

Future of Business Intelligence System Regarding the Protection of Privacy of Individuals, Organizations, Companies and Society as a Whole

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Abstract

The aim of this paper is to predict the development of the business intelligence system in the future regarding the protection of privacy of individuals, organizations, companies and of society as a whole. The future of business intelligence is seen in the founding of a multidisciplinary science which will encompass the whole society, politics, economy and security organizations, and will be based on knowledge. One goes from the premise that it is knowledge, within the intelligent revolution, which will help us develop new technologies and improve the existing knowledge to our benefit, to be better equipped for the challenges of globalization and the increasing need for the protection of privacy.

The paper is based on initial research of the project entitled "031-2/2008 Research Into Matters Warranting, Economically and Situation-wise, Adaptive Restructuring of an Organization in a Dynamic Environment" and is the continuation of earlier research into the concept of terotechnology within the study of organization and business intelligence protection¹.

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Introduction

Our era is characterized by the globalization and improved technologies which are based on information and communication. These phenomena are the core of capitalism as the main social arrangement

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which is incorporated in all relations today. This is the era of very fast changes which place high requirements on experts to be more expedited in analyzing new phenomena in the society based on new technologies.

Globalization and new technologies initiated an impressive outflow of goods, services and information. We need intelligence together with new technologies to perceive, classify, understand, analyze and exploit that information in the light of specific aims. New technologies have become a tool for human intelligence and social development in general.

The difference of intelligence in the past and today is seen in the access toward information. Many sources of different kinds of information are open and almost everybody can use them. It is this characteristic of the openness of information systems which could be the main problem today especially because of overflow of information from different sources. Information with added value is intelligent information which we can use. Other redundant information also reaches us through different channels from different levels. Our intelligence is a collector for all kinds of information. Anybody who has got an access to the Internet could theoretically find any information wanted - the precondition is general knowledge and basic knowledge of technology. Business Intelligence as the topic of this paper is seen in the founding of a multidisciplinary science which will encompass the whole society, politics, economy and security organizations, and will be based on knowledge. It should gather different experts and scientist from various fields: international relations, economy, informatology, neurology, sociology, philosophy, psychology to develop intelligent systems for the benefit of individuals and society as a whole.

Business intelligence systems mostly exist in the field of economy because every significant company today has a business intelligence department the same as every significant country has business intelligence and security systems incorporated in state bodies. We predict that business intelligence systems should improve many fields of human activities. The gathering, analyzing, processing, implementing of necessary information will request investments in business intelligence education as well as investments in research and development of new technologies and in improvement of existing business intelligence tools such as data mining, data warehousing and artificial intelligence.

In the initial research of the project one point on basic discrepancy between economic and efficiency of BI activities and level of threat and endangering of privacy data protection (individual or corporative). Increased possibilities of secret privacy endangering through the different techniques of surveillance are obvious in our first shown results.

First simulation of organization point out to significant impact of BI department in the role of protective BI activities to the structure of organization, but less impact to economic at all.

Individuals as consumers and voters are constantly pressed by different offerors and should also have to develop they own business intelligence systems to protect themselves and their privacy from exploitation. Surveillance is omnipresent at all levels of society and we should develop better protection in the scope of human rights and

liberty. Airplane tickets, money transactions, on-line orders and invoices, communication technology, public video surveillance and identification by different techniques (face lines, fingerprint, eye retina, biometrics, genetics, etc.) are just some of the modern media and forms of surveillance. The above-mentioned forms of surveillance are twofold; they protect us and invade our private sphere too.

The strong impact of commercials to human sub consciousness with the aim of turning individuals into very good customers addicted to different brands. Different questionnaires and surveys place individuals to specific categories and take from individuals lots of useful information for further and further commercial attacks. The credit card system is very useful for predicting consumer habits, tastes and interests. More information about an individual gives more power to offerors to manipulate and control. The ethical codex about the protection of privacy should develop and adapt due to the previously mentioned forms of control. The international law should develop global privacy protection laws regarding the globalize world beyond national boundaries and regarding new technologies of business intelligence and surveillance.

Definition of the business intelligence

Business intelligence existed even before this term was invented and defined. Economic espionage existed hand in hand with trade of any kind. The fight for territory, food, water and survival in general include the use of intelligence for better positioning. The exact term - business intelligence was defined explicitly in the 20th century. Winston Churchill was one of the best promoters of business intelligence and security systems. He invented Industrial Intelligence Dept. in 1919 which was crucial for monitoring German industrial development in Hitler's era. Great Britain had the first business intelligent system and other countries followed them.

The term Business Intelligence followed the term - 'social intelligence' of Stevan Dediđer in the seventies. The whole world, all beings, companies, states and organizations use intelligence (Dediđer, 1978). We also find the term business intelligence in Sweden in the middle of the eighties in the form of Business Intelligence guide by the intelligence secret organization. The military and police systems go through transformation from closed secret organizations to open and informative modern organizations based on business intelligence. But business intelligence has been fully discovered through economy, management and their needs.

By 1996, the use of Business Intelligence solutions shifted dramatically away from dedicated analysts to all managers and professionals as the preferred way of understanding the business. Instead of a small number of analysts spending 100 percent of their time analyzing data, all managers and professionals will spend 10 percent of their time using business intelligence software. Business intelligence indicates intelligence activities in the business field through the ethical process of legal collecting of public and widely accessible data; analyzing and transforming this data to intelligence and knowledge for the purpose of management support in decision making and preservation of existing positions when faced with competition, avoiding any kind of threats and improving ultimate advancement of the user (Bilandžić, 2004).

From the management point of view one needs to define two basic intelligent activities in the goal of operationalizational BI activities:

- 1 Defensive (protective)
- 2 Offensive researchable (collective)

Far East economies and their companies used to develop total BI activities where all employers have got both BI tasks. Existing of the total BI concept, does not exclude existence of especial BI department for BI protection, same as outsourcing of BI research. From the economic and organizational point of view same as presentation of BI researches; offensive BI activities are significant ballast for business of organization. (Belak, 2008)

A research done by the State Department and the National Counterintelligence Center found 466 incidents of stealing economic and technology information in 173 American companies in 1995. But only 58 percent of those companies declared the incidents to the Government because they were sure that the possibility of catching the perpetrator was very small. Today every significant country and company has a business intelligent system incorporated in security and management operations. Germany, Japan, Great Britain, Sweden, France, USA, Rusia, China, Brazil and others have got very sophisticated business intelligence systems.

The wide use of computers and the Internet, of phones and satellites produced a huge amount of data. American scientists estimate that 800 Mb of data is produced every year per world capita. Accelerated developments of new technologies, informatic revolution and revolution of intelligence have got a strong impact on the contemporary society, politics and economic development in real or virtual space.

Transnational production has been most effectively encouraged by hypermedia environment is its possibility of transaction data (voice, text and picture data) throughout the world. (Deibert, 2001) There is lots of data, it flows very fast and the time of feedback is shorter and shorter. The new technology era has got few main features; fast changes based on the flow of data; great amount of data production on different levels from different channels, relevance of data significant for production of knowledge and data networking.

Protection of privacy

Researches in the Project shown that the protective BI demands, in the very short future, will cause necessity of abdication of some part of employees privacy in the organization with the goal of insurance and protection of data regarding surveillance of communication, assets and goods of individuals.

In the world of new technologies, the question of privacy protection is more and more important. Cameras are placed all over the main cities. Cameras also monitor private life of many public persons. Media are omnipresent in our lives. Reality shows on TV and the Internet, video clips and satellite maps are a necessity of our time. Who will draw the line between security in the light of protection of our identity which we expect and the privacy we need? Who is appropriate for the protection of human privacy when we live in the

time of national boundaries which are disappearing? International laws and international courts should redefine their mission.

The question of law in the digital era is related to the right of owning and copying information such as medical records or patented drugs, to the right of insight and possessing somebody's correspondence, to the right of possessing, copying and distributing music or video clips through the Internet or shortly to the right of creating profit on somebody else's knowledge and investments (Terranova, 2004). Information as a value should be protected whether it is in the interest of an individual, an institution, a company or an organization.

There are three main protection fields: territory protection, personal (copyright) protection and information protection (Fischer-Hubner, 2001). New technologies (nanotechnology, genetic manipulation, robotics and artificial intelligence, etc.) widely open the door to the individualization of the war. The individualization of the war eliminates the walls existing between the army and the civilian society but also the walls between suspects and those who are not. Although there is a threat of individualization of the war, the citizen should prove that he is not dangerous because in this situation at the end, every individual can become a suspect, everyone can be called a terrorist.

The threats of terrorism gave rise to the fact that everyone could be checked without a certain concrete cause, without any legal evidence, because of the overall security. The individualization of war could bring death to democracy because countries should reunite with other countries against citizens to prevent the danger from their citizens. That leads us to killing the plurality of society and expert rationality, independence of courts and unconditional respect of human rights.

Inside the developed democratic states, basic citizens and political rights suddenly become questionable and they are not topical anymore even with the proof of the great majority of population experienced in democracy. Governments, parliaments, parties and people who usually compete and block each other, if faced with a choice between security and freedom, make a unanimous and fast decision to decrease basic freedom (Beck, 2004).

On the other hand global consciousness of human rights protection has been raised.

The foundation of the United Nations and the Declaration of human rights after the World War II is very important for establishing the protection of individuals after the end of the 20th century which brought them torture by national conflicts and genocide.

Categories of surveillance

One of the leading theoreticians of surveillance David Lyon gives us the categories of surveillance:

- 1 categorical suspect includes surveillance of the identification threats toward peace and order. Especially focused on dissidents and terrorists and increased after 11. 09.

2 categorical seductions are being related especially on modern marketing techniques of behaving of customers in the aim of keeping customers and finding new ones.

Two more categories have been added (Ball, Webster, 2003):

3 categorical cares - which includes the surveillance in health care system through the medical records in which patients are categorized in certain groups regarding genetic heritage, family anamneses and social status.

4 categorical exposures include media surveillance being more and more present in the contemporary society and which look at the celebrities from media stars to politicians. All the different media (television, radio, print and the Internet) are being critical during analyzing people, places and events.

Does the new technology provide that 'big brother' can watch us non-stop or could we watch 'big brother' too? The Internet is an example of a contemporary technology in which the information flows simultaneously, panoptical and synoptically, not only so that few can watch many but many can watch few. 'Big brother' is based on an electronic Panopticum - architectural plan of a prison from the 18th century (Jeremy Bentham) which was invented as a system of constant surveillance while the prisoners do not know that they are being watched, also do not know when and how. On this example Foucault builds his general theory of modern surveillance that we had already mentioned. In modern countries different associations, scientific and political techniques together regulate even the most personal sides of everyday life.

USA today becomes the society of maximum security because of hypermedia technology which is the strength of secret police surveillance (Gary Marx, 2006) and there is a remark of strong electronic surveillance of criminals once they are set free (Stanley Cohen, 1993).

Everybody agrees that is hard to deny a great level of surveillance which is the consequence of contemporary technologies and their share of personal data. Financial Crimes Enforcement Network (FINCEN), for example, follows the great financial transactions and compares it with social, private and foreign database and also with profiles of typical shapes of financial criminals with help of powerful computer programmes of artificial intelligence (Bercu, 1994).

New technologies simultaneously preclude the surveillance of information flow because they are smaller, moveable and like that they are hard to monitor especially in the liberal economic politics which supervise the penetration of foreign investments.

It is very expensive and almost impossible for a country to follow the whole flow of digital information in the country and out of the country. The panoptical metaphor of surveillance should be taken with caution because now days surveillance is not only in the hands of the county but it can be in many other shapes of personal surveillance from commercial collecting of data of every kind to security cameras in shopping malls, banks and others institutions and also tiny handy cameras.

The technologies placed in the universe are even more significant. The Earth is covered by a tight network of national, regional and international military, commercial and ecological system of recognition. The things which used to be available only to the military sector can today be bought on the open market. This means that the center of surveillance is expanding and today everyone is allowed to watch everyone. Citizens can directly be part of political processes through the Internet.

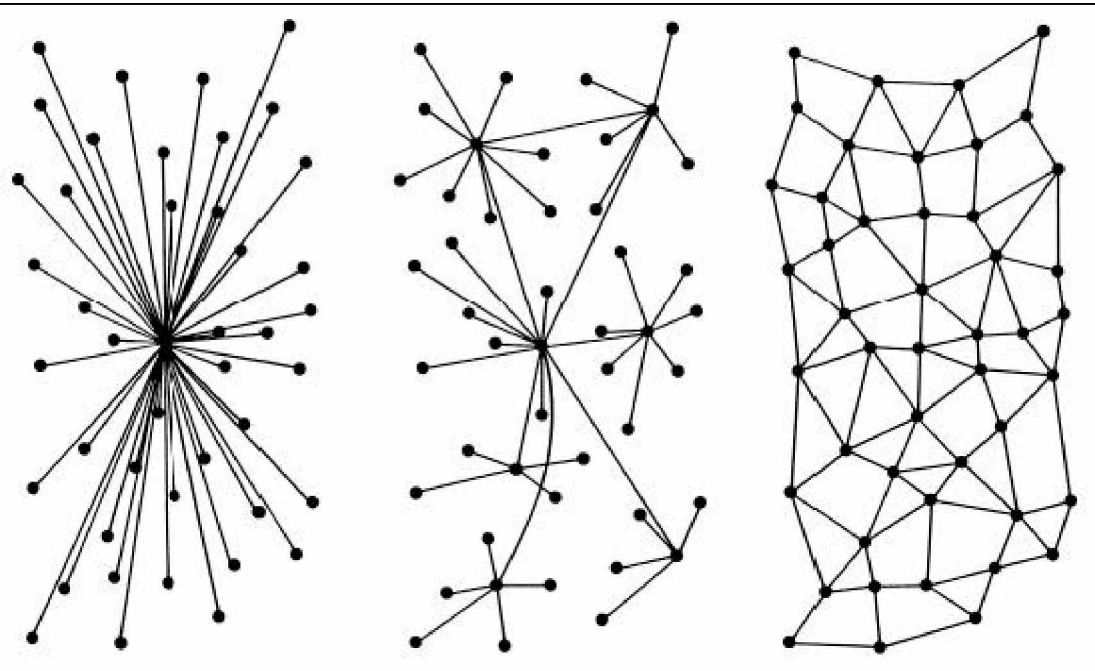
New technologies open the way to surveillance but that surveillance goes both ways and ambiguous. It can endanger our right but can also protect us. Gary Marx says that all totalitarian systems are marked by the absence of respect for the rights of individuals to have control over the information about themselves. Individuals should have the power of surveillance of different areas of their life and should have the power to choose which of these aspects they want to expose and which of them they want to leave for themselves. Individuals can be protected by the new technology in the light of identity protection which is more and more important especially in on-line transactions like paying with credit cards, access to bank accounts and other similar situations.

Social and private sector peeps into our lives and follows our different transactions. We are not very satisfied with that especially if somebody calls us by our name and surname in trying to offer us some service or product. On the other hand we are grateful for being checked when paying with credit card in a hotel, restaurant or shop. Then the possibility of proving our identity can serve for our protection.

The world brain

Information society, intelligent society, network society, virtual society - however we name the era we live in, there are some unique features. Generally speaking, individuals could physically persist anywhere. They only have to be on-line, connected to the network, where they use knowledge important in the working process. The network is the new place where they work, play, buy, vote, and make decisions about their destiny. The network is the place where they live through the information economy. The network is also the place where individuals educate themselves in the various fields for the whole life. History just began, if we see history as the moment after the millennium prehistoric fights with the Nature; first for surviving, then for control, when finally human kind reaches knowledge and organization of society to live in a mostly social world (Castells, 2002).

Figure 1: Centralized/hierarchical, decentralized/hierarchical, and distributed/nonhierarchical networks



Source: (adapted from Baran 1964, Deibert, 2001)

In this social world, business intelligence is seen as a cumulative discipline based on knowledge which has to encompass the whole society, politics, economy, security and international organizations. Knowledge, in the era of intelligent revolution, will help us to develop new technologies and improve present technologies with the aim of managing better the globalization and virtualization of the economic processes. Artificial intelligence is seen as a main technology for the information economy in the future. Data collection, data warehouse and data mining as well as processing with all kinds of data base, become very important techniques for the business intelligence system. Network society based on the Internet is somewhat similar with neural networks in the brain. When we are all finally connected we become the world brain.

The new intelligence revolution is considered by Stevan Dedijer and others to be the latest step in the evolution of humanity. Stevan believes the current revolution to be as important as when man learned to speak 100 000 years ago, or when the art of writing was introduced approx. 2 000 B.C. But intelligence science is still an underdeveloped area, mainly because of the extremely rapid and complex changes in the world which must be integrated with those in the scientific fields if we shall ever be capable of understanding the intelligence revolution. Nobody has yet built a holistic view of intelligence. There is an increasing need for the integrated study of the human brain, personality, machines and the social system. There is not yet a method to study how these factors interact with each other. (Dedijer/Carllson, 2000, p 289, 290)

This world brain network has not yet been able to solve the problems of the world, but it has identified them. The question is; are the world brain so developed that it can begin to solve the great general problems of over-population, pollution, food shortages as well as the gap between the more and the less developed nations (Dedijer/Carlson, 2000).

Surveillance is a necessity but also the consciousness of people and a need for a higher-quality international system for the protection of human rights will rise. Winston's idea of the Ligs of people is just as important as the United Nations however this organization shows fatigue through corruption and failures. It is even more important than the functioning of international courts for human rights. All those organizations are the future which will be based on collective intelligence and contemporary technological achievements. Collective intelligence and contemporary technology as we believe, does not mean transforming human beings into robots but the reunion of people as intelligent individuals whose differences make the world a richer place. Public opinion is new superpower (Stiglitz, 2003).

Conclusion

We conclude that it is very important for a consumer to recognize his strength in a capitalistic system and with the help of nongovernmental organizations to act as a consciousness of the contemporary world which points a finger to problems such as pollution of environment, breaking of human rights, protection of animals, etc. The world problems keep us together and nobody is excluded. Diversification is welcome in the new globalize world but, we conclude, that differences are not only in character but only in degree. As we see the biggest problem is between those who are using contemporary technology and those who are not. Those who are using it are connected in real time regardless of where they are, while those who do not use technology are on the edge of the world and without impact on events in it. Our life and work is connected more and more with computers and other achievements of new technology but our main instrument is information which creates knowledge. The time of information economy is now here because the information is completely built into new production processes. The place where this processes happen is a network which creates the new connected society helped by the Internet as the most important media of today.

Initial researches on security of organization on economic and transformation of the project "031-2/2008 Research Into Matters Warranting, Economically and Situation-wise, Adaptive Restructuring of an Organization in a Dynamic Environment" will be continued in the light of first implication gained in this paper. As the first simulation of organization point to significant impact of BI department in the role of protective BI activities to the structure of organization, the research will continue in that direction.

The revolution of intelligence has started. Business intelligence will be one of the main tools for adaptability in new world without boundaries, connected in a network, eliminated in space, accelerated in time, digitalized and globalized.

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