' of social informatics ultimately help create technological systems that work better and more humanely.

The key features on Internet sites such as Facebook, Twitter and YouTube have become an international phenomenon and have been influencing the global community everyday life. The factors contributed to the emergence and development of a large number of online communities (web forums, blogs and blog platforms, wikis, chat rooms, mailing lists) are easy to install and use, and today everyone can organize the "own" community. This phenomenon needs to be analyzed through the special discipline that may be included into the Curriculum core for the students of Computer science schools.

Cooperation and integration into the world educational space is one of the main priorities in Kazakhstan's policy. The development of the Social informatics discipline for extension and deepen of ICT studying in Kazakhstani higher education is obvious, though it is a relevantly new course even in the Western universities. Participation in this process is of paramount importance for IITU, for increasing competitiveness of Kazakhstan's educational services. IITU faculty is the first in RK trying to inspire the elaborations of international standards in close cooperation with our colleagues worldwide. Development of Social Informatics is supposed to be a new step of optimization the higher education process in Republic of Kazakhstan.

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