Challenges on Democracy and Security on the Internet

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Abstract. Technology has been always a catalyst for revolutions. ICT makes the same thing, empowering both the control and the anarchy of society in the framework of the so-called "global information (or knowledge) society". A new global public space has emerged, breaking all borders in space and time, with all its social consequences. In the era of globalization, marginal communities need to re-engineer themselves to met requirements of a global knowledge-based network economy and change the risks of globalization into opportunities. Lack of development increases the “digital risks” and “digital divide” between developing and developed communities. "Cyberspace" is more than computers and software - first of all it is a complex of institutional and human networks. Impact of ICT revolution will depend on the relations between governments and citizens, with unpredicted reactions in developing countries that need to find its "own" way through the gaps between different rationales.

1 Introduction

Information and communication technologies (ICT) are generating a new industrial revolution, adding huge new capacities to human intelligence and changing the way we work together and the way we live together. It enriches and integrates communication means worldwide breaking all geographical and social borders; and creating new conditions for economical and political activism as result of the fusion of globalization, worldwide connectivity and knowledge networking.

Referring the phrase "information society" thrown by Daniel Bell in 1973 as significance of ICT for emergent service-dominated economies in post-industrial societies, we are at the beginning of this new technological revolution of ICT whose consequences is difficult to evaluate. For Developing Countries (DC-s), until the technological leapfrog "changes the way we work together and the way we live together" in particular ways to match with positive trends of developed world, there is no leap towards the development of present and the information society of future.

Development trends of DC's depend on their specific geographical position, history and cultural heritage. Garcia [1] writes about the necessity for developing communities to "reengineer themselves to meet the requirements of a knowledge-based network economy." This “reengineering” is related with contrasts on developed and developing rationalities. Because of it, in many developing countries and regions the impact of new ICT remains negligible, leading to new gaps with the rest of the

This research was assisted by an award from the Social Science Research Council’s Program on Information technology, International Cooperation and Global Security

world - the so-called "digital divide", and to new “digital risks” as result of deploying advanced technologies in undeveloped environments. Impact of new technologies follows the logic of Krantzberg's First Law "*technology is neither good or bad, neither is it neutral*" [2].

2 "Towards Information Society" - where are we going?

There is an enormous quantity of writings about the role of ICT transforming the human society towards a future "information society", emphasizing “knowledge” as a non-material kind of wealth that implies the development of humanity in a "knowledge society". Opinions vary from extreme positive for a society that will be more free to select from whom and how it will be governed [3]; to extreme negative for an ICT revolution that will mark the end of democracy (Guehenno [4]). In this context we may support the idea of accelerating human phenomena in new environments, extending the thesis of Bimber [5] that changing of informational environment of societies may lead to "accelerated pluralism" instead of changing the activism of people in public affairs.

ICT is entering slowly in DC's, mostly through mechanical use of technologies instead of creating new content. Slowly a worldwide public "cyber-space”, breaking all borders of space and time, is extended from developed countries towards developing ones. At the same time all human problems are emerging in this new public space of the information society. While developed countries have a relatively consolidated democracy based on their economical development, it is not the same with developing countries and optimistic scenarios are pretty disputable. Application of ICT may make governance more transparent and democratic in some aspects, as well as it may increase manipulation and dictatorship trends.

ICT creates better conditions for transparency, but it is only a necessary condition for democracy. To transform it into a sufficient condition we need to add the political will of the society. Integration of governance and ICT implies transformation but does not define its direction and its social impact in different countries and communities. Chester [6] remembers us that the key problem of information society is connected with the so-called "ideology of consumerism", that is the intensive use of ICT to gain production efficiency using information as capital. This ideology leaves no place for other social values, and technology serves in "maintaining a culture of unrestrained capitalism rather than a new society". Such argument means a shift of the problem from technological to political domain - that is the challenge for sustainable development through use of ICT conditioned not by technological factors but by political decisions. The key to solve this problem remains the political will to do democratic reforms.

3 Digital Divide or Political Divide

The Internet proved to be an excellent mean of global communication and in a time span of five years 1995-2000 it extended from developed countries worldwide,

becoming available for lower layers of societies as result of low cost of information and communication resources. But the impact of ICT oscillates between distribution and concentration of power, related with three crucial issues: (1) accessibility of information; (2) reliability of information; and (3) concentration of information resources. Deployment of ICT seems to have its handicaps, and in this context we will discuss technical handicaps and political handicaps that shape the impact of new technologies in DC's.

"Mediametics" defined by Latzer [4] as the fusion of electronic mass media with telecommunication and computing, favored by deregulation principles of actual governing ways, leads towards more concentrated ownership and creation of very big operators ("CNN phenomenon"). Such very big operators may deeply influence in policy-making, and their weight may overshadow possibilities of new ICT used by individuals or small communities. In the age of satellites, electronic mass-media may remain the most active service for dissemination of information, and combined with "mega-sites" of Internet may lead in new ways of concentrated e-government, which would be not so democratic as expected.

Compared with broadcasting, the “Internet phenomenon” gives freedom of publication and selection of information. But at the same time it creates complex problems with accessibility and reliability the information users publish and acquire, as well as user preferences and hobbies. People depends more and more on search engines as the only universal way of finding information in cyberspace. The visibility of “big ones” increases with possibilities to assure the quality of search engines related with the connectivity, content, and quality of presentation and response time. In this context the idea of neutrality of search engines is debatable. Scholars as Introna and Nissenbaum [7] and others point out that due to social, economic and racial factors, the Web is pre-configured in political ways in favor of circles wealthy in economical and technical resources. The politics of search engines reflects the traditional political struggle in a new "digital environment".

The other problem with search engines is related with their efficiency, which is reflected in two ways. The one is that they scan the cyberspace indiscriminately, which gives enormous quantity of indexed pages. The other is that search engines do a selection based on the level of usage of pages. The Web is becoming almost inconceivably large so even search engines are only partially effective on finding interested data. First, the web-space covered by search engines is evaluated in 30-60% of the whole [8]. Second, there is no distinction on quality and reliability of the information. Third, with the increase of data volumes, the time of indexing becomes relevant and certain documents may loose their importance when included at least into searching indexes, as well as important documents may be "lost" because of not used.

Human society development has always gone through a differentiation process, even under the logo "liberte, egalite, fraternite". Heeks [9], for example, argues that "E-governance lies at the heart of two global shifts: the information revolution and the governance revolution". Heeks concludes that the e-governance gap is "increasingly separating developed and developing countries, and elite and ordinary citizens within developing countries". Following the logic of Heeks, we may ask if "information society" would be some new kind of "information capitalism". If "being on line" is

more a technological issue, proper "digital information and knowledge for governance" is a political issue.

The “engine” of the ‘political will’ in developed countries is their developed and democratic economy - just what is missing in developing countries. The information society is result of developments based in adoption of ICT by citizens, and this is conditioned by two key factors: (1) intensity of development; and (2) direction of development. When this “economical engine” is missing, both factors may have significant negative impact increasing the digital divide: (1) between developed and developing countries due to the first factor; and (2) within the country itself due to the second one. It is the political will, conditioned by the economic-social-political structure of the country and built over particular economical interests, that controls the development of countries and social consequences. Enthusiasts of "information society" emphasis technological capacities for information processing, remaining unaware of the fact that "improvements in information processing outside the mind does not lead to more meaning within the mind" [6].

How governments will react before the "invasion" of ICT, it depends firstly on how they consider their citizens: as "partners", "tools" or "raw material". In a country where, due to economical and social development, there is a democratic background we may expect good e-governance and the application of democratic principle "people lets leaders to govern them" [3]. Where this democratic background is missing, little democratic would be expected from e-governance applications. Even in the past there were means by which political leaders would leave people to let them govern. Deployment of new technologies in social phenomena may have contradictory impact, leading the society towards social new problems while resolving some others. Application of new technologies especially in DC's may lead to new polarization of society and new social and political crises. Internet as a tool for democracy may become a tool for de-stability.

4 The Dark Side of Cyberspace

The democracy of information society will be result of adoption of new ICT by governments and development of e-governance. This adoption implies profound changes on information resources and information flows, changing inter-government and citizen-politician-state relationships [10]. This process will be conditioned by the contradictory character of the technology itself, as defined by the Krantzberg's First Law. The same issues that made the Internet to "go there where no network has gone before" [11], make it a good terrain for both positive and negative activism.

ICT creates greater possibilities for information access and governments may be forced to accept the availability of these possibilities for the people in order to obtain the advantages of technology. But this does not solve the problem - it makes the control desirable for governments and useful for citizens. The balance between “desirable” and “useful” defines democratic trends of development of the information society. It has to do with the information and miss-information in the “cyberspace”, with correct/incorrect production/usage of information. The case of Y2K showed

clearly the complexity and the depth of problems created as result of increasing use of ICT in every field of human activities.

There are several "dark" aspects of "cyberspace" on relations between users and content providers. It is not simply a question of ability for users to get what they need, but how useful and profitable would be what they may find, and what would be the impact on the user of his relations with content providers. New technologies have increased the intensity of problematic activities. In few words it is more or less a "security and privacy issue". The user may be attacked and manipulated through the content he receives in a public space developed over a worldwide network.

Dangerous or unreliable content may come from remote places where user's country laws are not applicable. Typical examples are distribution and communication of socially offensive materials that may be considered as a threat for community identities and cultures. It may be spectacular as in the case between France and Yahoo.com. It may be critical in cases of social, political, economical or natural crises.

In the same way while downloading from the Internet, users may receive undesirable and dangerous executable content without being asked for. Users do not have full control over what happens with their computer and how computer configurations are modified. Their systems may become "platforms" to attach other users, creating what may be called "public security" on the Internet. Increasing protection tools is simply a word; cost-effective protection and commodity are not very compatible with each other.

Beside the "dangerous content" there is also "differentiated content" that impacts users [12], [13]. Through how users search and acquire the content, it is possible to guess their attitudes and offer differentiated content. Differentiated, content may be commode when users navigate in a friendly environment, but worldwide cyberspace is not always friendly, especially when we talk about e-governance that means "politics" with all its consequences.

These problems are not simply technological. Commercialism pushes providers towards commodity at least for a wide range of ordinary users, and "secure commodity" means "high cost" that is problematic for developing countries. Governments are already controlling Internet backbones for criminal activities and preparing “cyber-war” [14], [15]. When wired we enter in a "virtual dictature". If in a political dictature we know who is [formally] at the top, in a "wired virtual one" it may be invisible, and even governments are not immunized against this phenomenon. It begins with distribution of disputable content. It ends with pure criminal activities in economic and political domains.

Such phenomena are visible within countries as well as across national borders, where deregulation, privatization and globalization helped in transformation of local criminal activities in global enterprises: "globalized crime is a security threat that neither police nor the military - the state's traditional responses - can meet" [16]. To assure reliability and security of information and its services, networks may be controlled. It depends on who controls and how. If it is problematic for developed world, it may be catastrophic for developing countries that lack political, legal and technical means to do it.

In developed world another risk in imminent, related with high possibilities of blockage or even destruction of information systems developed over new ICT due to

lack of legislation, attention and resources for running and maintenance, especially in public administration and other similar services. For example, if there is an energetic crisis and electricity power is delivered with long interruptions, it is difficult to keep reliable computerized information systems: (1) clients are not served; (2) officials are not motivated to use computers; and (3) if really used, any unrecoverable incident may be fatal for both clients and service providers.

The impact of ICT will depend on human networks that will evolve over Internet using these technologies. This means a shift of power form governments towards other entities in the framework of globalization that may lead to new conflicts and problems; while increasing voices of individuals and groups with different interests may lead to less common identity and interest for public goods, threatening the democracy itself. If in developed countries the tradition and stability may keep this process within democratic frameworks, in developing world it may lead to extremist situations. All this dualism has to do with the content that runs over the technology. The content reflects the human spirit, and the technology cannot remake it. By deploying new technologies we simply shift problems from one dimension to another. Inequalities are rooted into the global system, and ICT infrastructure is "positively associated" with the economic performance [17].

5 Challenges of Developing Countries

One of main causes for social and political crises remains the “economic divide” between developed and developing communities. While developed countries are characterized by intense deployment of ICT, developing countries are making many efforts to introduce these technologies. But the situation remains pretty contradictory due to lack of social and economic impact of new ICT compared with the investments and international efforts. The global policy of aids for DC's, including implementations of ICT, is characterized by a blind importation of western rationality. In this context Avgerou [18] argues that the western rationality may be used to define a range of technical and economical problems in DC's, but it seems quite unsuccessful to force solving of these problems in DC's according to western rationality. IT is considered as one of most important forces for the development of DC's, and Avgerou considers this technology-deterministic point of view as naïve but also neglected by majority of researchers and professionals, missing to "address deployment of ICT-based IS as manifestation of different rationalities."

Lessons may be learned from other countries, but there is no "one best way" - each country must be helped to find its "own" way, emphasizes Heeks [19]. Instead, the tendency is to import the ‘ways’ and the impact of ICT remains relatively low. The first visible cause for this phenomenon is missing or inadequate infrastructure and of financial means. But infrastructure and financial problems are result of low general economical development. In normal conditions infrastructure develops gradually in parallel with the general development of the country, and impact of ICT goes through transformation of production processes. ICT are only a necessary condition for the presence of different organizations in the globalized world, there are other conditions

that make the "sufficiency", as the nature and quality of production/services, banking systems, legal regulations, cultural and language differences etc.

It is not only the difference of environment where ICT deployment takes place that implies different rationalities. Technology is non-deterministic and its impact on society will depend on policies and strategies adapted to address these impacts. Heeks [20] defines the ICT as "electronic means of capturing, processing, storing, and communicating information; in order to make this useful, we add in two further components beside the technology and the information: processes of purposeful activity and people to undertake those processes; all of these together now make up an 'information system'." But this system cannot sit in a vacuum, it exists within an environment of institutions and of influencing factors and there are information systems serving as “interface” between ICT and institutions. The problem originates from the confusion between ICT and information systems.

Considering information systems as nothing more than a set of people, data, and procedures that function together to supply information for decision-making [21]. If this “trinity” - people & data & procedures is not in place, we cannot expect positive and significant impact from ICT. Deployment of ICT is based on automatization of information processing. To have effective automation, formalization of structured decision problems is a necessary condition. This is missing in may cases in DC's including the Albanian case; where computers are used mainly for automation of individual working processes, each of them in its own way, without any significant institutional integration. Willcocs [22] points out that while ICT refers to "information based technologies", more important is mapping of ICT into IS composed by "organizational applications". There are organizational applications, built over ICT, that by processing and combining organizational data produce the information necessary for decision-making.

In this context individual applications partially are replaced and integrated in organizational applications, by following the logic of Bellamy and Taylor [10] that "Informatization occurs, when data collected for a multiple of purposes, at different times and places, can be integrated and shared to become resources of vastly increased significance and application." Information revolution implies the 'informatization' revolution, i.e. application of ICT on integrated formalization of different individual information processing tasks. But the experience of developing countries shows that enormous efforts are done to implement ICT without taking care of institutional issues. In a country in transition, institutions are not consolidated and work procedures not formalized. In such conditions, the best to be expected from ICT would be a partial automatization of individual procedures. It leaves the informatization integration to evolve gradually in time together with the consolidation of the institutions, probably leading to unexpected results. To speed-up this process and clarify its objectives, the deployment of ICT must be considered as part of institution building processes.

The way to shape ICT in the framework of institution building goes through defining necessary nation-wide strategies. Again, the case of Albania is an example how western rationality is “inserted” as a project proposed and funded by UNDP for compilation of a National Strategy for ICT. The draft is already written, and some ministerial structures are activated to take care of it. Anyway two issues remain in darkness: (1) “will government take seriously into consideration this strategy?” and

(2) “will government use this strategy to stimulate democratic development or strengthen monopolies?” As result of different rationalities, in developed world ICT may be considered as a tool to increase economical development, in developing world it may be considered as a tool to strengthen political power despite negative effects over the economy.

6 Conclusions

Human activities and problems are evolving in cyberspace, with more possibilities for both democratic and dictatorship development trends. Activist groups for human rights as well as extremists use Internet intensively. It is used for business exchanges as well as criminal activities. Somewhere people use it to "tunnel" through government control, somewhere government tries to control how it is used by people. It creates excellent conditions for people to express their interests and hobbies, as well as acquire dangerous information and contacts. With cyberspace we are not re-inventing the human spirit, only extending its presence in new public spaces.

ICT are breaking all borders of time and space. The information society seems to be without borders. At the same time the society is framed in state borders and specific legislation that control human activities in each state. How human activities in two different public spaces, within borders and without borders, will match each other - it remains an open question. It may lead to new ways of political activism may emerge, pushing people to repeat the errors of the past with the illusion that new technologies will change the human spirit and resolve problems. Instead, through deployment of new technologies we simply shift problems from one dimension to another.

Fiction writers wrote many works on cyber-wars and terrorist wars. Recent developments showed that terrorist wars are a bitter reality. With the intensification of ICT deployment, cyber-wars are becoming a bitter reality. Tricks of today’s hackers may seem as childish compared with big powers hacking. The Y2K problem showed clearly that ICT of today, if crashed or gone out of control, might lead to catastrophic consequences. Tomorrow the society will be depend more and more on ICT… It is a problem for developed countries, but it is a bigger problem for developing countries that import the technology much more easily compared with importing of the way of life and of governance.

Deployment of ICT is so intense in developed countries, but it is so little in developing ones. It represents a dual digital divide: (1) between developed and developing countries, the latter being not able to follow up the leaps of former; and (2) between different social layers within developing countries, where certain communities are marginalized and living in poverty. Someone will do a “leapfrog” using for the first time a computer instead of a typing machine or mobile phone without using before cable phones, but he will use new equipment in the same way as he would use the old ones. Someone else does a “kangaroo-leap” changing the way of life and work using complex applications based on mobile platforms. We have two worlds that do not converge all the time.

We help developing countries to import new ICT, pushing them to do technological leapfrogs by accepting an inevitable luxury. But little attention is shown on crucial issues how the society, organizations, people do work together. We bring good experts from abroad to take local people by the hand and leading them in the technological labyrinths. But little attention is shown what is the social and cultural background of local people. Sometimes we apply wrong solutions using western models; sometime we even repeat the errors of the past. Lanfranco [23] wrote recently that: "... the year 2002 failures in eGovernance initiatives are exactly the same as in 1962, 1972, 1982, and 1992 failures in development initiatives..."

New realities push us towards the democracy based on bottom-up development. At the same time the same realities push us to control the cyberspace in a top-down way. The question is how to blend together the decentralized bottom-up trends of development with the necessity of interoperability of systems and networks, i.e. achieving a "centralized" coordination in a decentralized environment. It is how to make a reasonable horizontal decentralization by well-balancing vertical control and monitoring, how to neutralize trends for polarization of power, negligence and manipulation. It not simply ICT we need for the development of the country; we need the political will for development and democracy, and we need the power to make it reality.

Evaluating the comments of many researchers of social sciences during last ten years, as well as the actions of producers, IT experts and decision makers from developed countries, it seems that emerges the evidence of another gap in human society. It is a gap between social sciences, technology makers and decision-makers. We have the feeling that the warnings of social science are neglected or misused in practice, when actions to help developing countries are prepared and executed not always in compatibility with local realities. All this reminds the old proverb "One is incorrigible if falls two times in the same hole". It seems that the "incorrigible" element is within the human society itself.

References

1. Garcia L.: Cooperative networks and the rural-urban divide. Paper Proposal for the Social Science Research Council Volume on Cooperation and Conflict in a Connected World. (2001)
2. Kranzberg M.: The information age. In: Forester T. (ed): Computers in the Human Context, MIT Press (1989)
3. Nath V.: Networking Networks for Empowerment and Governance. Global Development Network, World Bank, Japan. http://www.cddc.vt.edu/digitalgov/gov-menu.html (2000)
4. Kaase M.: Political science and the Internet. International Political Science Review, v.21, n.3 (2000)
5. Bimber B.: The Internet and political transformation: populism, community, and accelerated pluralism. Polity, v.31, n.1 (1998)
6. Chester J.P.: Towards a human information society - people issues in the implementation of the EU framework V programme. HUSAT Research Institute, UK (1998)
7. Introna L.D., Nissenbaum H.: Shaping the Web: WHY the politics of search engines matters. The Information Society 16:169-85. http://www.princeton.edu/~helen/engine.html (2000)

8. NATO: Networking the Security Community in the Information Age. Conference Report: 3rd International Security Forum and 1st Conference of the Consortium of Defense Academies and Security Studies Institutes 1998, Switzerland. In: Odenthal H.W., Spillmann K.R., Wenger A. (eds): NATO Defense College Monograph Series Summer 1999, http://www.fsk.ethz.ch/publ/online/
9. Heeks R.: Understanding e-governance for development. Working Paper no.11, IDPM, University of Manchester, UK (2001)
10. Bellamy C., Taylor J.: Exploiting IT in public administration - towards the information policy? Public administration, v.72, n.1 (1994)
11. Cerf V.: Closure speech at the ISOC Network Training Workshop. INET'96, Montreal, Canada (1996)
12. Iyengar S.: The method is the message: the current state of political communication. In: Political Communications (forthcoming) (2001)
13. Kopytoff V.: Group files complaint with FTC on Web search. San Francisco Chronicle, July 17 (2001)
14. Schwartz J.: FBI's Internet Wiretaps Raise Privacy Concerns. Washington Post, Wednesday July 12, 2000
15. Wolf J.: Russia, China working on cyber warfare - US official. Reuters, Washington. Thursday June 21, 2001.
16. Mathews J.T.: Power shift. (Changing role of central government). Foreign Affairs v.76, n.1 (1997)
17. Choucri N.: Cyber-politics in international relations. Political Science Review, v.21, n.3 (2000)
18. Avgerou C.: Recognizing alternative rationalities in the development of information systems. EJISDC[1], v.3, r.7 (2000)
19. Heeks R.: Building e-governance for development: a framework for national and donor action. Working paper no.12, IDPM, University of Manchester, UK (2001)
20. Heeks R.: Information and Communication Technologies, Poverty and Development. Working Paper no.5, IDPM[2], University of Manchester, UK (1999)
21. Hendrick R.: An information infrastructure for innovative management of government. Public Administration Review, v.54, n.6 (1994)
22. Willcocs L.: Managing information systems in UK public administration: issues and prospects. Public Administration, v.72, n.1 (1994)
23. Lanfranco S.: E-governance initiatives fail. Message sent to egov4dev@yahoo.com discussion group, 31 August 2002

[1] Electronic Journal on Information Systems in Developing Countries. A joint publication by: University Malaysia Sarawak, City University of Hong Kong, Erasmus University of Rotterdam, the Netherlands, Delft University of Technology, the Netherlands. http://www.is.cityu.edu.hk/ejisdc/ejisdc.htm

[2] Institute for Development Policy and Management. The University of Manchester, UK. http://idpm.man.ac.uk/idpm/idpm_dp.htm