

CHINA GOES DIGITAL

THE GREAT WALL CULTURE AND THE ROLE OF SEARCH ENGINES

Introduction

Prologue: The Declaration

CHAPTER 1: THE GREAT FIREWALL OF CHINA: WHAT DOES IT REALLY MEAN?

1.1 Building the “Wall”

- 1.1.1 - Internet evolution from “open commons” to “access contested” space*
- 1.1.2 - Technological censorship refinement*
- 1.1.3 - The real sophistication of the “Firewall”: the social censorship*
- 1.1.4 - The republic of the people: digitalization and real effects on Chinese society*

1.2 Exporting the “Wall”

- 1.2.1 - China’s cyber-nationalism: conflicts, espionage and cyber-attacks*
- 1.2.2 - International initiatives*
- 1.2.3 - The Great Firewall between censorship and progress*

CHAPTER 2: SEARCH ENGINE IN CHINA: THE CASE OF GOOGLE AND BAIDU

2.1 Google, the Western giant

- 2.1.1 - The Googlocracy*
- 2.1.2 - “Google.cn” ’s moral compromise*
- 2.1.3 - China’s market: a lucrative fast-growing... nightmare*

2.2 Baidu or the China's Google

2.2.1 - *Into the house of the local giant*

2.2.2 - *We are not a Google clone*

2.2.3 - *Local monopoly and global expansion project*

FINAL SUMMARY: IS IT SO EASY TO DEFEAT THE CENSORSHIP?

A - *The Internet access contested era and the Great Wall culture*

B - *Google from the World to China, Baidu from China to the World*

Introduction

Over the last decade, the digitalization of China has been running together with the general growth of the country's economy. The local government has endeavored to provide the country with a modern telecommunication infrastructure and to support the diffusion of mobile technology. Today the number of Chinese net citizens is not far away from reaching 600 million users.

However, the censorship system which has always affected the flow of information and content within this country seems not to weaken. Despite the Internet is becoming more and more embedded in people's everyday life, the censorship demonstrates a formidable resilience to adapt to the new platforms made available by this revolutionary tool. A technologic blocking and filtering effort combined with the continuous monitoring and controlling of users' virtual activities makes the best of the so-called 'Great Firewall'. A censorship system that would not be possible without the collaboration of the population itself: the people's willingness to actively practice self-censorship and self-restraint is the real point of strength of this 'Great Wall culture', based on giving up the individual personal needs in order to preserve the stability of the group, as to guarantee protection and security. This synergistic relation between the population and the authorities makes the fortune of a third relevant actor: the local companies. Although China, as a consequence of a reformed communism inaugurated almost 3 decades ago, has significantly opened its doors to foreign capitals to enhance the local economy progress, letting them ride the wave of a fast-growing market, the local business is still watched with a privileged eye: the government sustains and protect Chinese companies; top positions cannot be occupied by foreign leaders, especially in delicate sectors, such as the ICTs.

With these rules, the battle between Google and Baidu has been played between 2006 and 2010. The Western giant, trying to penetrate the Chinese market attracted by its huge potential and massive capacity without ever being successful, just arousing the indignation of Western moral guardians disappointed for its compliance with the local regime of information; the Chinese rival, accused of being another imitation of a Western product, a clone that has always been at the top, boasting an almost monopolistic position backed-up by extremely favorable context conditions.

Today Google, operating from Hong Kong, barely available for Chinese users and thrown at the edge of the Chinese lucrative fast-growing market, has launched its last desperate attempt to recover positions and attention in this context: by encrypting content to circumvent the censorship and to offer Chinese users new unedited information, Chairman Schmidt hopes to defeat the censorship within a decade.

Prologue: the declaration

The last November the Chairman of Google Inc., Mr. Eric Schmidt declared: «I believe there is a real chance that we can eliminate censorship and the possibility of censorship in a decade»¹ (Reuter and Shona Gosh, 2013). Two months later he added: «using encryption², we would be able to open up countries that have strict censorship laws... giving people a voice»³ (Gosh, 2014), referring to the possibility of beating China's strict censorship regime relying, furthermore, on the increasing use of social media by the Chinese population. What lies behind this statement? What is the real meaning of these words? At first sight it appears as a genuine moral attempt aligned with a precise political position, internationally widespread: to defeat a form of third millennium dictatorship which hampers the free flow of information. As the U.S. Secretary of State Hillary Clinton (2010) stated, the world's information infrastructure depends of what people make of it, since new technologies on their own, do not take sides in the battle for freedom; as for it, U.S. stands for an equally accessible Internet all over the World⁴.

The reply arrived from Mao Zhaoshu (2010), spokesperson of the Chinese Foreign Ministry: he called US to respect facts and stop using the so-called "freedom of Internet" as an excuse for attacking China. Indeed, the political and moral debate about censorship and freedom of data is often intertwined with the alleged US information imperialism, which would hide the attempt to spread its values and open up new markets under its disguise as a herald of freedom. And, undoubtedly, the issue is related with the Google's Chairman stance, as long as China represents a massive potential user area, with its «rapid spread of internet access throughout its vast population» (OpenNet, 2011, p. 276).

When a country begins to hone its digital skills and the demand of online information constantly increases, a search engine's company is the first to be interested. However, if throughout the country runs «one of the largest and most sophisticated internet filtering system in the world» (OpenNet, 2011, p. 276), a search engine's company is the first to be concerned as this is going to affect its service as well

¹ The statement has been pronounced during Schmidt's speech at the Johns Hopkins University on November 2013

² Wikipedia (2014f) defines encryption as «[...] the process of encoding messages (or information) in such a way that only authorized parties can read it. [...] it reduces the likelihood that the hacker will be able to read the data that is encrypted. In an encryption scheme, the message or information [...] is encrypted using an encryption algorithm, turning it into an unreadable cipher text. This is usually done with the use of an encryption key, which specifies how the message is to be encoded. Any adversary that can see the cipher text should not be able to determine anything about the original message. An authorized party, however, is able to decode the cipher text using a decryption algorithm, that usually requires a secret decryption key, that adversaries do not have access to»

³ The statement has been pronounced during Schmidt's speech at the World Economic Forum in Davos, Switzerland on January 2014

⁴ The statement has been pronounced during the 21st January 2010 speech on "Internet freedom"

as its penetration power. According to many sources Google is the most popular search engines in the World⁵ but it has never played a leading role in China where the local Baidu, also known as the “China’s Google”, has always prevailed. Regarding a presumed Baidu’s compliance with the government, which would facilitate its predominance and favor its competition with Google, the Director of International Communications Kaiser Kuo promptly dismissed any allegation, stating that the government is not «tilting the field in favor of Baidu»(Atkins-Kruger, 2011).

To recap, China is going through a massive growth of online information request. The market of information is, per se, of primary importance, if considering the upcoming so-called “knowledge society”. New professions are thriving as a result of the digital information uprising and venturing into the dynamic ICTs’ environment may make the fortune of many. In addition, this market and this technology are not free of political and social implication, meaning that the information trade is different from any other. Some content may be permitted, other may be considered unwelcome, and this point becomes paramount in China more than any other territory which is going through the same phenomenon. Firstly because this country is the theatre of the most sophisticated system of censorship in the world, and secondly, but not less importantly, because this land guests 1.4 billion of people, which means an enormous potential information sharing. The widespread use of social media may trigger significant political and social changes; and, most importantly it may become extremely lucrative for information giants.

Therefore, as for this framework, we have a type of technology that produces an ambitious market with a very special good, a massive population more and more interested in its acquisition and a censorship system with no equal around the world. The aim of this research is to study the case of two major actors struggling in this field: Google and Baidu.

First and foremost, purely because they are search engines. In such a context a search engine plays a pivotal intermediary role between the source of information, its recipient and the censor: it acts as a broker for people asking for information to the global network, as a filter deciding which source will be more likely to give it out, and as an actual reality with which the censor has to deal. It can turn into a serviceable channel for the gatekeeper to spread only the allowed information or into a troublesome propagator of unwelcome content.

In broad outline and with proper restrictions, Google China and Baidu have represented these two positions over the most recent years: the former, the Chinese version of the western most popular

⁵ Sullivan (2013)’s article on Search Engine Land, based on a ComScore research updated to 2012, reports the percent of the most used search engines worldwide, with Google undisputedly at the top of the big-five list, which includes Baidu, Yahoo!, Yandex and Bing (Microsoft).

search engine, in its attempt to break into the Chinese market, complying first and then countering the censorship, without affecting Baidu's domain any time; the latter, the home-based most used one, undisputed leader in alleged synergistic relationship with the censor.

The purpose of this research is to try to figure out how the future of the Chinese search engine market will appear within few years, analyzing the position of this two actors involved in a very dynamic framework, which relates them with a thrust coming from below by the population, one from above by the censor, and with all the political and social implications inherent in their economic actions.

The first chapter is an introductive overview over the current state of the censorship: the most relevant methods and regulations perpetrated in China will be covered. The level of Chinese population digital skills will be also taken into consideration as it may represent a point of concern for the censorship, together with the anti-censorship international initiatives.

The central part focusses on Google and Baidu's positions: the major events of the most recent years, their relationship with the forces of the framework, the possible future scenarios.

Finally, the last chapter attempts to answer the many questions that have arisen during the analysis of this subject: how much is the Google economic action joined with a precise political position? Is it more related with a genuine interest in defeating a regime or it would rather resemble a form of third millennium internet imperialism? And how a prospective censorship weakening would affect the competition with Baidu? Would it make a Google's breakthrough easier or the leading role of Baidu would not change anyway? Is the government operating, through the censorship, a form of «online protectionism» (Erixon, Lee-Makiyama, 2010) in favor of the local search engine? And is Baidu reactive, neutral or proactive with the censorship? How the increasing use of social media may influence the competition? Would it play in favor of Google? Would it play in favor of Baidu? Is the population really empowered by the ICTs to represent a concern for the censorship? Will this thrust from below create a synergy with the new alleged methods of encryption such as to crack the Great Firewall? Ultimately, is a free flow of information really possible in a socio-cultural context like the Chinese one and what kind of implications may this economic competition lead on the politics and society of a nation?

Thus, in such a dynamic environment typified by the presence of many different forces and interests, where the economic issue is intertwined with a political and social sake, the opening declaration of the Google's Chairman Mr. Eric Schmidt appears more relevant than ever:

does it really exist a chance to eliminate the censorship within a decade?

CHAPTER 1:

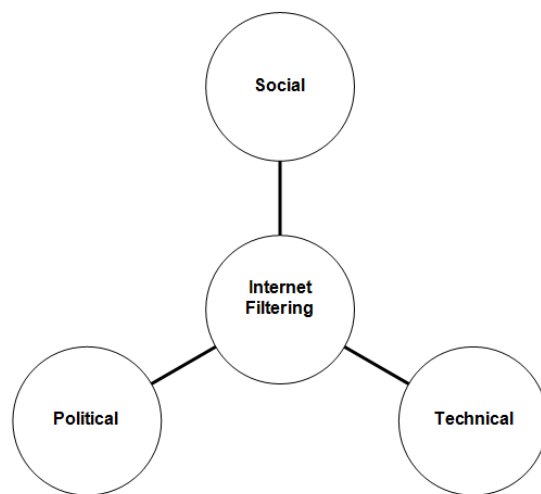
THE “GREAT FIREWALL” OF CHINA: WHAT DOES IT REALLY MEAN?

1.1 Building the “Wall”

1.1.1 Internet evolution from “open commons” to “access contested” space

The online censorship established in China is «the world’s most sophisticated system of media repression» (Karlekar and Dunham 2012, p. 1). It might be considered as the cyber corresponding of the

Fig 1 - Three Aspects of Internet censorship



(Leberknight et al 2012, p. 6)

state-centric view that has always featured the Chinese government policies related with the flow of information through the media. The “Wall” is often identified with a total block «which disallows certain entire Web sites from operating in the country» (King et al 2013, p. 3), and the mind goes immediately to notorious West-based places of frequency such as Facebook, Twitter, YouTube, for a long time banned in China. However, the idea of a rigid barrier rejecting all the unwelcome information and contents was, perhaps, eligible for the first-generation methods of online censorship; in fact, nowadays this representation would not encompass all the “sophistication” and the grade of

complexity that it has reached over the last 15 years. In other words, we risk to accept a too simplistic hearsay if we do not consider its technological evolution and the political and social implications that modify its inner nature and increase its refinement. As Leberknight et al (2012) says:

Internet censorship is a social, political and technical problem and each of these domains [...] interact in ways that can strongly reinforce one another. Therefore, [...] the successful implementation and sustainability of Internet censorship not only requires advanced technologies, but also requires social or self-censorship which can be enforced through harsh punishments and political ideologies which encourage acceptance of the status quo. (p. 6)

For this reason, in order to fully comprehend the today’s “Great Firewall” of China we must, first and foremost, analyze its development in light of its close relationship with the Internet technical and social evolution.

Internet was conceived and built in a much different set of costumes than the one featuring today's cyberspace. According to Granick (2014), it was designed by academics and researchers to be essentially open, non-hierarchical, and ungovernable. In its early decades it indeed reflects the Silicon Valley generation's values of freedom and it is claimed as "born free" in continuity with the West coast Californian culture. It also demonstrates compliance with the American constitution, regarding the circulation of ideas and intellectual property⁶. As Carpenter (1996) asserts, the Internet presents a peculiar end-to-end architecture based on Internet protocol, where the main goal is connectivity. This feature makes the Internet a space particularly prone to innovation and rapid change. In consonance with Deibert et al (2011):

It is a space characterized by powerful generativity — any of its millions of users can create software that ripples across the Internet with system-wide effects. Whether these changes are benign or not, and regardless of their utility, these innovations ensure that cyberspace is in constant motion. At one level, the Internet's central characteristic is rapid change. (p. 7)

In this first phase, the Internet most resembles the "open commons"⁷ that it was supposed to be for its creators. Until 2000 this new tool coming from the Western World does not really represent a threatening for Chinese and other authoritarian regimes; at this point, there is no reason for private companies to contest the access to information in order to create income, nor for governments to build censorship walls and sustain their expensive cost⁸ as the cyberspace's practices have not penetrated yet into people's everyday life.

Nevertheless, the situation is bound to change. Gradually and relentlessly, Internet shifts from a communication vehicle for specialists to an instrument directly developed and consulted by common individuals. It moves «from a research tool to which one connects to a space for online engagement separate from the "real world" to something that is all encompassing and all engrossing» (Deibert et al, 2011, p. 23). Relying on its relatively trivial architecture⁹, people consign all sort of information to the

⁶ The Article I, section 8 of the American Constitution declares that the intellectual property of ideas is limited and recognized only «To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries» (Legal Information Institute, 2014);

⁷ A commons is a good with no individual owner. It is a gift for a community, not for private parts and its nature is public. That is, the more it is shared the more it increases its value. According to Berry (2005) the commons, or *res communes*, provides a shared space in our society, a shared resource within a community, a "non-owned" network of ideas and concepts. As a commons, Internet consents a potentially endless and unlimited sharing of ideas, increasing the value of the idea itself and of the tool, and enriching the community without lessening the original creator.

⁸ Leberknight et al (2012) presents "cost" and "accuracy" as two main criteria of censorship and demonstrates «the tradeoff between the different filtering techniques in terms of their accuracy versus their operational cost» (p. 4).

⁹ Searl and Weinberger (2003) curiously define the Internet as *stupid* distinguishing it from intelligent architectures, such as the phone system, which is able to recognize "identities, permissions and priorities".

cyberspace, so that it grows into a worldwide source of contents related with politics, culture, careers, health and other sectors of population's daily life. Furthermore, the subsequent reduction of costs due to technology improvements, facilitates the transition from research laboratories to internet cafes and people's houses. According to Berry (2005), as Internet begins to permeate individuals' home environments, their lives becomes mediated and more dependent by digital technology; and a further relevant step of this "digital revolution" is the granular mass distribution of mobile devices, accomplished in a relatively recent past¹⁰, through which the cyberspace becomes an undeniable always present companion, at this point genuinely intertwined with people's everyday practices and «deeply embedded in all aspects of life» (Deibert et al 2011, p. 23). In the "Information Age" the real world is soaked with virtual: individuals rely on intangible sources to build their paths into the ordinary world and, at the same time, they give custody of their most significant information to virtual "clouds". The more Internet takes the role of infrastructure of our society, the more information circulation and storage increases its value, ranking as a priority both for private interests and for governments' needs of security. As Berry (2005) sustains, when the information becomes a form of profit it seems to legitimate "fences" and ownership as a property right.

As a result, the free flow of ideas that has characterized the very nature of the cyberspace and has featured its growth and development ceases to exist and a realm of intellectual properties, regulations and filtering systems takes its place. Said by Deibert et al (2011)

Such an enormous shift from something separate to something so deeply immersive is going to raise the stakes for not only the rules of the game, but also the nature of the game itself, particularly around norms, rules, and principles that have previously been taken for granted or assumed away as noncontroversial. As more individuals, groups, and organizations become dependent on cyberspace, the clashes of interests, values, and ideologies become increasingly acute. (p. 23)

As to say, when the capitalism meets the information market, the claimed "born free" tool inexorably transforms its nature, turning into an "access contested"¹¹ space, center of interests for multiple-sakes actors.

¹⁰ It is interesting to acknowledge that, according to the International Telecommunication Union (ITU), 3.8 billion of mobile subscriptions by the end of 2010 are in the developing world; regarding the same year the Internet World Stats shows that 42 percent of the world's Internet population is in Asia, with an enormous part of young population yet to be connected. It seems that in order to understand the future of cyberspace, we need to understand the aspirations and needs of this next generation growing up in Internet cafés in Shanghai, Rio de Janeiro, Nairobi.

¹¹ OpenNet Initiative distinguishes 3 different phases over the last 15 years, from the end of the "open commons" era to nowadays: "access contested" is the one we are entering today. The others are "access controlled" and "access denied"

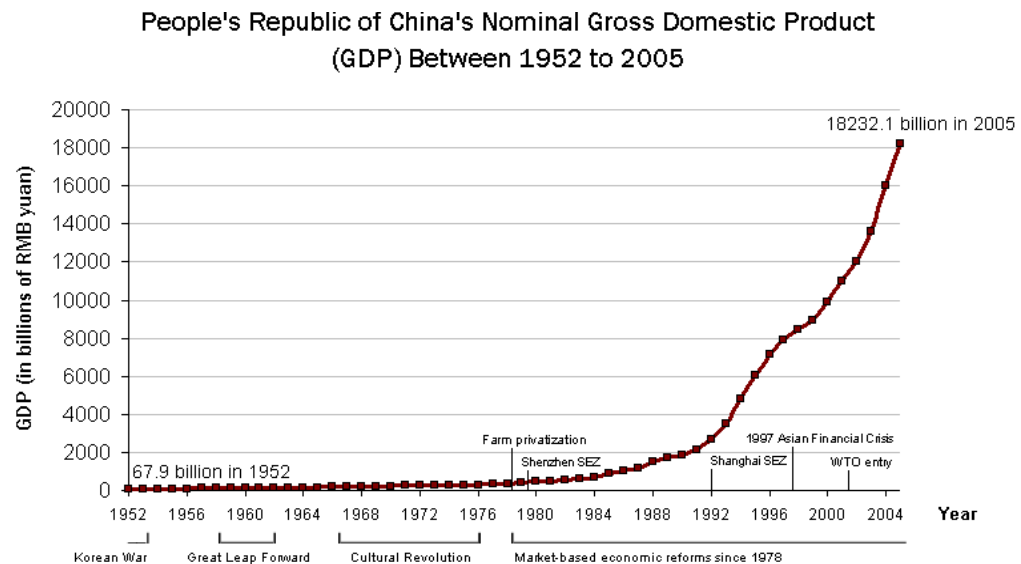
In conclusion, in today's cyberspace the relevance of a market, such as the Chinese one, depends on its potential information request; search engines and social network companies, such as Google, Baidu and Facebook, are enhanced by the quantity of information stored in their databases, upon which they have the property. At the same time, the endurance of censorship systems, such as the "Great Firewall", is interrelated with the ability of the government to grant stability by filtering unwelcome contents, without neither resulting too pervasive in the eyes of its citizens nor hindering economic development by blocking potential investors .

Over the last 15 years the China's "Great Firewall" has refined its methods of filtering, control and surveillance; the initial rough range of filtering techniques has evolved into a technological and social phenomenon, in order to achieve the requested level of sophistication.

1.1.2 – Technological Censorship refinement

During the 80s, China has gone through an unexperienced openness towards the rest of the world, which has lead the country to a modernization in agriculture , industry, science, technology and military. Deng Xiaoping, who has ruled the country from 1978 to 1992, has improved the relationships with

Figure 2 – People's republic of China's Nominal gross domestic product



(Wikipedia, *Deng_Xiaoping#Economic_reforms*, 2014)

foreign countries, launching a new phase of economic growth. Since the late 70s reforms, China's Nominal Gross Domestic Product has remarkably increased, introducing a drastic change in society and lifestyle and the leadership has demonstrated its availability to a contact with Western economic model pattern. (Wikipedia, *Deng_Xiaoping#Economic_reforms*, 2014).

In order to keep up with its economic development a country is required to progress into the communication system, encouraging the entrance of new tools to promote a fluid flow of information. In China's new deal the increase of ICTs has been particularly evident, although the technological growth and the consequent socioeconomic development has come together «with the potential risks to the government ' s control over media and information dissemination» (OpenNet Initiative, 2011, p. 276). However, as a matter of fact, Internet has not represented a concern for the government until the entrance in the new millennium, when it has begun to spread over the country and to gain relevance for people's everyday life. Dutton et al (2011) confirms that «the most extensive empirical research project that examines government filtering and website blocking suggests that these practices have increased since 2002» (p. 34). Only at that moment China decided to shake off the initial «laissez-faire approach

to Internet regulation and began to intervene more assertively in cyberspace.» (Deibert et al, 2011, p. 8).
As Deibert et al (2011) says:

states and others came to think of activities and expression online as things that needed to be managed in various ways. The initial reaction to the mainstreaming of the Internet, by states such as China and Saudi Arabia, was to erect filters to block people from accessing certain information. (p. 8)

This is the beginning of the first generation online censorship methods application.

Censorship is defined as the «act of changing or suppressing speech or writing that is considered subversive of the common good» (Merriam Webster Dictionary, 2014). Throughout History, sovereignties have developed various methods to limit the flow of contents, depending on the nature of the mainstream media of the age: as an example, in 15th century «the invention of the printing press [...] not only increased the spread of information and knowledge but it also increased the practice and frequency of censorship.» (Leberknight et al, 2012, p. 1)¹². Nowadays Internet represents a substantial challenge for today's information thwarting attempts. That is for three main reasons: first of all, «the Internet enables a much more rapid generation and spread of information and ideas compared to previous technologies» (Leberknight et al, 2012, p. 2); secondly, the national boarder of a country are not able to stop the flow of virtual online information as easily as they can do with the information transmitted by other media. Google executive chairman Eric Schmidt and Jared Cohen (2014), Google's ideas director, have recently remarked how the Internet censorship varies on a country-to-country basis, pointing out the difference between the moderate attempts of democratic countries and the disproportionate suppression put in use in other regimes, such as Chinese one. According to Leberknight et al (2012) «residents of a country that bans certain information can find it on websites hosted outside the country» (p. 2). The third reason regards the architecture of the Internet, which has been originally designed to avoid a general breakdown of the information flow system due to a failure coming from a single point of the communication network. «The very nature and advantage of a distributed system is that in the event there is some damage or failure in the network, transmission can be routed around the damage» (Leberknight et al, 2012, p. 3). As to say, if a certain content is blocked or thwarted, it can be re-addressed to another point of the network where the block is not enacted, as to penetrate the barrier and reach the destination. This is how of the most relevant circumvention techniques work today.

¹²The privilege held by the English Crown in 15th century mostly resembles an early attempt of censorship and political control. According to Mark Rose (1993), the difference between the privilege and the censorship is unnoticeable.

Although the combinations of these elements pose a significant call for the Chinese regime of information, its Internet censorship has increased and refined over the last 15 years, accomplishing the construction of the so-called today's "Great Firewall". However, in order to have a clearer idea of what the "Great Firewall" really is and to avoid the risk of identifying it with a mere system of filters and blocks, we will now divide it into two parts: a technological part and a social one¹³. Their synergistic relation is the main feature of the nowadays' Chinese internet censorship.

In this paragraph the technological part is analyzed. The social one is the object of the next section.

Around 2000 the necessity for the government to block contents running on the Internet begins to take place. A series of technological techniques is soon put in place to shape the Web and clean it from undesirable pieces of information. However, all the limit of these countermeasures does not take long to arise: collateral effects and circumvention techniques force the government to go through a re-examination of these methods, in order to refine, correct or abandon them.

According to Deibert et al (2011), the initial content filtering follows three main tendencies: firstly, the government justifies his blocks by targeting a specific category, considered particularly immoral and offensive for sensitive parts of society, ending, however, to thwart many other different subjects.

The blocked content spans a wide range of social, religious, and political information. We found that in some instances governments justify their filtering by referring to one content category, such as pornography, while eliding the fact that other content categories were also being blocked. (p. 9)

Secondly, a successful filtering method initially introduced for a specific matter, is promptly adopted «to deal with other vexing public policy issues» (Deibert et al, 2011, p. 9).

In a third instance, Deibert et al (2011) points out how more attention is given to local events rather than happenings coming from abroad, and blocks in Chinese language are carried out into a larger extent than English or other countries' languages.

These tendencies are put in practice with the implement of some technological blocking and filtering techniques. There are many systems for the censors to impede the entrance of unwanted contents and China, among other authoritarian regimes, outstands for exercising the majority of them. In consonance with Roberts et al (2009)

¹³ It is worth to remark that this subdivision is not meant to give a precise temporal definition of the two phases. Although the use of technological techniques identifies the first generation methods of censorship and the social surveillance measures are mostly carried out only at a later time, the two natures of censorship are both present today, intertwined and combined.

Some states filter just a few websites, such as Singapore; others, such as Iran, filter tens of thousands. China has implemented a vast and complex system which involves filtering international websites as well as pervasive censorship by Chinese Internet companies of content published within the nation. Other nations have chosen simpler approaches. (p. 3)

The technological censorship «can be applied at various points throughout the network» (Dutton et al, 2011, p. 34). Although the main goal of the censor is to promote a self-censorship attitude as close as possible to the individual user, the technological censorship is mainly perpetrated at the Internet backbone¹⁴ level or towards service providers. Leberknight et al (2012, p. 3-4) distinguishes three different points of the network where the attack may be carried out: nodes, which «may consist of DoS, domain de-registrations or server takedown»; users, when «organization may first decide to trace and record specific user activity prior to blocking any content»; links, which may be blocked or filtered by using several techniques.

Regarding the last point, the most relevant technological methods¹⁵ perpetrated in China are:

- Internet Protocol (IP) blocking: it is probably the most prevalent one. It consists in denying certain objectionable contents by «restricting access to specific IP addresses» (Leberknight et al, 2012, p. 4).
- Domain Name Server (DNS) tampering: it consists in a blocked domain name which does not sort the related page or return an incorrect IP address, generally caused by DNS hijacking. «To block specific DNS name lookups requires only removing those DNS zones from all of a country's DNS servers» (Roberts et al, 2009, p. 12)
- Uniform Resource Locator (URL) filtering (based on Keyword blocking): it «denies access to websites based on the words found in pages or URIs, or blocks searches involving blacklisted terms.» (Dutton et al, 2011, p. 36). The domain name specified in the URL is not taken in consideration with this method, so that the removal of the targeted content result more precise.
- Stateful Traffic Analysis: It «requires the router to examine each packet as it passes through and to make a decision based on the single packet whether to allow the connection to continue.» (Roberts et al, 2009, p. 13). Alike the URI filtering, this technique is keyword blocking based: it focusses on scanning single packets of data instead of blocking entire IP addresses or DNSs. An interesting examples of stateful traffic analysis regarding the block of “forbidden” images is

¹⁴ The Internet backbone level of censorship is the State-directed establishment of national content filtering and blocking system as to prevent access to content throughout the whole country (Dutton et al, 2011)

¹⁵ Due to the complexity of the Chinese technological system of censorship, the list of filtering and blocking techniques is long and may include other diffused methods. For a detailed taxonomy of censorship and anticensorship methods see Leberknight C. S, Chiang M., Poor H.V., Wong F. (2012) *A Taxonomy of Internet Censorship and Anti-Censorship*, retrieveble from www.princeton.edu/~chiangm/anticensorship.pdf

reported by Roberts et al (2009): «a stateful filter might watch for packets containing parts of image files and correlate those packets into complete images. The filter could examine the whole image for certain characteristics, perhaps large areas of flesh tones indicating nude skin.» (p. 13). According to Leberknight et al (2012), this kind of techniques, based on keyword blocking, are more sophisticated and accurate and definitely more expensive than a mere IP blocking or DNS tampering.

As a matter of fact, these methods have presented some side effects since the time they have been adopted. Dutton et al (2011) remarks that most of these techniques are “blunt instruments”, which are not refined enough to block or filter the targeted material, so that they may happen to allow or disallow more content than desired. This conditions are known as “over-blocking”¹⁶ or “under-blocking”. Said by Roberts et al (2009)

IP blocking is very blunt, since it can block only whole addresses (usually meaning whole servers) rather than particular bits of content. For example, if a particular news site publishes an offending story, the IP block filter must either block the entire news site or allow access to the entire news site. Even worse, many web hosting companies combine hundreds of web sites onto a single IP address. So blocking a single offending web site may block not only a single entire site but hundreds of other, not substantively related sites as well. [...]

Like IP blocking, DNS blocking suffers from over blocking because it can only block entire sites. The name “hrw.org” must be blocked entire, rather than individual pages accessed at that name. However, DNS blocking does not suffer from over blocking of sites co-hosted on the same IP address – if two sites aaa.com and bbb.com are hosted at the same IP address, DNS blocking can block aaa.com but not bbb.com, whereas IP blocking must block both aaa.com and bbb.com to block either. (p. 12)

Furthermore, the fact that the content is blocked or filtered means that it is not permanently removed from the web, but just made invisible. As to say, if an expert user has enough technical skill to develop a circumvention system, he can set it up and make it available to whoever is interested to gain access to a certain banned content.

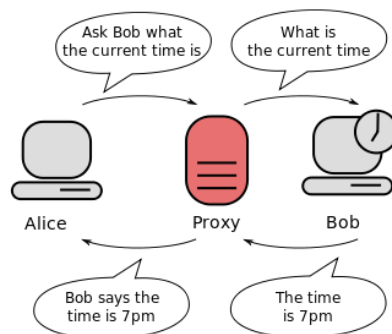
The most popular system of circumvention for IP blocking is to find a proxy server, a sort of “unfiltered” intermediary which receives requests from clients looking for contents from other servers. According to Roberts et al (2009)

¹⁶ An examples of over-blocking is reported by Mozur (2013) on the Wall Street Journal, about the owner of a firm in Beijing who was supposed to transfer some files from a Swedish-based client. Each time they tried to connect the firm Web connection was interrupted. The firm solved the problem: the name used for the files was “Falun”, the same of the Swedish town where the client was working. “Falun” is a keyword scanned and filtered by China's online censors, in order to block discussion about Falun Gong, a religious group long banned in China.

An HTTP proxy tool's security can be trusted as far as the operator of the proxy server can be trusted. [...]HTTP proxying sends HTTP requests through an intermediate proxying server. A client connecting through an HTTP proxy sends exactly the same HTTP request to the proxy as it would send to the destination server unproxied. The HTTP proxy parses the HTTP request; sends its own HTTP request to the ultimate destination server; and then returns the response back to the proxy client. (p. 13)

Proxy Server circumvention works both for IP blocking and DNS tampering. The former's circumvention procedure is called IP tunneling; «some of the most common tools used for IP Tunneling include virtual private networks or VPNs¹⁷» (Leberknight et al, 2012, p. 11) . The latter may also be circumvented by «configuring the client computer to use a DNS server in a non-filtered country» (Roberts et al, 2009, p. 12). Regarding the keyword blocking based censorship systems, the most common technique of circumvention is encryption¹⁸, «since encryption renders content into a form the filter cannot read.» (Roberts et al, 2009, p. 12).

Fig 3 – Proxy Server



Wikipedia, (2014f)

Finally, regardless of which censorship system it is going to elude, every circumvention method should have some characteristics in order to be adopted by not tech-savvy users and become a real anticensorship technique. Leberknight et al (2012) lists 7 so-called “anticensorship dimensions”:

- *Availability*: there is no use of an anti-censorship technology if the target users cannot access it.
- *User-friendliness*: an often under-explored dimension, given the large population of users who are not technology-savvy.
- *Verifiability*: how can a user verify that the software is not a monitoring tool from the government.
- *Scope*: how many modes of communication can be covered.
- *Security*: this is the most obvious dimension of an anti-censor.
- *Deniability*: if caught, how can a user deny her involvement.
- *Performance*: how much will throughput and delay be degraded by using the anti-censor. (p. 9)

¹⁷ Leberknight et al (2012) sustains that «virtual private networks or VPNs [...] give the user client a connection that originates from the VPN host rather than from the location of the client. Thus a client connecting to a VPN in a non-filtered country from a filtered country has access as if he is located in the non-filtered country.» (p. 11)

¹⁸ For a full definition of encryption see Wikipedia, the free encyclopedia, *Encryption* or, in this survey, *Prologue: the declaration*

As a conclusion, we can see the side effects of the censorship techniques and the circumvention systems developed by users as both a challenge and an incitement for the technological censorship. As a matter of fact, the circumvention has triggered a sort of *cat-and-mouse* game so far, a sort of race between the censors and the users to find the best technology in use, in order to be the first to block-unblock, encrypt-decrypt, both aiming towards a continuous refinement. At the same time, all the side effects coming from rough censorship techniques should be gradually removed in order to not disappoint potential investors entering to China, getting ready to ride the wave of the economic growth. If the censor's goal is to stop a certain piece of information, it should be targeted as much precisely as possible, in order to avoid thwarting whole websites, entire IPs domains or unrelated and supposedly "clean" bit of information; this is paramount if China does not want to lose appeal for foreign capitals and arrest the ICTs sector growth, so vital for its general economic development. In other words, the Chinese "Great Firewall" must be an example of elasticity and flexibility. And it is probably through a series of political and legislative measures, combined with technological methods, that China succeeds in promoting a set of censorship-related social behaviors coming firstly from companies, firms and single individuals.

It is probably with the so-called *social censorship*, object of the next paragraph, that China achieves the required level of sophistication.

1.1.3 - The real sophistication of the “Firewall”: the social censorship

Since approximately 2008 China considerably increases its level of digitalization. Moreover, in the same biennial, the explosion of blog, microblog, video-sharing and social networking websites takes place, shaping the new Chinese blogosphere and structuring the so-called Web 2.0. As we read on the white paper *Internet in China* (2010) the digitalization is well accepted by Chinese authorities, as it fosters the modernization of the country and the general economic progress tendency. It also remarks how the “newly-emerging online services” offer a greater chance to Chinese internet user to communicate online and enrich Internet information and content.

Nonetheless, the digitalization comes together with a new significant challenge for the censorship. As the Internet becomes more and more embedded in Chinese people’s everyday habits, the rough removal of entire websites, or the block of whole DNSs, is less and less tolerated. The new net citizens do not want their most attended virtual gathering place or their most significant source of information to be hampered without any valid reason. Not to mention the potential foreign investors who put their money into the attractive fast-growing Chinese internet market, and do not want to run into an excessively pervasive filtering system, hindering their business activities. Moreover, the Web 2.0 requires for the censor to implement a brand new set of censorship countermeasures. In other words, when the Internet becomes «progressively more central to the flow of information within and across Chinese borders» (OpenNet Initiative, 2011, p. 272) the censorship must refine its grain. Regarding the technological methods, as we have seen in the previous paragraph, “to refine” means to invest into keyword blocking based systems, as they are able to target the “illegal” content in a more precise way, avoiding the blocking of entire websites or the filtering of potentially permitted contents. It also means to reinforce a system of blocking and filtering that is not only carried out at the Internet backbone level, but which begins from the personal computer of every single individual. It may be accomplished by installing filtering software on individual computers «to restrict the ability to access certain sites or use certain applications.» (Dutton et al, 2011, p. 35). The so-called “Green Dam Youth Escort” project, «a far-reaching and ultimately unsuccessful attempt to implement filtering at the level of the user’s computer» (OpenNet Initiative, 2011, p. 278) is a clear example of the censorship level that the Chinese government strives to achieve. On a bulletin published by Open Net Initiative (2009) we read:

On May 19, 2009, the Ministry of Industry and Information Technology (MIIT) in China sent a notification to computer manufacturers of its intention to require all new PCs sold in China after July 1 to have filtering software pre-installed.[...] The purported intent of the Green Dam software is to filter harmful

online text and image content in order to prevent the effects of this information on youth and promote a healthy and harmonious Internet environment. (p. 4)

Into the same bulletin, OpenNet Initiative (2009) states that the remarkable characteristic of this software is the unprecedented level of control over the user Internet experience, since its functionality goes far beyond the official children protection purposes:

It actively monitors individual computer behavior, such that a wide range of programs including word processing and email can be suddenly terminated if content algorithm detects inappropriate speech. The program installs components deep into the kernel of the computer operating system in order to enable this application layer monitoring. The operation of the software is highly unpredictable and disrupts computer activity far beyond the blocking of websites. (p. 2)

An interesting aspect to consider regarding this censorship methods, is that it begins as a purely technological tool, a software to install into computers available for sale in order to block and filter content, but it eventually becomes an instrument capable to encourage a certain type of social behavior.

Fig 4 – Green Dam



(Open net, 2009, p. 9)

Since the goal of a “green”¹⁹ Web is settled, the computer distributors are required by law to comply with the censors, so that they end up enacting a system of blocking and filtering that works *before* and not *after* that a certain content is actually demanded by a user: a sort of *a priori* censorship not carried

¹⁹ Chao and Dean (2009) affirms that in China the term "green" applies to an Internet free from pornography and other material considered harmful for children

out directly by the government but by the service providers²⁰ and by the Chinese population itself. In other words, although the Green Dam Youth Escort project²¹ starts as a mainly technological tool, it can be considered halfway through a different kind of restraint, as it shows many features of that censorship herein defined as a *social*.

The social censorship is a complex phenomenon triggered by the nature of the Internet itself. Searls and Wainberger (2003) assert that the Internet's most remarkable characteristics is to be a "world of ends", by allowing users to directly add data, software and value to the Web; the censorship must also start from the user point, or at least it should approach as closer as possible that level. As the Internet is a no-center architecture, the censorship must evolve into a no-center infrastructure too. When the digitalization makes the flow of information no more controllable by a central intelligence, the blocking and filtering action must shift from the core to the edge of the Web, the same edge where the value of the Internet actually comes from. In other words, the censorship becomes *social* when it stops to focus on the technological Internet backbone-based blocking and filtering system and starts to invest in human capital and social behavior, dedicating a special attention to the most relevant information turning point, such as blogs, social networks and search engines.

In order to have a better understanding of this phenomenon we can now detect four main features of the social censorship:

- Regulatory framework: Laws and regulations issued by the government shape the Chinese Internet landscape, controlling the online content and promoting social censorship behavior by distributing «criminal and financial liability, licensing and registration requirements, and self-monitoring instructions to people at every stage of access — from the ISP to the Internet content provider to the end user.» (OpenNet Initiative, 2011, p. 279)
- Surveillance or *a priori* censorship: The social censorship is mostly carried out *before* and not *after* the "illegal" behavior has occurred. The user and the service provider should be

²⁰ Chao and Dean (2009) state local and international PC provider companies are unwilling to go against the Chinese government legislation, as China is the second-biggest PC market by unit sales in the world., and the first for PC production.

²¹ The Green Dam's filtering attempt was eventually unsuccessful. According to Chao and Dean (2009) its implementation was followed by "intense criticism". Lam (2009) underlines how the "strong reaction against the filter" initially delayed the installation of the software and eventually made it optional. Despite the failure, the Ministry of Industry and Information Technology (MIIT) followed with a second attempt on September 2009. Lam (2009) reports that the new package, called "Blue Dam system", was improved with a variety of new features and it was especially meant to be a tool for employers to prevent workers to entertain themselves by surfing on non-work-related web sites while on duty.

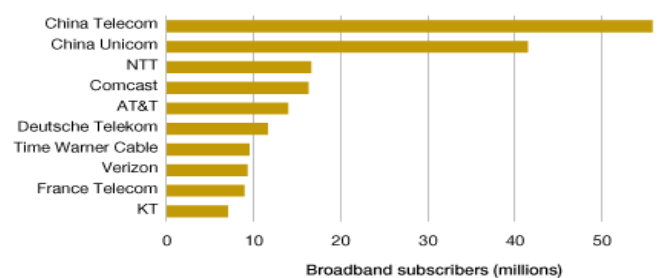
acquainted with the fact that they are somehow monitored in order to encourage their compliance with the censorship.

- Censorship delegation: In order to not overload a central intelligence and to avoid a rough blocking system carried out at the Internet backbone level, companies and users themselves end up being the actual censors. The former by complying with the local law that they have to abide if they want to operate in the country; the latter not to incur in penalties and measures that can reach even to imprisonment.
- Human capital investment: In the blogosphere, the blocking and filtering performance is less put in practice by technological automatic techniques and more executed by human beings. Despite the more expensive cost, the accuracy of the targeted content removal is undoubtedly higher.

Regarding the first point, the Government's white paper *Internet in China* (2010), clearly confirms that Internet in the country is regulated by law and since 1994 the authorities have endeavored to achieve an Internet administration based on regulations, public supervision and social education. After the 2008 restructuring plan²², the institution officially designated to control the access is the Ministry of Industry and Information Technology (MIIT). « The MIIT ' s mandate includes regulating telecommunications, Internet, and broadband as well as supervising IT development.» (OpenNet Initiative, 2011, p. 277). On the same year, the telecommunications industry has also taken part in a general adjustment, when «the

Fig 5 – Top 10 Broadband service providers

Top 10 Broadband Service Providers



Source: TeleGeography

© 2010 PriMetrica, Inc.

(Telegeography, 2010)

²² On a People's Daily (2008)'s article, published on March 2008, we read about the institutional overhaul that in those years has involved the information industry, transport, energy and environmental protection

six state-owned companies merged into three networks, greatly increasing the capacity of large firms to expand into wireless services». (OpenNet Initiative, 2011, p.277). China Telecom and China Unicom²³, controlled by the Chinese government, not only are dominant in their local market but account for the 20% of broadband subscriber in the entire world, placing themselves by far at the top of the broadband provider ranking. As Telegeography (2010) reports, over the biennial of the national digitalization and mainly in 2009, the two companies gained approximately nine millions subscribers, increasing a rapidly growing gap between them and the world's remaining broadband service provider.

The regulatory framework and the state ownership of the telecommunications system, prevents citizens and service providers from exercising "illegal" practices, under the risk of being prosecuted by law. At this regard, most of the legislation produced over the last 10 years has aimed to endorse the concept of *intermediary liability*, in order to unload the central intelligence censorship and reinforce the self-restraint habits of service providers. The article 20 of *Measures for Managing Internet Information Services* published by State Council (2000), clearly states the risks for providers found to be producing and disseminating unwelcome content. A list of "forbidden categories" is available in the article 15 of the same paper. The *Provisions on the Administration of News Information Service*, by the Ministry of Information Industry (2005), is intended to discipline the Internet news reporting, in a way that only some approved subject can be covered and only licensed or governmental entities are allowed to perform the journalistic function. Blogs and social media have also been brought in line with the regulation after the development of an active blogosphere: according to Corporate China Alert (2013), the Chinese Internet Industry is "heavily over-regulated", since three relevant government agencies, SARFT, responsible for online audio-visual content, GAPP for Internet publication and MOC for Internet cultural products²⁴, overlaps each other «when it came to regulating internet publication and broadcasts.» (p. 1). However, the law is not only focused on shaping this responsibility of the intermediary, it is also intended to punish the single citizen's misconduct. Despite «the soaring expansion of the "Participative Web" and related impact on social and political debates are making it harder each day for Chinese censors to do their job» (Reporter without Borders, 2012, p. 18), controls and crackdowns on netizens have become harsher. At this regard, Reporter without borders (2010b), reports the case of a woman who has been sent to labor camp because she posted an ironic tweet about

²³ The third state-owned network is China Mobile

²⁴ As we read in Corporate China Alert (2013), MOC is responsible for Internet Cultural activities, such as online music, games, shows, performance, work of arts. It releases an Internet Cultural Operation Permit for profit-making activities; SARFT issues licenses to screen audio-visual programming on the Internet; the material published on the "information network" must be also approved by GAPP, responsible for «printing/reproduction, importation and distribution of books, newspapers, periodicals, audio and video products, electronic publications, and so forth.» (p.2)

Chinese nationalism and the tensions between China and Japan²⁵. OpenNet Initiatives (2011) describes the case of the blogger Lin Chenglong, who was arrested in January 2011 «for spreading obscene material in his blog where he wrote about his experiences with prostitutes and posted obscene photos» (p. 281). In accordance to the same source, a total 77 netizens were reported imprisoned only in the year 2009.

Beside the prosecution and penalty function, this regulatory framework is also meant to promote a regime of continuous monitoring and surveillance of which everyone, from companies to single individuals, must be aware, in order to enforce self- and *a priori* censorship and make technological blocking and filtering less necessary. The mainstay of the Chinese surveillance is the Golden Shield project, «a digital surveillance network with almost complete coverage across public security units nationwide» (OpenNet Initiative, 2011, p. 282). Based on the use of chips and photo scanning identification card, it provides for the government a viable way to control its citizen. In accordance with OpenNet Initiative (2011)

Since 2006, local governments have been developing “ Safe City ” surveillance and communications networks that connect police stations through video surveillance, security cameras, and back-end data management facilities to specific locations including Internet cafés, financial centers, and entertainment areas. In recent years, the state has begun exploring real-name registration as a monitoring tool. (p. 282 – 283)

The surveillance regime is a manageable system of information control in the Internet age, when the evaluation of every single piece of data by a central intelligence would become unimaginable, especially after the national digitalization and the blogosphere development.

Thus, we can sustain that the real refinement and sophistication of the censorship is achieved by the government when it adapts to the Internet end-to-end architecture, shifting from a blocking and filtering system, mostly carried out at the Internet backbone level, to a self- *a priori* censorship, enacted by the user itself. The delegation of the censorship from the government to service providers and single individuals, through required-by-law licensing, video recording, data tracking, ID card scanning and real-name and photo registration, is probably the main success of the Chinese censors and perhaps the most effective way to perform a real content hindering in the Web 2.0 age.

As an example, the real-name registration enables the State to manage the Internet, leading to a self-censorship among users by removing «the anonymity that allows citizens to make public comments

²⁵ Cheng Jianping was arrested on 28 October 2010 for a satirical comment about the anti-Japanese demonstrations taking place in China, in which she hinted to protesters to attack the Japanese pavilion at the Shanghai World Expo.

without fear of state sanctions» (OpenNet Initiative, 2011, p. 283). As reported on an article published on China Daily (2010), the real-name registration policy, mostly carried out throughout the year 2010, has involved many different areas of virtual and real life, such as mobile devices, train tickets, online shopping, entertainment venues and Internet cafes²⁶, raising concerns about risks for individual privacy. In consonance with Pan (2005), the measure has been used also to tighten control over student-run Internet discussion forum, in accordance with the Communist Party campaign of “ideological education” on campuses. Some very popular Web portal have requested real-name registration too: «Sina²⁷ requires users to register real names as well as identity cards in order to post comments on their site» (OpenNet Initiative, 2011, p. 283).

As we read in Leyden (2009), the end of anonymity is also an issue for all those businesses and organizations which operates on the Chinese web with a domain ending in “.cn”, as the CNNIC²⁸, the branch of MIIT responsible for domain name registry, began to require business licenses and paperwork by the end of 2009. If on one side the initiative is well accepted, as it helps the crackdown of “smut” websites, on the other side it introduces some downsides for all those self-employed individuals, who need a business license to operate with a Chinese domain.

Furthermore, the business license requirement is a useful tool for boosting cooperation «not only in monitoring and filtering online content but also in keeping records of personal user information and activities to be handed to authorities upon request.» (OpenNet Initiative, 2011, p. 284). As we read in the article 14 of the white paper *Measures for the Management of E-mail Services* released by the State Council (2000), every IIS provider and the ISP must store their users’ records for 2 months and provide them for the authorities upon demand. Three giants like China Mobile, Tencent and Skype, among the others, have been embroiled in this data exchange partnership with the government. ABC News (2008) reported the declaration of Wang Jianzhou, CEO of China Mobile Communications Corporation, who explained how the company could use the personal information of its customers to sell them advertising and services, giving this data away only in case the security authorities ask for it. Robertson and Yu (2008) described the QQ affair, the China’s most popular instant message service, owned by Tencent,

²⁶ According to China Daily (2010)’s article, the real-name registration for Internet cafés, enacted in some Chinese provinces from July 1 2010, was meant to prevent smear campaign and online threats; for mobile phone, from September 1st 2010, to restrain the diffusion of spam, pornographic messages and fraud; it is curious to notice how this measure has been also applied to massage shops and sauna, to not encourage overnight prostitution and to first dating situation to demonstrate “sincerity, transparency, and sense of security”. The article remarks how some applications may appear justified for people’s sake but other may sound absurd.

²⁷ Sina is a major Chinese online media company with over 100 million registered users worldwide, operating four business lines: Sina Weibo, Sina Mobile, Sina Online, and Sina.net. (Wikipedia, *Sina Corp*, 2014)

²⁸ China Internet Network Information Center

who was found to be scanning and recording data from its users, giving them to the authorities if required. Particularly significant, for the relevance of the name, has been the case TOM–Skype in 2008. OpenNet Initiative (2011) reports it with these words:

In 2008, researcher Nart Villeneuve discovered that TOM-Skype, the Chinese-marketed version of Skype, had stored more than a million user records [...], including IP addresses, user names, and time-and-date stamps. For call information logs dating from August 2007, the username and phone number of the recipient were also logged, while content filter logs dating from August 2008 also contained full texts of chat messages (which themselves contained sensitive information such as e-mail addresses, passwords, and bank card numbers). With the information contained in the log files, it would be possible to conduct politically motivated surveillance by using simple social-networking tools to identify the relationships between users. (p. 285)

Finally, the investment in human capital is another element demonstrating how the social censorship has been flexible to adapt to the Internet architecture and to the blogosphere advancement. Whereas the *a priori* censorship does not have effect and the technological barrier is circumvented, «filtering is in large part a manual effort—censors read post by hand» (King et al, 2013, p. 3). In some other cases, perhaps to promote a spirit of free expression, there is not content removal. Dutton et al (2011), states that «one creative approach [...] is to enter Internet conversations» (p. 40) and use paid pro-government commentators to guide and influence the discussion. An example of this effort is the Fifty Cent Party: «named for the price individuals are rumored to be paid per post, [it] is organized by the government to steer online discussion of sensitive topics.» (OpenNet Initiative, 2011, p. 278). Nevertheless, this commitment is *not just for* the government: as a consequence of the censorship delegation and of the awareness of being constantly monitored, many service provider end up hiring professionals whose only job is to control the content posted and published by their users in order to avoid incurring in law penalties. Said by King et al (2013)

Much of the responsibility for censorship is devolved to these Internet content providers, who may be fined or shut down if they fail to comply with government censorship guidelines. To comply with the government, each individual site privately employs up to 1,000 censors. Additionally, approximately 20,000–50,000 Internet police (*wang jing*) and Internet monitors (*wang guanban*) as well as an estimated 250,000–300,000 “50 cent party members” (*wumao dang*) at all levels of government—central, provincial, and local—participate in this huge effort (p. 1)

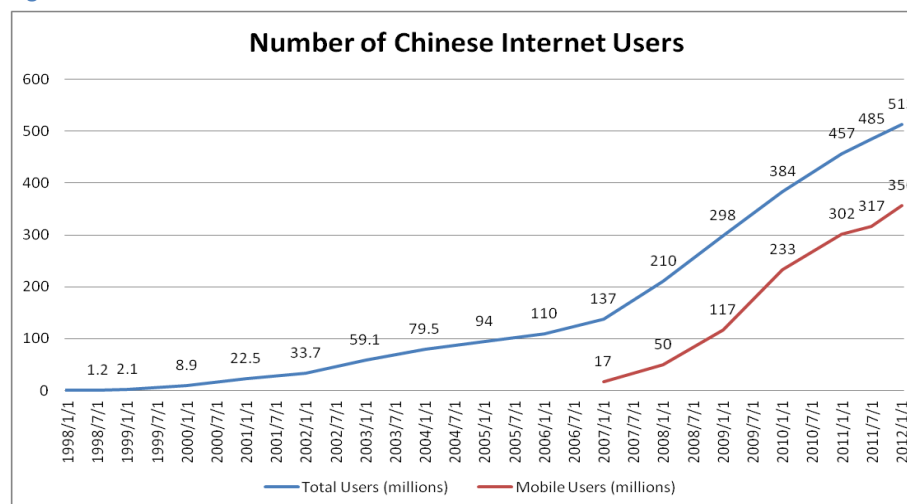
Despite the substantial cost for both government and companies, this human capital censorship is highly more effective than the automated methods, which by now «appear to be an auxiliary part of this effort» (King et al, 2013, p. 3). In particular, it enables the so-called *just in time filtering* procedure, re-

addressing protesters and removing content related with the happening of some specific key event; moreover it is immune at the keyword-based techniques circumvention, carried out by the user use of synonyms and homophones, so frequent in the Chinese language. These circumstances will be considered in the next paragraph, regarding the consequences of the digitalization and the blogosphere maturation's effect over the Chinese society .

1.1.4 - The republic of the people: digitalization and real effects on Chinese society

Up to December 2012, the number of net citizens in China has reached 564 million (CNNIC, 2013). Since the Internet has begun its penetration into the country, the user's number has always increased, reflecting the government effort for the ICTs advancement. As we read on the white paper *Internet in*

Figure 6 – Number of Chinese Internet Users



(Nanjing Marketing group, 2012)

China published on the official Chinese government website, GOV.cn (2010), from 1997 to 2009 the administration has invested a total of 4.3 trillion yuan²⁹ in the construction of Internet infrastructures, in order to develop a nationwide optical communication network³⁰. As we can see in figure 6, the core of the Internet progress has to be recorded between 2007 and 2010, the years of the digitalization and

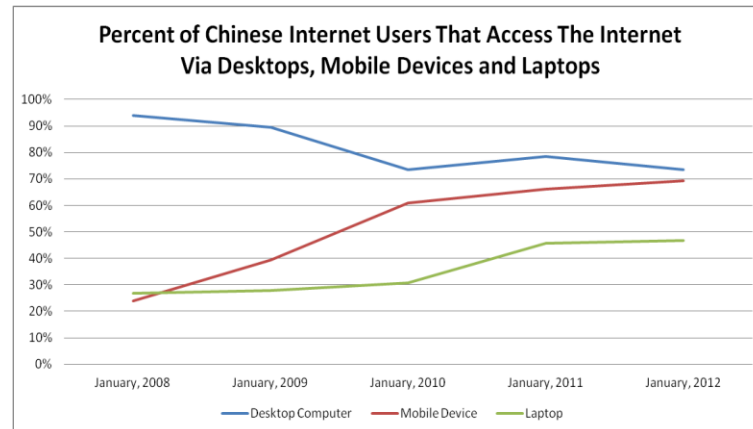
²⁹ About 690 million dollars, according to the current conversion rate (April 2014)

³⁰ The same white paper also reports some numbers about the Chinese Internet infrastructure up to the end of 2009: the total length of the nationwide optical communication network was of 8.267 million km; 840,000 km was long-distance optical cables; Chinese basic telecommunications companies had 136 million broadband Internet access ports; international outlet bandwidth was 866,367 Gbps with seven land-submarine cables and 20 land cables, with a combined capacity over 1,600 Gb. Internet access was available to 99.3% of Chinese towns, 91.5% of villages and broadband to 96.0% of the towns

blogosphere development. However, despite the Internet circulation is «growing rapidly and expanding into previously inaccessible regions» (OpenNet Initiatives, 2011, p. 276), its diffusion is not equally distributed: the access in urban areas is still almost three times greater than in rural areas. At the end of 2012 «the rural Internet users accounted for 27.6% of the total in China, reaching 156 million»(CNNIC, 2013, p. 4). In OpenNet Initiative' view (2011) a solution to this geographic gap can be found in the mobile sector advancement:

One area where China has seen tremendous growth and which offers the potential to alleviate the rural/urban imbalance is the mobile sector. Following the 2008 restructuring of China ' s telecom industry, the mobile services on offer expanded significantly. (p. 276)

Figure 7 – Percent of Chinese Internet Users that Access the Internet Via Desktop, Mobile devices and Laptop



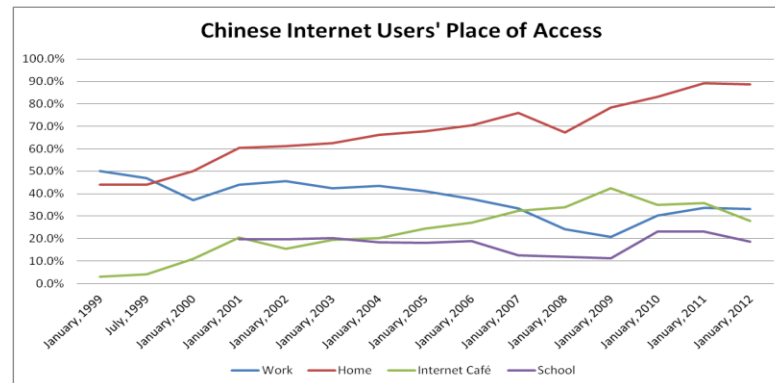
(Nanjing Marketing group, 2012)

At the beginning of 2009, the government launched its 3G mobile device campaign, issuing licenses to mobile devices providers in order to boost the expansion of the mobile Internet. As we can see from the graph in figure 7, by 2008 the percent of Internet users that access the Internet via mobile devices has continuously raised, at the expense of the connection from desktop computer. «By the end of December 2012, China has had 422 million mobile Internet users³¹, 64.4 million more than that at the end of 2011» (CNNIC, 2013, p. 4).

³¹ On January 2014 the CNNIC (2014) (China Internet Network Information Center) published some updates to its *31st Statistical Survey Report on Internet Development in China*. It is affirmed that the new number of Internet users in China is around 618 million and the Internet mobile users number has reached 500 million, shifting from 74% to 81% of the total, in comparison with other way of access. This confirms that mobile phone is still the greatest driving force for the Internet users growth

Another noticeable example of the digitalization of the country is the gradual shift from Internet cafes to private houses as places of access. This is clearly displayed in figure 8. Since the beginning of the new millennium to 2009 the red line (connection from home) and the green line (connection from Internet cafes) have the same trend of growth. However, in the biennial 2008/2009 we witness a turning point:

Fig 8 – Chinese Internet Users' place of access



(Nianjin marketing group, 2008)

the red line keeps on growing, even slightly boosting its slope, while the green line starts to decline. This is the sign of the entrance into a new phase of digital development, where the more available connection from private places of access promotes the acquisition of digital skills. Supposedly, this phenomenon is more likely to involve youngest generations, normally better disposed towards ICTs than their parents and grandparents. However, at this regard it is worthwhile mentioning an interesting aspect of the Chinese digitalization: a general decline of “young” users has been recorded, while the over-40 users have increased:

As we read in CNNIC’s report (2013)

Percentage of Internet users between the age of 10 and 19 has declined from 26.7 % in 2011 to 24.0%, [...]. Besides, percentage of Internet users above the age of 40 increased at different levels for different age sections. And penetration speed of Internet among these groups accelerated. (p. 24)

In our opinion, this tendency should not be related with an alleged lack of interest of the Chinese youngest generations for ICTs; instead, a possible valid explanation is likely to come from the general Chinese population ageing propensity, after the enactment of the “one-child policy”³², back in the 80s. A

³² The “one-child policy” or “family planning policy” is the Chinese government initiative to control the growth of population in order to improve the general quality-of-life standard of Chinese families and deal with the lack of resources. In a white paper issued by the Information Office of the State Council Of the People’s Republic of China and Afghanistan (1995) we read that the

crosscheck prove may be found by analyzing the Internet penetration rate from the Education prospective, the results of which show that the category of Junior and Senior High School students is still, by far, the most “digitalized”. (CNNIC, 2013). Regarding the gender, a gap has to be registered between male and female users, «as of the end of December 2012, the sex ratio of Internet users was 55.8:44.2» (CNNIC, 2013, p. 23). Concerning the Internet habits, , the top application of Chinese users is instant messaging, followed by entertainment (online music, video, game), e-commerce and online shopping; the use of email and forum/BBS appears to be on decline while the microblog growth rate is still as high as 23% over 2012, although its rapid expansion³³ seems to have come to an end. CNNIC (2013) affirms that by the end of 2012 «China has had a total of 309 million microblog users» (p. 5) and among them, the number of users who use a mobile device to access microblogs has reached the 65% of the total. Finally, the most relevant source of information for Chinese net citizens is search engine, with 451 million users and a growth rate of 10% in 2012³⁴.

Many scholars have argued that the expansion of the blogosphere and the accelerate digitalization in a country like China, may lead to a significant political change. The phenomenon has been labeled in different ways: according to Yang (2009) we are witnessing a “communication revolution”; Zheng (2007) observes a “political liberalization” and MacKinnon (2008) sustains that we are on the scene of a “gradual, slow evolution”; in consonance with Esarey and Xiao Qiang (2011) «China’s information revolution has radically transformed the relationship between state and societal actors» (p. 1). The arguments in favor of the political change thesis generally follow this pattern:

1. The flow of information in the digital age is less dependent of a central intelligence. So that, the blogosphere is less prone to became a tool for the government propaganda and Communist Party indoctrination
2. Disjointed by the government financial support, the blogosphere is more likely to encourage political criticism and the spread of contrary opinions
3. In such a context, the Web 2.0 becomes the breeding ground of activism, enhancing the arise of potential collective movement

initiative would have promoted favorable condition for economy and living standard, education and health, female productive forces and status of women, eradication of poverty from rural areas. Nevertheless, the policy allows many exception and, in accordance with Xiaofeng (2007), less than 40% of the population is *de facto* subject to the restriction. That is probably the reason why the population has steadily kept on increasing, despite of the regulation. (Statista, 2014)

³³ Reporter without Borders (2012) identified with “microblog revolution” and “microblogging sites soar” the accelerated development of microblog platforms over 2011 in China.

³⁴ The development of search engines in China will be discussed in Chapter 2

In order to sustain the first point, Esarey and Xiao Qiang (2011) proposes to apply the Bimber's Information theory to the Chinese case. According to Bimber (2003) an information regime is a «stable relationships among information, organizations, and democratic structure» (p. 18). The political information may present different properties, as for example “high cost”, which are going to influence the structure of the political information management and the set of opportunities and constraints created. As a consequence, a certain information regime structure may increase the power of political elites and make information particularly costly to acquire for other societal actors.

In consonance with Esarey and Xiao Qiang (2011)

It should be stressed that information regime change is conceptually different from political regime change, which is change of the formal and informal rules that structure the interaction among political leaders, government, and society. An information regime change transforms the way people access and utilize information about politics. (p. 4)

People's Republic of China has experienced three major information regime changes so far: Information regime I, between 1949 and 1978, in which Information is characterized by a “state-dominated propaganda system”, where «newspapers, magazines, and radio served as the mouthpieces of the party during the country's socialist transformation» (Esarey and Xiao Qiang, 2011, p. 5); Information regime II, over the 80s, where the market economy openness and advertising revenues, makes media become financially self-supporting without really affecting the power of the state, which faces the decentralization with a tighter regulation and repacks the political content to make it more attractive to consumers; Information regime III, the Digital Age, where the reduced cost of the information made available from Internet technologies empowers “post bureaucratic” organizations «or activism that did not require clearly defined organizational boundaries» (Esarey and Xiao Qiang, 2011, p. 7). As Bimber asserts (2003), «more established, resource-rich NGOs are among the most effective exploiters of new information technology» (p. 234). Traditionally, due to the Leninism inheritance³⁵, «in China, nongovernmental organizations have a furtive, illegal existence that severely limits their ability to raise funds, expand membership, and communicate through mainstream media» » (Esarey and Xiao Qiang, 2011, p. 7). In this framework, the development of organizational Website and the blog accessibility would have supported social organizations to organize protests, activism and criticism. And here we come to the second point of the argumentation.

³⁵ Esarey and Xiao Qiang (2011) affirms that, in line with a Leninist conception of the state, Chinese authorities normally consider the empowerment of social organizations as well as a loss of power for the state.

Esarey and Xiao Qiang (2011) argue that blogs differ from traditional institutions for two significant structural characteristics, which would make them more likely to encourage criticism of the state: firstly, journalists working in China's official mass media depends of government salary, meaning they are supposed to comply with the regime priorities, while «almost no bloggers depend upon blogging for their livelihood» (p. 9); secondly, a blog possesses a more agile regeneration capacity. If shut down following a controversial political content publication, it can easily re-open with no substantial cost and can be located by its previous readers by simply using a search engine. Obviously, the impact is different for a traditional media institution: it will hardly ever re-start with the earlier format and the loss for the employees would be definitely more considerable. Ultimately Esarey and Xiao Qiang (2011) state

Due to financial incentives for journalists to comply with the regime's wishes for media content and given the low costs for bloggers if their blogs are shut down, we hypothesized that, compared to traditional media, blogs are more likely to contain opposing perspectives and criticism of the state. Blogging, therefore, could be seen as representing a new avenue for citizen empowerment. (p. 9)

In consonance with the progression of the argumentation, the enhancement of criticism would eventually turn into activism and potential collective movement. Reporters without borders (2012) gives us some examples of mobilizations triggered by online activities throughout the year 2011:

In the city of Dalian, tens of thousands of demonstrators mobilized thanks to messages distributed on Weibo opposing a chemical plant. The later was moved.
The "guardian of Lake Tai," Wu Lihong, was arrested for his activism, particularly online, in denouncing pollution. He is still under close surveillance. His Internet connection was cut off, but his efforts induced the authorities to take steps to improve the lake's water quality.
During Ran Yunfei's detention, Twitter users created a blog on which they circulated English translations of the cyberdissident's writings.
A powerful online mobilization campaign on behalf of Ai Weiwei was organized to help him pay the 15.22 million yuan (about USD 2.4 million) fine imposed on him by the authorities for tax evasion. He managed to scrape together half of it through an Internet fundraiser to which 20,000 people contributed. Many netizens posted nude shots of themselves online when Ai Weiwei was charged with "pornography" because of a single photo. (p. 19-20)

These events demonstrate that the reasons put forward by scholars to support the theory of political change are apparently embraceable; however, how much these theoretically valid arguments are applicable into the Chinese reality ? And if it is true that potential collective movements can be triggered and enforced by the blogosphere, how does the government eventually deal with these circumstances? In accordance to Meng (2010) the association between digital empowerment and democratization is not completely suitable for China's complex and evolving information environment. In our view, the Chinese

culture as well as the political contest present some peculiar features which ultimately undermine the application of the political change theory; indeed, we can notice some weaknesses by revisiting the argumentation introduced,. Regarding point 1, for example, the role of societal actors in the Digital Age has surely changed the flow of information management, as the state is no more able to master contents and direct a centralized propaganda in the same way it was used to do in Information regime I or II; furthermore, the improved economic conditions of the Chinese population make the penetration of new tools not only a theoretical possibility: more people are able to afford a computer or a mobile phone, more citizens approach with Internet activities, honing their skills and producing contents. Nevertheless, the availability of a new tool and its disruptive potential are not enough to affirm that it is going to be used in a dissident way by human beings. In other words, Internet and the Web 2.0 must be voluntarily used for dissidence purposes by Chinese population, in order to trigger a real political change. And this does not seems to be the case. First and foremost, because the improvement of living conditions facilitates the penetration of the Internet, but it also hampers its use in a dissident manner; as soon as the individual is not unhappy with his living standards, he hardly ever will use the tool for protesting, especially in a framework such as the Chinese one, where the risk brought about by dissidence is prohibitively high. According to White (2010) the majority of people do not see inequality as a very serious issue, despite evident proof inferring otherwise. Pew Research Center (2008) affirms that the good health of Chinese economy allows people to generally approve the government performance. In other words, «high economic growth rates in the People's Republic and the improvement of living standards for many Chinese suggests that the CCP may have relatively little to fear». (Esarey and Xiao Qiang, 2011, p. 16). Moreover, in our opinion, there is also a cultural reason to explain why the Internet is hardly used in a dissident way. Due to the legacy with Confucius ethics, Chinese society is collective: the individual is never perceived as isolated or separated but he is always integrated into a social network, where he receives a specific role in relation with the others (Liang, 1967); as Moore (1967) argues, the individual in collective societies is a social, interactive being who is required to respect clear rules and conform with an existing order. In such a conception, the group is source of identity, realization, protection: inside the network, the subject learns what he is and how he should behave in a specific situation; out of the group he is lost, confused and unprotected. Expressed by Eberhard (1971)

To the Chinese the family means security and warmth, the outside world means insecurity and coldness. It is assumed that an outsider has no interest in others, no obligations and is most likely hostile because he pursues his and his family's interests.

So that, he hardly ever will defy rules or assume positions that threaten the stability of the group; he would rather frustrate his personal wishes, the aspiration of the “small-self”, before undermining the “great-self” he belongs to (Hwang, 1997-8), which is firstly identified with the family and after with other institutions such as the school, the company, the state and the whole society as an extension of the family. At this regard Lam (1997) observes

The collectivist culture of the Chinese is developed from the notion of “ideal state”. The essence of the Confucian ideal state is “individual responsibility for collective good”. In the collective society, people exist in a group context and there is a high concern for the group and a low concern for the individual. With this cultural ideal, Chinese individual are trained to pay greater attention to the maintenance of a stable social order and relations, and less attention to the pursuit of personal needs and rights, such as freedom, democracy and individual accomplishment (p. 100)

In our view, this may lead to a further explanation of why the Chinese are not prone to use the Internet to change their current political situation; furthermore this may also clear up the reason why they blindly accept the pervasive legislation enacted upon the use of the Internet: regulation guarantees stability and guides the behavior that must be kept to not undermine it³⁶.

The second point of the argumentation states that bloggers are more prone to criticize the government than journalists because they do not financially depend of the state, at least not directly for their blog content producing activity. That is undoubtedly true, as well as the fact that a blog, if compared with a traditional media institution, possesses a more agile re-born ability. However, although the argumentation seems valid, in our opinion it presents some points of weakness. First of all, the comparison should be done not only between blogs and traditional media institutions but also between blogs with politically critical content and other kinds of blog; if the weight of “critical” blog is irrelevant into the general attitude of the Chinese blogosphere, the discourse about its potential disruptive effects inevitably loses appeal. According to Leibold (2011) «the Chinese internet is chiefly an intranet of playful self-expression and identity exhibition» (p. 4); if Xiao et al (2011) remarks that weblogs contain information that diverges from the party-state propaganda, Leibold (2011) stresses that this «political content comprises only an extremely tiny portion of China’s cyber-cacophony—an important point that is rarely noted in the scholarly and journalistic literature on the Chinese internet» (p. 5). Several scholars (Wallis, 2011; Yangzi et al, 2010) have argued the existence of an uprising post-socialistic “me-culture”

³⁶ Presumably, a “regulated” Internet is also more acceptable for Chinese than for Westerners because the Internet in China has never assumed the “open commons” shape that it used to have in its early decades in America. See paragraph 1.1.1 *Internet evolution from “open commons” to “access contested” space*, in this survey

into the Chinese blogosphere, the result of which is that bloggers are motivated by an individualistic desire to express personal feeling and opinion. Matters of common interest and life experience sharing seems to be more popular than political dissidence. As Leibold (2011) points out

surveys have repeatedly found that entertainment and socializing rather than “hard news” retrieval, political activism and social criticism dominates Chinese internet usage, while linguistic and router barriers ensure that most netizens consume only locally produced and vetted content. (p. 4)

There is more. In our view the real point is that even whereas the blogosphere is effectively critic upon the *status quo*, how does this criticism really bother the government? Does this form of protest really represent a concern for the authorities? King et al (2013) argue that it is necessary to make a specific distinction between criticism and activism, as the censorship demonstrates an extraordinary resilience to tolerate criticism, while it does not manifest the same indulgence towards those forms of activism that may trigger potential collective movement. At this regard the author opposes the *state critique theory*, «which posits that the goal of the Chinese leadership is to suppress dissent, and to prune human expression that finds fault with elements of the Chinese state» (King et al, 2013, p. 2) to the *collective action theory*, in which «the target of censorship is people who join together to express themselves collectively, stimulated by someone other than the government, and seem to have the potential to generate collective action». King et al (2013) states that events related with the second theory are more likely to be censored:

Our central theoretical finding is that, contrary to much research and commentary, the purpose of the censorship program is *not* to suppress criticism of the state or the Communist Party. Indeed, despite widespread censorship of social media, we find that when the Chinese people write scathing criticisms of their government and its leaders, the probability that their post will be censored does not increase. Instead, we find that the purpose of the censorship program is to reduce the probability of collective action by clipping social ties whenever any collective movements are in evidence or expected. (p. 1)

It is interesting to notice that criticism might be tolerated even if a comment upon the government, or its leader or policies, is sharply nonconformist; on the other side, activism is not permitted even when it appears to openly sustain the state. King et al (2013) gives us an example of a blogger writing a scathing critique of the One Child policy, which has not been censored:

“The [government] could promote voluntary birth control, not coercive birth control that deprives people of descendants. People have already been made to suffer for 30 years. This cannot become path dependent, prolonging an ill-devised temporary, emergency measure.... Without any exaggeration, the one child policy is the brutal policy that farmers hated the most. This “necessary evil” is rare in human

history, attracting widespread condemnation around the world. It is not something we should be proud of.” (p. 13)

And here follows another example from the same author of a supportive-of-government post, which has been censored for its potential collective movement risk. It calls to account an ex-local leader that has been deposed and put under police custody for the accuse of corruption. Although the tone of the critic is in line with the government action, the topic is delicate, as the happening had generated protests in the local area.

“According to news from the Badong county propaganda department web site, when Ran Jianxin was party secretary in Lichuan, he exploited his position for personal gain in land requisition, building demolition, capital construction projects, etc. He accepted bribes, and is suspected of other criminal acts.” (p. 14)

In order to deal with the risk of potential collective protests, the Chinese censorship removes the activism-related posts from the Web, performing the so-called *just-in-time filtering*, which may be carried out by using keyword-based software: when the “banned” word concerning a protest or a happening, is detected, the post is promptly removed. However, this censorship method could be easily circumvented by expert bloggers as «the Chinese language offers novel evasions, such as substituting characters for those banned with others that have unrelated meanings but sound alike (“homophones”) or look similar (“homographs”)» (King et al, 2013, p. 3). In such cases, the censorship last resort is to employ human beings to read every single post and remove what is considered unacceptable.

Thus, as a consequence of the weaknesses introduced in point 1 and 2 of the argumentation, the third point loses strength too. Without the intention of the population to use the tool in a dissident way and with a technological and especially social censorship system that demonstrates an unequaled level of resilience and sophistication, the activism becomes inexorably uncommon; and, in the rare cases it may outburst, the government would recur to the most traditional of censorship methods: repression. Authorities may happen to isolate the area, cut off the Internet from the hot spot, put protest leaders under arrest. Reporter without Boarder (2012) gives us several examples of collective movement repressions. We select two among the most significant ones:

In late January 2012, a communications blackout was imposed to prevent media coverage of the authorities quashing protest movements in Tibet. The independent and foreign media were kept in the dark, while disinformation prevailed in order to hide from the world the magnitude of the protest. The Internet was a collateral victim of the crackdown, with cut-off connections, increased blockings, and

removals of content related to the uprisings. Local community networks were particularly targeted in order to nip in the bud any attempt at mobilizing support online. [...]

In May 2011, the Internet was also a victim of the crackdown on the Inner Mongolia demonstrations, as the authorities stepped up their control following protests about the death of a Mongol herdsman on October 20, 2011. Many Mongolian websites called for demonstrations against the government's attempts to impose a news blackout on the event, and access to several sites such as Boljoo, Mongolian BBS and Medege were blocked as of October 27, 2011. Cyberdissident Hada and his family are still in jail, and their close relatives are being harassed. (p. 20)

The connection's cut-off over the hot area is a suitable strategy for the government to not disappoint people and businesses which still need Internet for their daily activities, while the censorship carries out its ultimate attempt to repress the mobilization; pieces of news may happen to slip away from the isolation but this might actually work in favor of the censor, as people's beliefs to not create disturbance may be reinforced as a consequence of fear.

Therefore, as for this framework has been herein described, the position of those intellectuals who are not optimistic regarding an alleged political change supported by the Internet in China, could be understandably joined. Liang G. (2007) suggests that the Internet in China more resembles an "entertainment highway," rather than the expected "information superhighway". According to Jin (2007) the size of sheer in the "Sinosphere" is massive: 1.6 billion weblog pages are viewed and 10 million new posts are written each day. However, «most of these pages are filled with the ephemeral waxing of quotidian life—discussing travel plans, telling jokes, sharing photos, searching for jobs, pursuing love interests, and gossiping about sports, entertainment and news—and here Chinese netizens are no different from their global counterparts» (Leibold, 2011, p. 4). Hindman (2008) sustains that political websites in America embrace only 0.12 percent of overall web traffic. If we exclude pornography ,the Chinese Web is not very different: entertainment, sports and relationship predominate. In consonance with Leibold (2011)

Film and fashion starlets Zhang Ziyi and Zhao Wei return more results on China's leading search engine Baidu than the "national father" Sun Yat-sen and [...]a staggering 361 million netizens have visited the web forum dedicated to discussing Supergirl star Li Yuchun at the Baidu Post Bar [...]; and television actress Yao Chen [is] the most popular individual (with nearly 12 million "fans") on China's new Twitter-like micro-blog platform Sina Weibo

In light of these figures, Liang and Lu (2010) confirms that it should not be surprising to find that Chinese netizens are apathetic about discussing politics online and highly supportive of government controls in cyberspace. «In contrast to those that argue the internet is empowering ordinary citizens, many inside China worry that the web is peddling a new "digital opium"» (Leibold, 2011, p. 6). Morozov (2011) warns

that in authoritarian countries like China, killing time on the net might work as a sort of digital escapism: it would help to depoliticize large segments of the population, to strengthen the ruling party and its elite, to dissipate critical voices within this “echo chamber of banality”. We agree with Fei et al (2009) when he resorts to a culture explanation to elucidate why the greatest part of netizens represses sensitive subjects and get only involved in “discussing trivial and mawkish topics”. As we have mentioned above, in the Chinese intrapersonal relationship system there is a substantial difference between relationship *inside* and *outside* the group. In other words, «communicative performances differ according to whether the communicator is a member of an in-group or out-group, in-group members being allowed to engage in freer and deeper talk» (Chang and Holt, 1991, p. 266). This “special connection” established within the individual’s network is called *kuan-hsi*. As for it Wen (1988) observes

Chinese are very sensitive to *kuan-hsi*. Whether to tell truth, to support, or to help the other tends to depend upon whether one has *kuan-hsi* with the other. A common saying states, "When you meet a person, only speak 30 percent, do not tell all in your heart," referring to the depth of *kuan-hsi*. Deeper *kuan-hsi* persons are allowed to talk deeper, and more shallow *kuan-hsi* persons, on the other hand, can only talk about something not serious, such as greetings, (p. 32)

While the in-group discussion may cover serious matters, outside the group a superficial level must be always kept. Hwang (1997-8) helps us to comprehend this issue by introducing the concept of superficial social *harmony* and *face*. The heritage of Confucianism and Taoism conveyed in Chinese society the core value that an harmonious state should always be preserved at every level of interaction (Li, 1996). Since their early socialization, Chinese people are educated to give up «a personal goal for the sake of maintaining interpersonal harmony» (Hwang , 1997-8, p. 26). This may lead to inner or intrapersonal conflicts, which can be solved by acquiring different model of conflict resolution such as *forbearance* and *endurance*. «In its broadest sense, "forbearance" means to control and to suppress one's emotion, desire, and psychological impulse» (Hwang , 1997-8, p. 28). Whereas forbearance cannot solve the problem, individuals resort to indirect communication, which means they use an intermediary to express disagreement when they consider that «the relationship [...] is not strong enough for direct communication» (Hwang , 1997-8, p. 28). These strategies can be categorized under the general concepts of “superficial social harmony” or “giving face to each other”. According to Hwang (1997-8)

Under such circumstance, when interpersonal conflicts occur to weaken their expressive tie, both parties still have to interact with each other within the same power structure. In this case, they are forced to keep the superficial harmony by following the social manners. As a cultural ideal of Confucianism,

"politeness" without any ingredient of "benevolence" is called by Chinese as "caring about other's face superficially" (fu-yeu mien-tze). (p. 29)

The consequence of this concern for exposing themselves “too much” is not only a lack of personal expression but also the deterioration of public debate and experiences sharing, so much in the real life as in the virtual interpersonal relationship system. In order to organize even a simple protest, firstly individuals need to be able to expose themselves and then communicate to the others; people must be willing to gather, share opinion, discuss solid and serious matters with perfect strangers, open up their aspiration not only to their family members or community mates, but also to individuals coming from other cities or provinces, sometimes even countries or cultures. In our view, this appears to be the only way to promote mobilizations; but although the resonance of the Internet is potentially revolutionary, the Chinese do not seem to be willing, or able, to use it this way; as long as their real world relationship will be permeated by apprehension to not traumatize a superficial social harmony, the virtual one won't be so much different. Serious matters and personal aspirations will be kept away from the social conversation, which will eventually turn into an idle mawkish talk, soaked with trivial and superficial matters.

As a conclusion, we do not expect a forthcoming Great Firewall collapse. At least not from inside the country, not from a below-thrust initiative coming from the population. The barrier is elastic, the automatic techniques are supported by a cutting edge technology, the social censorship is sophisticated and resilient. This is undoubtedly true; but what really empowers the Great Firewall is probably the *cultural affinity* of the people. The Chinese are more likely than Westerners to accept a tight regulation; and that is because they want it, they are used to it in their collective society, they need it for the stability of the group they belong to. And, most importantly, they do not see the repression of information and content, and ultimately the repression of the self, as a violation of human rights, which could eventually promote protest, defiance and even rebellion; the frustration of personal expectations is seen as a duty towards the community and is normally carried out since early ages in their family life. The family, the very first network and the epitome of each social group, of which the school, the company, the society and eventually the state, are just extensions.

However, since about 30 years ago to now, this country has experienced an unprecedented openness, which has brought companies and workers, individuals and influences from the rest of the World. Today's China is no more just a territory “of Chinese”. Many people coming from different cultural background carry out their ordinary life practices within these borders. In the next section we will

consider what the Great Firewall really means from those who cannot respond to the same Chinese population *cultural affinity* .

1.2 Exporting the “Wall”

1.2.1 - China’s cyber-nationalism: conflicts, espionage and cyber-attacks

In the previous section we have considered how the Great Firewall in China can survive and thrive despite the expansion of ICTs; we argued that the Chinese censorship is a technical and social construction which not only is not thwarted by the local societal actors, but it is actually supported by the population cultural affinity. In this paragraph we try to introduce a discussion upon the relationship between the Internet restriction conducted by the Chinese government and the penetration of foreign interests in the country.

Three decades ago, China decided to launch a new season of openness towards the rest of the World, in order to attract foreign capitals and improve the national economy. From mid-90s, openness and economic progress has meant also to develop an ICTs infrastructure in order to allow Internet to spread across the country. The diffusion of the Web in China has represented a sort of paradox, as the very nature of the Internet and the economic contest where it comes from, discord with the Chinese traditional method of ruling the economy and the flow of information. According to Mueller (2011):

The international environment of Internet governance is freer, is private-sector based, and is more capitalistic than China ’ s rulers would prefer. And, it is subject to U.S. hegemony. If one combines an analysis of the global politics of Internet governance with an understanding of the long-term status of China ’ s reform process, one can understand better which factors facilitate and which place constraints on the party ’ s ability to regulate the Internet. (p. 177)

Among the numerous novelties brought about by the ICTs distribution, one of the most relevant for Chinese contest is the «emergence of new, non-state-based governance institutions» (Mueller, 2011, p. 178).

In particular, in China’s state-centric view, two issues are to the point:

- Internet is perceived as a tool mostly dominated by America, which supposedly uses it «to penetrate and subvert other states with its own worldviews and values» (Mueller, 2011, p. 182).
- Internet is inclined to be administered on a global arena, meaning that it predictably clashes with China’s nationalistic information administration.

The idea of an Internet third millennium despotism principally conducted by USA , led the Foreign Ministry spokesman Ma Zhaoxu to accuse the U.S. secretary of state Hillary Rodham Clinton, of

promoting an “information imperialism”, after she criticizes China and other countries for their cyberspace censorship³⁷. In consonance with Bodeen (2010) Washington diffused its message directly into the Chinese blogosphere, in order to outreach Chinese bloggers, some of which seemed to have openly sustained the drive; however «the Chinese view is given some credence, since U.S. “ Internet freedom ” initiatives are in fact rather selectively targeted at U.S. geopolitical rivals China and Iran, as opposed to other equally censorious countries that are allies of the United States» (Mueller, 2011, p. 182).

Regarding the contrast of an internationally administered Internet and the traditionally Chinese state-centric view upon the flow of information management, GOV.cn (2010) states that the government welcomes the international exchange of experiences and issues related with legislation and security, supports cooperation and bilateral dialogue, advocates opportunity sharing aimed to a mutual profit; it also sustains the establishment of a worldwide scale Internet administration organization under the United Nation endorsement, but remarks that its opening-up policy is strictly governed by the national legislation: authorities welcome enterprises from other countries to enter the Chinese Internet market if they demonstrate to abide local law. Mueller (2011) states that «within this political space, China (along with Burma, Russia, and other post-communist nations such as Vietnam) is unambiguously cyber-nationalist» (p. 180). Whereas the investor is domestic and culturally similar or it comes from a different background but it demonstrates its compliance with the national legislation, its capital are welcome in China; if its attitude collides with the information regime prescriptions to maintain domestic companies in the leadership positions, to observe the Chinese Internet regulation, and to comply (without necessarily adopt) the Chinese ideal of human rights, it will deal with a different face of the barrier. As to say, China has opened its door and whoever is willing to be submissive with its cyber-nationalism, owns the ticket to enter the Internet market; for those whose intention is to challenge this cyberspace regime, social human right institutions, economical market leaders, political-cultural powers, the Great Firewall will be exported. In the previous section we have determined that the “indoor” Great Firewall is composed by three phases: technological filtering and blocking, surveillance and social censorship and, ultimately, repression. If exported, the barrier follows a different procedure. According to Mueller (2011)

An inherent feature of the nation-state system of governance is that concepts of order and security apply first and foremost in the domestic sovereign ’ s jurisdiction. Different, negotiable standards apply to outsiders. Because China believes that it is both necessary and justified to “ manage ” the information

³⁷ The controversy occurred on January 2010. As Bodeen (2010) reports, Hillary Clinton named Tunisia, Uzbekistan, Egypt, Iran, Saudi Arabia, Vietnam and China among the countries having a "a spike in threats to the free flow of information".

environment and control political activity, it makes sense that it would use cyber espionage to its fullest capacity to survey its international and domestic environment. (p. 189-190)

We have herein defined three phases of the “exported” Great Firewall: conflict, cyber-espionage, cyber-attack.

A conflict is the friction between the local cyber-nationalist forms of governance and other not contemplated attempts of transnational regulations. China has been repeatedly involved in contentions against international institutions for the Internet administration, such as ICANN or IGF³⁸.

The ICANN controversy has been quite relevant over the first decade of the new millennium, during the wave of the Internet diffusion. Mueller (2011) points out that in Chinese view ICANN, or Internet Corporation for Assigned Names and Numbers³⁹, is objectionable for two main reasons:

first, because of its status as a non-state actor that supplants or competes with states in the exercise of policymaking and governance responsibilities; and second, because of its unilateral establishment by the United States and its contracts that make it beholden to the U.S. Department of Commerce. (p. 182)

As a consequence in 2003, with a very low-key initiative, not widely publicized and labeled as experimental, China attempted to create its own Internet domain name system, adding aside the top-level domain “.CN”, the new three Chinese character top-level domains corresponding to “China”, “company”, “net”.⁴⁰ Mueller (2011) affirms that this initiative was a clear effort aimed to create an «alternate DNS root for Chinese-character domain names» (p. 183). MacKinnon (2006) preferred a more moderate approach, sustaining that the lead did not coincide neither with a China shut-out of the global Internet, nor with the creation of a parallel Internet evil twin; China had just put in force a local Internet sub-channel co-existent with the ICANN global one, aimed to facilitate the filtering of international content into the progressively more populated national Internet environment. The issue came out officially in 2006, after ICANN had started to endeavor new rules for the addition of top-level domain names. At that time, an article on People’s Daily (2006) reported that, following adjustment to China’s

³⁸ Internet Global Forum. It is an institution created under UN advocacy to join multi-stakeholders actors, such as governments, civil society, business actors, in a dialogue about Internet issues. Initially China sharply criticized the effort to avoid confronting about the US unilateral control at IGF meetings, and started a “war of attrition”. However, since 2010, China has strived to make the institution more inter-governmental.

³⁹ ICANN coordinates addresses, names or numbers that users have to type into their computer to find each other on the Internet. These location sources are unique identifiers across the world. With no coordination, a global Internet would be unconceivable. (ICANN, 2014)

⁴⁰ Beneath these three CN top-level domain, China’s Ministry of Information implemented two kinds of sub-domains: topical categories and administrative regions. (MacKinnon, 2006) (People’s Daily, 2006)

Internet domain name system made by China's Ministry of Information Industry, Chinese Internet users were not obliged to surf the Web under the control of ICANN and United States. Finally, in 2009 a compromise has been reached: ICANN agreed to recognize the creation of new “country code top level domains” (ccTLDs) in non-Roman scripts. As Mueller (2011) says

the whole concept of a “country code TLD” was based on an ISO standard assigning two-letter codes using the Roman alphabet to specific geographic territories. Since no such standard existed for the rest of the world ’ s writing scripts, the characterization of these new top-level domains as “ country codes ” provided political cover for a land grab by national ccTLD monopolies. By giving countries such as China, Russia, and India a privileged and accelerated right to get new top-level domains representing their country names in native scripts, ICANN and the U.S. government were giving the world ’ s states an economically valuable and politically powerful gift in order to keep them happy with the ICANN regime. (p. 184)

A second way to export the Firewall is the cyber-espionage. In the previous section, aside the traditional blocking and filtration techniques, we have introduced the notion of *social censorship*, mostly defined by the concept of surveillance: real name registration, ID scanning, license issuing, camera installation, allow the government to constantly keep an eye on the population real and virtual life practices and to require service providers to supply on demand the desired information stored on their databases. The cyber-espionage is the “exported” version of the domestic surveillance: it can be defined as the attempt to obtain valuable information from rivals for personal advantages, by engaging power and spying games (Mueller, 2011). In accordance with Information Warfare Monitor (2009)

The Chinese focus on cyber capabilities as part of its strategy of national asymmetric warfare involves deliberately developing capabilities that circumvent U.S. superiority in command-and-control warfare [...] In recent years, there has been an increase in allegations that China-based hackers are responsible for high-level penetrations of computer systems in Europe, North America and Asia. (p. 11)

When the surveillance is not only a strategy to monitor the competitors in order to shield from its cyber-superiority, but it becomes a system to defraud and disrupt contender’s initiative, it turns into a proper attack. There is a variety of motivation and different tools and techniques with which a cyber-attack can be carried out. As Information Warfare Monitor (2010) declares

we believe they infected victims primarily via email using social engineering techniques to convince their victims to open malicious file attachments [...] We observed the group using PDF, PPT, and DOC file formats to exploit Adobe Acrobat and Acrobat Reader, Microsoft Word 2003 and Microsoft PowerPoint 2003. The themes of their attacks appear to involve topics that would likely be of interest [...]. This can be observed through the file names of the malicious exploit files, as well as looking at the clean or non-malicious files they then open after exploitation. (p. 18)

OpenNet Initiative (2011) reports numerous cases of organizations receiving emails that «if opened and executed, would install malware connected to a command-and-control server located in China» (p. 286):

Fig 1 - Cyber War



(Osbourne, 2013)

a malware created to contact servers in Bengbu was sent to journalists, disguised as a fake e-mail invitations to the Nobel Peace Prize awards ceremony of Chinese dissident Liu Xiaobo; thousands of computers belonging to several Tibetan NGOs, including some at the private office of the Dalai Lama have been jeopardized by attacks allegedly coming from China; before the 60th anniversary of the founding of the People ' s Republic of

China, journalists were targeted by an increased number of malware attack.

Cyber- attacks supposedly originated in China have been recognized in many different states, such as Australia, Japan, Pakistan, South Korea, the United Kingdom, and the United States.

However, the most relevant episode of cyber-attack allegedly directed by China is perhaps the December 2010 Google affair, which led the search engine company to leave the country and withdraw to Hong Kong. The episode will be fully covered in Chapter 2 in this survey.

In conclusion, the paradox of the Chinese Internet is herein delineated. China, after the clear failure of the socialist economic model, decided to open its door to initiate a new deal of growth and development. The government allowed foreign capitals to penetrate the local market, developed a ICT's and Internet infrastructure, expressed its endorsement to collaborate in an international framework; however, it has never compromised its political tendency to promote a central control, mostly aimed to guarantee security and protection of the population as well as its cultural preservation. China's openness to the Western part the World has undoubtedly supported the economical thrust, but it has never represented a way towards a real political transformation. As to say, the country has opened enough to boost the economy, but not to embarrass the nationalistic approach, that is real or cybernetic, of the local authorities. As Mueller (2011) points out

Reform did not mean, as many Westerners assume it does, a liberalization of economy and society that leads to convergence with the West. The communists referred to that path as *transformation* — the abandonment of communism and a move toward liberal democracy. A *reformed* communism would make

socialism economically viable by permitting the existence of enough market forces and trade to deliver growth, while retaining the Leninist approach to centralized political control associated with classical communism. This is clearly the path that China has chosen. The whole point of China's reform process is to benefit from Western technology and from trade with the global market economy *without* converging into the West's liberal democratic governance model. Its opening and reform process was and is intended to deliver continued economic development without fundamental political change. Continued economic growth, they believe, makes political transformation unnecessary. (p. 190)

Thus, despite repeated demonstrations of willingness to cooperate, the country has rather challenged and conflicted with institutions and businesses which have tried to temper its state-centered ruling pattern and the cultural assumption that identifies nationalism with a source of security and protection. The government has relied on the improving level of living conditions brought about by the economic growth, to legitimate itself and to avert the threaten of a real cultural mixing. Undoubtedly China is going through a contamination of Western lifestyle, especially regarding the people's way to occupy their free time with a new form of entertainment capitalism; but, all in all, this phenomenon stays over the surface, if we consider how the most profound values remain untouched. For instance, China maintains a very different view about what is, or is not, a human right; and that is the main reason why, while many foreign companies are allowed to enforce the national economy by penetrating the local market with their capitals, Western human right organizations still struggles to strike a deal with the Chinese regime. This issue will be examined in the next paragraph.

1.2.2 - International initiatives

In GNI⁴¹'s annual report (2012), we read: «government attempts to control content and monitor Internet users, for legitimate purposes or to suppress rights, have become a global phenomenon» (p. 3) and significantly the freedom of expression and privacy threat involves «both repressive regimes and democratic societies⁴²» (p. 3). Karlekar and Dunham (2012) offers an interesting overall picture of the occurrence, dividing countries in “free”, “partly free” and “not free”

The report found that only 14.5 percent of the world's people—or roughly one in six—live in countries where coverage of political news is robust, the safety of journalists is guaranteed, state intrusion in media affairs is minimal, and the press is not subject to onerous legal or economic pressures. (p. 1)

In this overview «authoritarian powers—such as Russia, Iran, and Venezuela—resorted to a variety of techniques to maintain a tight grip on the media, detaining some press critics, closing down media outlets and blogs» (Karlekar and Dunham, 2012, p. 4). However, among these “enemies of the free flow of information”, China remains «the world's largest poor performer» (Karlekar and Dunham, 2012, p. 4), and, numerically, the most relevant⁴³; China and India together «account for over a third of the world's nearly seven billion people» (p. 2).

One of the most significant challenge for every regime, in the real world as well as in the virtual, is the establishment of international human rights organizations' initiatives. Obviously China represents one of the principal objective: the information regime, the technological and the social censorship, the oppressive regulation over the Internet since its penetration in the country over the 90s, have repeatedly attracted the attention of numerous international drives, that have either just acted like watchdogs monitoring the regime's evolution or, in some cases, actively promoted campaigns to sensitize the public opinion, make the population aware of their state of minority and, eventually, reach up for a superior level of freedom. At this regard, the role of UNESCO⁴⁴'s Division for Freedom of Expression, Democracy and Peace is one of the most relevant. According to Dutton et al (2011)

⁴¹ Global Network Initiative

⁴² In his review, Karlekar and Dunham (2012) mentions United States and includes Western European countries among states with episode of poor free flow of information performances. Although USA remains a strong performer, it has suffered “a lack of protection-of-sources legislation at the federal level”. Among Western Europe countries, Italy still presents a “partly free” status, due the position of Silvio Berlusconi as a political leader and a “major media owner”. His resignation in November 2011 has significantly decreased the concentration of media in the country.

⁴³ In accordance with the Karlekar and Dunham (2012)' reports, there are only 8 countries in the World where the situation is worst-rated than China: Belarus, Cuba, Equatorial Guinea, Eritrea, Iran, North Korea, Turkmenistan, and Uzbekistan.

⁴⁴ United Nations Educational, Scientific and Cultural Organization

As stated in its Constitution, UNESCO is dedicated to 'Promot(ing) the free flow of ideas by word and image'. Part of this mission, therefore, is to promote freedom of expression and freedom of the press through sensitization and monitoring activities, as a central element in building strong democracies, contributing to good governance, promoting civic participation and the rule of law, and encouraging human development and security [...] UNESCO recognizes that the principle of freedom of expression must apply not only to traditional media, but also to the Internet. Providing an unprecedented volume of resources for information and knowledge, the Internet opens up new opportunities for expression and participation and holds enormous potential for development. (p. 3)

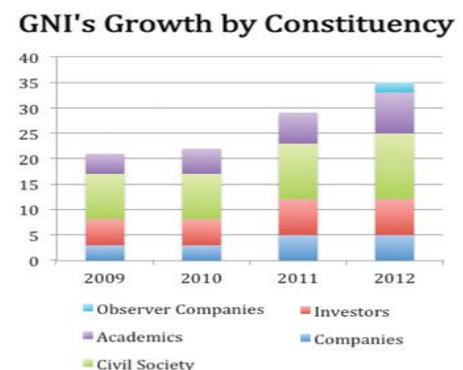
However, as for our discourse, perhaps the most important contribution comes from the Global Network Initiative (GNI), formed in 2009 by founding companies Google, Microsoft and Yahoo with the specific purpose of providing ICTs companies «with the human rights guidance to enable responsible decisions in the face of government requests, through meaningful engagement with human rights and press freedom groups, academic researchers, and socially responsible investors.» (GNI, 2012, p. 3). According to the GNI (2012)' s annual report of 2012

The GNI Principles on Freedom of Expression and Privacy articulate a human rights-respecting standard for companies in the ICT sector, rooted in the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR). (p. 4)

Associations such as GNI are normally NGO and work in partnership with non-profit organizations; they use to keep a multi-stakeholder profile, involving not only companies but also civil society organizations, investors, and academics. Moreover, in order to encourage different actors to approach the initiative, GNI created also an "observer status"⁴⁵, «an opportunity for companies who are actively considering joining GNI to see more closely how the organization works for a non-renewable 12-month period.» (GNI, 2012, p. 12).

There are many episode of collaboration between human rights organizations and companies. As an example, during 2012 «Google campaigned with civil society organizations to raise awareness and increase transparency around the closed-door International Telecommunication Union meeting in Dubai» (GNI, 2012, p. 5) and promote a petition, sustained by more than three million voices to "stand

Fig 2 – GNI's Growth by Constituency



(GNI, 2012, p. 13)

⁴⁵ The first company to have an observer status in GNI was Facebook, in May 2012

up for a free and open web”. Over the same year Microsoft, inspired by its membership in GNI, «published its Global Human Rights Statement, which sets forth its commitment to respect human rights in all of its business operations and practices across the globe⁴⁶» (GNI, 2012, p. 5). Websense⁴⁷, just after having joined GNI in December 2011, refused to comply with the Pakistan government request «to build a new system for Internet filtering and blocking» (GNI, 2012, p. 5); the example was followed by other companies and eventually turned into a significant initiative in such a serious censorship context.

Particularly indicative is the case of Yahoo. As GNI (2012) reports

In 2012, Yahoo!, led by its Business and Human Rights Program, continued to highlight the potential for digital media to empower women through its Change Your World series. After the launch event in Cairo, the series turned its focus to the Americas with energetic gatherings in Washington DC and Mexico City of activists, entrepreneurs, journalists and policy makers sharing best practices about how they are using the Internet and technology to create positive social change. (p. 5)

Now, in order to have a better understanding of how the partnership companies-human rights organizations operates, we proceed to identify two lines of action, depending of the type of target they set⁴⁸.

- In the first line, the main target is the population of a country oppressed by a regime. The principal goal is to sensitize individuals, develop their personalities, inform them about their situation, make them aware about their state of minority. In this case, the interest is purely social and aims to develop a specific set of human kind's right in a certain context.
- In the second line, the main target are the companies themselves. In this case the set of values raised by Western democracies and defended by NGOs is mingled with the country of origin business' sake to enter a particular market: as for this instance, human right organizations act like a moral reference for all those businesses venturing into a market subjected to a nationalistic regime.

As we have ascertained above, it is not a case that human rights organizations are used to keep a multi-stakeholder approach: a social emancipation is likely to be followed by a political awareness, which may

⁴⁶ Its remarkable that, despite its membership in GNI, Microsoft supported Baidu's effort to expand its English language result between Chinese users. According to Sterling (2011) and Reuters (2011), on July 2011 Microsoft' search engine Bing, settled a covenant with Baidu to empower the Chinese search engine with English-language results, complying with the same censorship rules that Google faced just less one year before.

⁴⁷ Websense is a worldwide company which provides security tools for Web digital databases and email services

⁴⁸ Obviously, we have to keep in mind that the following division is purely theoretical: in reality the two lines of actions are often intertwined and not always separable.

lead to a political use of the ICTs, turning into an actual concern for the established order; equally, a significant change into the political system may inaugurate a new economic deal, with an alleviation of nationalism and protectionism, and a consequent penetration of foreign competitors. That is the main reason why political and economic institutions end up empowering social initiatives of human rights organizations; and at the same time, we have to say, NGOs campaigns would not have the same strength without the open backing of an economic and political structure.

In any case, we cannot steadily affirm that these “partnerships” have an easy life when they have to face their targeted regimes: indeed, despite the increased vigor resulting from a combined effort, these multi-stakeholder initiatives are often forced to stop and pull back in front of the local barrier stability. And this is especially true in the particular case of China.

For instance, in consonance with the first line of action, NGOs do fight for a free flow of information within the country, considered essential for the freedom of thought, as well as for the Chinese population personality development. These campaigns are justified by the fact that an individual without information, or with a strictly previously-selected information, is not able to express himself, to choose his own course, and eventually to grow up. This individual would be voluntarily kept in a state of minority, in order to not represent a threat for the regime’s endurance. The motivations forwarded by “human rights” campaigns are inspired by the Universal Declaration of Human Rights and results utterly comprehensible in Western societies, but in the Chinese context they go through a cultural conflict: Chinese people do not conceive the individual expression as an unavoidable human right; on the contrary, as we have partially anticipated in the previous paragraphs, personal thought is perceived as expendable, especially in order to maintain social stability and group cohesiveness, considered as the main source of security and protection. In other words, the issue is about how much universal human rights are up to be accepted as really “universal”. As Lam (1997) sustains «many rights that are considered as basic human rights for Western societies are of no major concern for Chinese people» (p. 100) and Ho (1979) evaluates this aspect as one of the main reflection of the cultural contrast between the individualistic and the collective orientation. By this point of view, the Western human right initiative in Chinese contest risks to be not only a cause in which the main target is not really interested; it also might turn into an imposition of an external set of values that may damage the cultural framework of a population which does not want, or is not ready, to profoundly welcome a different cultural pattern. In other words, the risk is to effectively put in practice that form of Western Imperialism denounced by the Chinese Foreign Ministry spokesman Ma Zhaoxu, replying to the U.S.

secretary of state Hillary Rodham Clinton⁴⁹. As for it, the human right “sensitization” ceases to be a social drive for human development and promotion of a democratic and more open political pattern; on the contrary, it turns into a mere battle in favor of Western businesses, aimed to fight political nationalisms and conquest their markets, with no regards for the local cultural structure. A circumstance that is even more relevant, considering how huge and lucrative are the Chinese ICTs market growth possibilities, especially if compared with the tired and overstocked Western markets.

All along this way, we arrive at the second line of action: whereas a business achieves the goal to make a breach into the protectionist barrier of the targeted nationalistic regime, in order to play on equal terms in the local market, it often experiences a moral contradiction, as it is forced to comply with the local law. It means, in our case, that ICTs western companies are compelled to act like actual censors, removing results, information and contents, monitoring their users with no special care for their privacy, reporting data to Chinese authorities on demand. As this regard, human right organizations act like a moral watchdog, reminding companies what are the principles expressed in their countries of origin’s constitutions as well as in their cultural *manifestos*. The most relevant example is, again, the moral contradictions experienced by Google during its venture in China, covered in Chapter 2 and just herein anticipated. In consonance with Brenkert (2008)

Google’s decision to begin filtering the content of searches undertaken through its search engine raised a significant outcry from groups such as Amnesty International, Reporters without Borders, Human Rights Watch, and others. [...]It has been attacked for compromising its basic values of honesty, responsiveness, trust, and “Don’t be evil,” all mentioned in Google’s “Code of Conduct.” (p. 2)

A more recent episode regards the newly aggressive LinkedIn play to enter in China. As Luckerson (2014) points out, LinkedIn may be “better positioned” to succeed in this market, due to the different nature of its content, less prone to mobilize dissidents than Facebook and Twitter, banned from China after 2009 Urumqi violent protests⁵⁰. However, the company will have to make some concessions and sacrifices some of its moral principles to please the country’s government and make it in the local market. Luckerson (2014) also reports a declaration from LinkedIn’s director of corporate communications Hani Durzy, who affirmed that the company is going to have to comply with things that it would certainly

⁴⁹ See paragraph 1.2.1 *China’s cyber-nationalism: conflicts, espionage and cyber-attacks*

⁵⁰ The riots in Urumqi, the capital of the western province of Xinjiang, started out after the murder of several Uighur workers in a Guangdong toy factory, and resulted into at least 197 deaths and more than 1,600 injuries. At that moment the nation experienced a “drastic tightening of Internet censorship”, with the blocking of many important social media Websites (OpenNet, 2011). However, Ottinger (2014) sustains that Facebook and Twitter were banned only after they were used to organize protests in the Middle East and North Africa in late 2010, in what became known as the Arab Spring.

prefer not to have to comply with, such as filtering content and store data about Chinese members on servers that reside within the country. Huang (2014) reports the significant statement of LinkedIn CEO Jeff Weiner, who remarked how his company has always strongly supported freedom of expression and has fundamentally disagreed with government censorship, but the restriction of content remains an unavoidable condition that the government of China imposes for operating in the country.

This declaration is particularly indicative, as it shows the kind of conduct that these businesses choose to keep: the so-called “moral compromise”. As to say, they do not defy the moral structure of their countries of origins’ constitution and, of course, they do not openly contradict the principles stated in their cultural views; but at the same time, some markets are simply too lucrative to be quickly abandoned and the “Chinese venture” is a too precious occasion to make profit to be so easily dismissed. In Brenkert’s view (2008)

there are situations in which people in business must confront the possibility that they must compromise some important principles or values in order to protect other ones. In the process, their integrity comes into question. These are not simply back sliders or bad apples. Rather, given their circumstances, they might plausibly argue they could (and should) do nothing else. (p. 1)

According to Huang (2014) LinkedIn CEO Weiner promised that government restrictions will be enacted only when strictly required and that they will be as much transparent as possible about their business conduct in China; at the same time, he believes that a company whose mission is to connect the world’s professionals, must take part to rapid acceleration and development of China’s economy: LinkedIn’s absence in China would deny the 140 million Chinese knowledge workers the chance to become more productive and successful.

It is worth to remark how this “moral compromise” turns out to have an important consequence over the human rights organizations action: since a business decides to comply with the local rule, it is allowed to play into the Chinese market and this will make it less likely to sustain the “human right” drive; in other words, when a company gets the ticket to enter in this lucrative fast-growing market, the civil right “sensitization” against the information regime and the campaign against the nationalist government just become less important.

And obviously the Chinese censorship is able to strategically turn this factor on its side. We have already underlined the elasticity as one of the main component of the Great Firewall sophistication: the censorship is able to filter and block content without resulting to pervasive for its population’s most attended virtual place of gathering: it is willing, for example, to allow criticism towards the government while keeping a tight grip of whatsoever type of activism; we have also considered how the economic

openness of the regime does not correspond to a drastic transformation of the previous system, but it should rather be assumed as a communist reformation: foreign capitals are allowed to empower the local economy, as far as they do not represent a concern for the traditional nationalism, which remains the main political pattern. And also when facing the “human right issue”, the Great Firewall resilience demonstrates to be the real strength of the censorship: since western companies comply with the local regulation and maintain a low-key profile, without aspiring to leadership positions, they may stay in this lucrative market and make profit; the nationalism is not endangered by an unexpected Western capitalism takeover and the human right organizations lose their voice, as their campaigns are presumably bound to run down without the boost of an economic structure. So that, they do not turn out to be a main concern for the regime, which can steadily keep its nationalistic pattern while pursuing its economic growth.

Therefore, without a real interest, or emancipation, of the population and with the companies more likely to be attracted by a potentially huge business than by a moral campaign prospective, both of the described lines of action end up losing vigor into the Chinese context.

However there is still one point to discuss. What happens if a company rejects the local regulation and refuses to act like an actual censor in favor of the regime? What if a business demonstrates leadership aspirations in delicate field for the information regime, such as the ICTs industry? In consonance with past events, in these cases it becomes more important for Chinese authorities to preserve the established order and the political and economic nationalistic approach. A business which refuses to comply with the rules is going to lose its ticket to play its game in China; it is going to be banned by the country, no matter if this drive risks to enforce dissident “human right” activism.

Google.cn still remain the most evident example of a company which has ventured through the Chinese market without hiding its leadership ambitions. Wilson et al (2007) reports a 2007 Google’s Chairman Schmidt statement, when he was still striving to climb the Chinese wall: «We were late entering the Chinese market and we are catching up. Our investment is working and we will eventually be the leader.» (p. 11). The Western search engine giant is also the company that, at least in the second part of its Chinese enterprise, openly expressed its intention to defy the country's censorship rules. In 2010, a BBC news (2010a) article referred about how Google stopped filtering its search results in China, ignoring the Chinese government officials warnings about the consequences it would have faced if it did not conform with the local law. OpenNet (2011) remarks that on March of the same year the company started to

redirect all traffic from Google.cn to its unfiltered Chinese language site, Google.com.hk, based in Hong Kong. Later that month, there were numerous reports that the government had blocked both Google.cn and Google.com. hk, though blockings appeared to be somewhat sporadic. (p. 275)

As a conclusion we can say that, in order to enter the Chinese market, the so-called “moral compromise” can be considered sufficient; but it is not enough to play the part of the game leader. Leadership is preserved for local companies, especially in a strategic sector such as the ICTs one, because they do not have to go through any kind of compromise: as far as they come from the local cultural background and they demonstrate *cultural affinity*, they will be ready to unconditionally comply with the government requirements.

In chapter 2 we will consider in further details the thorny problem that Google.cn has represented for Chinese authorities: initially it entered the market attacking it with the aspiration of a leader, regardless of the human right organizations indignation; in 2008 it stepped back, signing its agreement with the GNI and starting its conflict with the censorship⁵¹; finally in 2010 it withdrew to Hong Kong, abandoning the game.

Microsoft and Yahoo have kept an even more controversial position: they are both member of the GNI and active player in the Chinese market, meaning that while they promote the moral initiatives described above, they also comply with the censorship. As FlorCruz (2014) reports, Microsoft’s search engine Bing allegedly censored its Chinese language results not only within the Chinese boarder but also for users in United States. Nevertheless, they maintain a marginal position into the Chinese search engine market.

In accordance with several sources (Huang, 2014; Kan, 2014; Ottinger, 2014), the new player LinkedIn may succeed where the other American competitors have failed: currently, it does not figure in any human right network, it strictly observes the censorship regulation⁵² and, above all, it has chosen a start-up approach. At this regard, the head of LinkedIn’s China operation Derek Shen, believes that the inadequacy of some foreign companies in China may have been caused by their structure and, after having studied the Chinese market for four years, he opted for a starting-out with a team of just 15

⁵¹ In a BBC (2010b) article we read how Google decided to rise a moral issue and resort to human rights after its email account “Gmail” has been subjected to cyber-attack; Baidu on the contrary stated that the move was merely financially driven. Despite its effort Google was not able to overcome Baidu’s leadership in its home-country’s market

⁵² According to Philipp (2014), LinkedIn has been recently involved in a significant episode of compliance with the censorship: on 4th June 2014, the 25th anniversary of the Tiananmen Square massacre, some LinkedIn users in Hong Kong who wrote about the event, received notifications from the company that their post had been censored. The public reaction was remarkably strong since Hong Kong is supposed to be outside the ruling party’s censorship. This is not an isolated case. It is becoming evident that doing business inside China means complying with the censorship even outside the country’s boarder.

employees (Kan, 2014). However, the entrance of LinkedIn still remain a too recent issue to be accurately analyzed.

In the next paragraph we will discuss about how all these restrictions are combined with China's economic progress aims.

1.2.3 – The Great Firewall between censorship and progress

In this first part of the survey we have analyzed the principle features of the Chinese Great Firewall and, in order to figure out how it really works, we have considered the relationship between the censorship and the other actors involved into the Chinese framework, mainly composed by the local and foreign companies, human rights organizations and the local population itself. By drawing the profile of a social and cultural censorship, beside the most traditional blocking and filtering techniques, we have demonstrated how the authorities in China promote the so-called “intermediary liability”, disguised under the Chinese cultural concept of “self-discipline”: the intermediary service that acts as "intermediate" channel for the transmission or publication of information, is legally responsible for its users' actions; if companies fail to remove “forbidden” content, they risk heavy fines and permanent shutdown. (Mackinnon, 2010). By binding these companies to the country regulations, China's government achieves both the aim of attracting foreign capitals to boost the economic development and the purpose of maintaining the nationalist established order. Moreover the companies, attracted by the Chinese lucrative fast-growing market, are less likely to support human right organizations' campaigns, aimed either to sensitize the Chinese population towards the free flow of information or to open a breach in the local market. The consequence is that the resilience of the Great Firewall turn out to be one of its main point of strength: the companies, instead of creating a solid economic back-up for the human right organization battles in order to mitigate the nationalism of the government and open the doors of a so profitable market, end up choosing a faster way to break into it: compliance and conformity with the Chinese nationalist law.

The private sector also plays a key role in the diffusion of the ICTs in a way that is acceptable for the authorities: while Internet begins to embrace more and more aspects of Chinese population daily life, the intermediary liability permits the delegation of the censorship from the government to the private, so that individuals are constantly monitored. The “networked authoritarianism”, as it is called by

MacKinnon (2011), may make people think that they experience more communication freedom, while they are eventually kept under an even tighter control.

Compared to classic 20th-century authoritarianism, this new form of Internet-age authoritarianism embraces the reality that even when extensive filtering regimes are put in place, people cannot be prevented from accessing and creating a broad range of Internet content and holding all kinds of conversations, including those related to politics and policy. Networked authoritarianism thus accepts and allows a lot more give and take between government and citizens than in a pre-Internet authoritarian state. [...] As a result, the average person with Internet or mobile access has a much greater sense of freedom —and may even feel like he or she has the ability to speak and be heard — in ways that were not possible under classic authoritarianism. [...] Meanwhile, the government exercises targeted censorship focused on activities and conversations that pose the greatest threat to the regime ' s power, and also devotes considerable resources to proactively seeding and manipulating the nation ' s online discourse about domestic and international events. (pp. 197-198)

If at the beginning the Internet was greeted by many as a tool likely to enhance the chances of a radical political change, it has ultimately equipped the authorities

Fig. 3 - Watching You

with a potential 24-hours-watch instrument, to check over what is said online (Hille, 2009); furthermore, by allowing a great part of the criticism towards the government «the regime uses the Internet not only to extend its control but also to enhance its legitimacy» (MacKinnon, 2011, p. 198). A legitimacy that is also brought about by the general improvement of living conditions, following the economic progress, and by what we have called “cultural affinity”, for which the individual may feel obliged to give up a personal aim in order to preserve the stability of the group, considered as the main source of protection and security.



Beside this set of measures aimed to encourage an “indoor” (Hille, 2009)

censorship, China has also put in practice an exported version of the Great Firewall against whoever has attempted to threaten the Communist regime power: conflicts have been carried out against foreign governments and global internet administration institutions and cyber-attack and cyber-espionage incidents have been registered, to fight companies

which rejected the local law or try to penetrate its market with leadership ambitions. Finally, episodes of content blocking and filtering enacted even outside the Chinese boarder complete the picture⁵³.

Although we have repeatedly remarked how the Great Firewall elasticity permits the economic development as well as the nationalistic regime, many have understandably expressed their doubts about the possibility of a long-term coexistence, especially after Chinese people have ascertained the importance of the market. According to MacKinnon (2011) «even in China, business leaders have expressed concern in private and semipublic forums that excessive burdens imposed on companies by governments can adversely impact innovation, which ultimately hurts national competitiveness.» (p. 204). The relevance of capitalism inside the Chinese cultural values' set and the growing importance of the economy market and national competitiveness, more and more conceived as a vital source for the living conditions improvement, may weigh on the delicate "nationalism-economy openness" counterbalance, aimed by the reformed communism. According to John Ruggie (2008), Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises

Business is the major source of investment and job creation, and markets can be highly efficient means for allocating scarce resources. They constitute powerful forces capable of generating economic growth, reducing poverty, and increasing demand for the rule of law, thereby contributing to the realization of a broad spectrum of human rights. (p. 3)

In consonance with this argumentation, local companies should be the first to be interested in a full opening of their market, for their businesses and their population's sake: they have the pivotal role to act as intermediary for the population's needs towards government authorities and to sustain human rights campaign for freedom of information and expression. This involves a new perception of the so-called "corporate social responsibility", significantly different from the traditional one. MacKinnon (2011) states that the corporate responsibility, conceived as *sustainability*, is already "taking root around Asia since «more Asian countries are shifting from a focus on labor-intensive manufacturing and export-oriented growth strategies» (p. 205). However, as remarked by Powell and Galligan (2010), this traditional concept of "sustainable business"⁵⁴ in Asia, risks to be «all about environmental and labour

⁵³ As we have seen in *par. 1.2.2-International Initiatives*, examples are the Microsoft 's Bing filtering of Chinese language results in U.S. and the recent LinkedIn blocking of Tiananmen massacre-related posts for users in Hong Kong,

⁵⁴ According to Wales et al (2010) the number of "sustainable" Chinese companies has by far increased in the most recent years. More than 600 companies were also joining the United Nations Global Compact by 2010 and, meaningfully, China Mobile became the first mainland Chinese ICT company to externalize its carbon dioxide emissions and to be listed on the Dow Jones Sustainability Index. At this regard, according to Powell and Galligan (2010) Asia in general represent a sort of "workshop for the rest of the world"

standards» (p. 12) forgetting that «the traditional concept of CSR is rooted in the Western principles of liberal democratic rights, justice and social structures.» (p. 12). In other words, if it is becoming more and more plausible to expect relevant Chinese companies, such as China Mobile, to be listed on the Dow Jones Sustainability Index, it is still unrealistic to imagine them joining Google, Yahoo and Microsoft on the GNI and see them standing for the right of a free expression and privacy. Until when the right of free expression and privacy shall not «be integrated into public definitions and expectations of responsible business behavior [...] not only because it is the right thing to do but also because they understand that in the long run this is the most successful business strategy» (MacKinnon, 2011, p. 207) it is going to be difficult to witness an appreciable change in the “nationalism-economic openness” counterbalance. At this regard, particularly readable is the position of Wales et al (2010), who affirms that the integration of the concept of free expression and privacy into the broader category of Corporate Social Responsibility, it is not just a mere extension of the traditional view of *sustainability*, since it requires a brand new shift of alliances among societal actors: if in the traditional concept of sustainability, intended as a focus on environmental conditions and labor standards, the workers join the government to push the companies to reduce pollution and improve employment standard conditions, when the issue comes to involve freedom of expression rights, it turn into a “common cause” between citizens and companies to prevent the government to carry out a power abuse. Said by MacKinnon (2011)

Democratically elected government is won over by civil society as an ally in imposing standards and rules on the private sector. When it comes to Internet surveillance and censorship, however, interests are aligned in a different way so that citizens need corporate-owned digital intermediaries to help shield them from abuses of government power. (p. 208)

It is evident and obvious that «achieving common cause between civil society and business thus requires new thinking [...] and new strategies on all sides» (MacKinnon, 2011, p. 208).

Nevertheless, in our view, in today’s China society, this radical change of attitude from the local companies towards the authorities is still far to happen; it is hard to imagine a Chinese company challenging the government or publicly expose its demand of censorship; it is completely unrealistic to think Baidu acting the same way as Google, rejecting the regulations, refusing to comply with the result filtering and finally joining the GNI; it is even improbable to witness a Chinese social network simply

warning their users about their posts removal, as LinkedIn is currently doing⁵⁵. According to MacKinnon (2011)

Corporate managers have equally large cultural and mental barriers preventing them from tapping the moral force of civil society groups, who can potentially be powerful allies in helping companies stave off government interference of the sort that is likely to hamper their ability to innovate and compete on a global scale. (p. 208)

The relevant step for this local companies would be to think in a competitive way, to assume that competitiveness brings innovation; however, as long as they will accept their government nationalism as a form of economic protectionism which helps shield them from foreign competitors, this mental restraint will be hardly overcome.

As a conclusion, the cultural affinity that we have repeatedly recalled throughout this first part of the survey, still remains perhaps the most important element to influence the behavior of the Chinese societal actors towards the existence of the Great firewall and, in general, towards their government's censorship policies. «Studies of CSR practices in Asia show that [...] managers and investors prefer to avoid terms like “human rights” and “social justice” which tend to be culturally associated with Western-style moralism» (MacKinnon, 2011, p. 209), preferring expression like “sustainability”, more related with environment and labor standard.

Despite the economic progress and the country openness, the Western culture penetrates the Chinese framework till only a very superficial level; in people and businesses' view the compliance with the government is still perceived as an acceptable pay-off for protection and cultural preservation, which is nowadays probably still considered more important than innovation and competitiveness.

This makes hard to believe in a Great Firewall's collapse in a very short time.

⁵⁵ It is worth to remark how the censorship transparency is clearly one of the main point of the LinkedIn's moral compromise, in its venture in China

CHAPTER 2:

SEARCH ENGINE IN CHINA: THE CASE OF GOOGLE AND BAIDU

2.1 Google, the Western giant

2.1.1 - *The Googlocracy*

In the previous chapter we have tried to assess the real nature of the Chinese censorship system, widely known as “the Great Firewall”. In this second section we will analyze the role of a major actor in this framework: Google, the most important Western search engine. We will evaluate its relationship with the censorship and with the local most relevant competitor Baidu. However, in the first instance, as well as we have done with the Great Firewall, we have to examine what Google really is. Therefore, in the present paragraph, we will consider how the Western search engine giant works and what are the ethical implications of its action.

According to Halavais (2009) a search engine is «an information retrieval system that allows for keyword searches of distributed digital text.» (p. 5-6). In today’s society, as Grimmelman (2008-9) points out,

Web search is critical to our ability to use the Internet. Whoever controls search engines has enormous influence on us all. They can shape what we read, who we listen to, and who gets heard. Whoever controls the search engines, perhaps, controls the Internet itself. [...] The reason that we think of the Internet not as a chaotic wasteland, but as a vibrant, accessible place, is that some very smart people have done an exceedingly good job of organizing it. The Internet today is usable because of search engines. A good search engine is, in effect, a card catalog for an infinite library. (p. 940-941)

As Fallows (2008) states, the number of Americans using search engines on a typical day has raised from 49% to 62% from 2002, and we have all the reasons to believe that this percent has in the most recent years consistently increased. In consonance to Spink and Zimmer (2008), already in 2005 more than 60 million adults were sending over 200 million search engine queries; Cowan (2010) affirms that in 2010, users were doing more than 34,000 searches per second with a total of 88 billion searches per month. Furthermore, as Evans (2007) points out, 73% of these researchers never go beyond the first page. Just to have an idea of how astonishingly large is the flow of information through the Internet, some studies estimates that the world’s production of information in 2006 was 161 exabytes (Lane, 2007) and the number of Internet Websites up to May 2008 was 168 million (Netcraft, 2008); in this information “wilderness”, Google maintains to have catalogued over a trillion individual web pages (Alpert and Hajaj, 2008)

As a matter of fact, the American giant is nowadays the undisputed leader of Western search engines. «Today, no one comes closer to controlling search than Google does.» (Grimmelman, 2008-9, p. 940). In

2005 it used to cover approximately 46.2% of all search engines requests (Evans, 2007) and, as Winston (2011) observes, this percent is peculiarly relevant because since that time «the number of widely used search engines has dropped from around ten to an oligarchy of just three⁵⁶ (Yahoo!, Google, and Microsoft), with Google fiercely dominating the pack» (p. 2). Since this three search engines manage over four-fifth of all search traffic (Diaz, 2008) their power over the flow of information in the Western part of the World becomes undoubtedly huge; and the loyalty demonstrated by users to Google as a sole source of information retrieval, due perhaps to its additional bundled services such as e-mail (gmail) and GPS mapping (Google Maps) (Winston, 2011), gives Google a paramount role in our information production and selection and, all in all, in our knowledge shaping. Hindman (2008) sustains that «search engines have a tremendous influence on access to knowledge; indeed, search engines will increasingly be in a position to construct knowledge through control of access» (p. 72-3). At this regards, Winston (2011) remarks that «since Google controls the information users see and utilize, it also shapes the users' development of knowledge on that issue» (p. 9).

Thus, in consonance with this views, a search engine in the Internet age is not just a mere search tool; Google, as the main information broker of the “knowledge society”, must be seen more like a *resource allocator*, which influences businesses and individuals in their decision making as well as in their project planning and cultural values shaping. An influence that might be observed as a form of both empowerment and restraint. According to the Giddens' (1984) theory of structuration a technology is not socially neutral; on the contrary people's actions and technology mutually influence each other; by developing Giddens' concept, Sewell (1992) includes in his “cultural schema”, an important technological element, used to guide actions and strategically to mobilize resources. Similarly Orlikowski and Gash (1994) affirm that a «technological frame of reference [...] includes not only the nature and role of the technology itself, but the specific conditions, application, and consequences of that technology in particular contexts» (p. 178): by this technological frame, broadly considered, people perceive a technology as appropriate or inappropriate. Ultimately Van Couvering (2007), in line with the Giddens' duality of structuration, states that «the technological schema itself meaningfully both constrains and enables the agency of the actors.» (p. 869). Hence, the “technological schema” proposed by Google becomes relevant not only for people and business' path choices but also for promoting, or declining, a specific set of social patterns. Said by Van Couvering (2007)

⁵⁶ Carr (2006) reports that Google has over 450,000 servers, meaning millions of dollars a month in electricity, and Its major competitors' infrastructure approximately reach the same extent. In Grimmelman's view (2008-9) this is the reason why the search engine market is controlled by a small number of companies. Among them Google is the “undisputed champion” (Press Release, 2008).

Structuration theory indicates that technological schemas and associated norms will have an effect on how resources are directed within society, helping to maintain old structures or create new ones. [...] Structuration theory also indicates that pre-existing structures, such as corporate hierarchy or indeed capitalism as a whole, will profoundly influence which kinds of technological schemas and norms become widespread (p. 885)

Particularly remarkable, at this regard, is the connection between Fallows (2008)' survey and the Marxist theory of society change, that we find in Winston (2011). Fallows (2008) explains that subjects with a college education, high speed internet, more than six years of online experience and a higher than \$50,000 a year revenue are the majority between search engine users; in Karl Marx view this is the part of the society who has a key-role in promoting social changes⁵⁷. So that «it seems Google [...] contributes to the formation of knowledge and, over time, it is clear that it will continue to influence our ever-changing society » (p. 9).

In the first chapter we have considered how the Chinese government promotes a regime of information by blocking and filtering some contents while welcoming some others, influencing the choices and the knowledge of the people, and ultimately playing significant role in the establishment of the Chinese society's patterns; is the position of an almost monopolistic Western search engine comparable with that? This point, in our view, is particularly important, since the Google's always claimed mission is to favor the free flow of information and the diffusion of free search results in every corner of the world. Wilson et al (2007) sustains that «not only does Google want to provide fast and efficient service, but the company also wants to make its information available for everyone who has access to the internet; they want their product to be “universally accessible.”» (p. 3). This attitude is confirmed by Peter Norvig (2006) Google's director of research, who points out how Google has a responsibility to organize the world's information and make it available for all the people; in consonance with his statement, the company is helping people to do searches and to create new content, to get Web masters better known, to allowing businesses to prosper online and, all in all, to make the Web more powerful. This was also the attitude which accompanied, and justified, the Western search engine penetration attempt into the Chinese market in 2006. According to Brenker t (2008)

Google claims that by operating in China it can provide a more reliable and faster service than any of its competitors. Second, it endeavors to expand access to information to those who want it. Again, by having a presence in China, Google claims that it can offer more and better information through the Internet than anyone else operating in China (p. 9)

⁵⁷ Winston (2011) quotes Marxism (2008) in *The Columbia Encyclopedia* as a source supporting her statement

So what is Google really doing with its huge power? Is it cooperating with the society by spreading its massive database of information, in form of search results, throughout the developed (and developing) world, or is it promoting something similar to a Western regime of information? The issue is now to figure out whether the so-called “Googlocracy” (Diaz, 2008), or the democracy of information promoted by Google, is really up to be enacted, so much in China as in the rest of the World. In our view, there is not a defined answer yet. However, in order to clarify this point, we will now proceed to analyze how the Google’s result selection works and what kind of ethical issues it arises. This will surely be helpful, in order to realize what the Google’s impact on our lives is as well as the real meaning of its breakthrough in China.

Google’s founders Sergey Brin and Lawrence Page (1998) declared that the core of Google’s system of search retrieval is *Page Rank*, an algorithm based on the number of links that each page receives. The “heart’ of its software” (Diaz, 2008, p. 15) decides the accessibility of a Webpage and its position throughout a research result page. According to the number of links received by users, the Webpage gets its *PageRanking*, which determines its position among the other search results: the «higher a site’s PageRanking, the higher its [search result] ranking» (Evans, 2007, p. 25). As Winston 2011 states

This algorithm judges a webpage’s importance in terms of how many other sites have linked to it and the authority (or PageRanking) of those websites that link to the original webpage. By doing so, PageRank decides a webpage’s rank based on its popularity, prominence, and authority on the web. (p. 3)

PageRank has been repeatedly considerate as a reason of proud for its inventors, since it accomplishes the aim of a completely automatic result management with no human hands to adjust or alter it⁵⁸ (Norvig, 2006). The algorithm allegedly promotes a sort of democracy of the Web by assigning the user, and the Web population as a whole, the power of deciding his own web result. Diaz (2008) observes that «if we want to understand Google we need to see democracy as Google’s very nature» (p. 16). At this regard Winston (2011) remarks that «PageRank lets website owners decide for themselves which other webpages they should promote for internet users, and, ultimately, this gives people the power and agency to decide what information they receive» (p. 4). Interestingly, Grimmelman (2008-9) points out how the linking practice functions as much as a “vote”, in this alleged democracy of the Web.

The genius of Google is that its creators *didn’t* come up with a great organizational scheme for the web. Instead, they got everyone else to do it for them. [...] Every time you create a link to another web page,

⁵⁸ Differently from Google, for instance, Yahoo’s result lists are human-edited (Winston, 2011)

you're in effect telling the world that the web page has on it something important, or interesting, or useful, or funny, or whatever matters to you. Your link is a kind of vote; you want people to pay more attention to that page. Very loosely put, Google goes around the web, counting links. Pages with more links pointing at them have been "voted up" more often, so they must be more important, and therefore Google displays them higher in its results. What's more, important pages—those with lots of inbound links and therefore lots of votes—are presumably also trusted and influential. Thus, Google counts their own outbound links as being "worth" more. (p. 941-942)

Nevertheless, there are a couple of immediate noticeable bias in this "Web democracy", since the *PageRanking* of a Webpage is not a just a matter of number of links but also a matter of "authority": there are "important pages", "with lots of inbound links and therefore a lot of votes", which are "more trusted and influential" and whose outbound link is "being worth more". In other words, in this Web *agora* there are prominent "citizens" whose "vote" counts more than others'. Secondly the "democratic approach" «is not the best method of retrieving comprehensive information [...] because it is based on quantity and popularity, rather than quality and credibility of information» (Winston, 2011, p. 3). With popularity instead of quality as a main criteria to discern who is up to emerge on the Web and who is bound to be forgotten, the few most linked Websites are more likely to continually increase their visibility within the virtual World, establishing a "richer-getting-richer" vicious cycle (Diaz, 2008; Goldman, 2008). According to Winston (2011)

With Googlocracy, a great many pages link to a very small number of sites, called hubs, while the vast majority of pages are linked to few or no external sites at all. As a result, the pages with the most links are more easily discoverable, and they remain popular because their accessibility increases the likelihood of them continually getting linked. At the same time, the pages without many links remain almost impossible to find (p.3)

In this terms, more than a Googlocracy, or the Google's promotion of a Web democracy, the Western search engine giant seems like encouraging a "Googlearchy" (Diaz, 2008), a hierarchy in which the more a Website is listed at the top of the result page the more it exists. Indeed as Diaz (2008) states, «so powerful has Google become that many [...] view it as the web itself: if you're not listed on its indexes, they say, you might as well not exist» (p. 27).

Moreover, there are other elements to alter the supposed impartiality of the machine. In fact, as Evans (2007) points out, PageRank algorithm automatism is "polluted" by at least three more factors: the "age" of a Website domain name, which has been more frequently linked all along its "longer life", gaining authority and relevance; the size in number of pages, as the «bigger the website is in magnitude—usually increases the website's ranking» (Winston, 2011, p. 4); the frequency with which the webpage

has been listed in human-edited directories such as Yahoo! and the number of bookmarks received by Del.icio.us⁵⁹. In Winston's view (2011) the "richer-getting-richer" paradigm, together with this additional factors, ends up preventing "a true egalitarian display of information".

However, the immediate evidence of result bias is not the only issue at the point. Around the debate over search engines, with a special regard for the position of Google, scholars, experts and insiders point out a number of controversies that we would like to shortly discuss in this paragraph. In order to create a clear prospect of the current debate we now broadly divide them into three categories:

- The influence of advertisement over search results
- The role of human hand over the automatic response of research algorithms
- The consequences of the personalization tendencies in the search results' return

McFarlane (2012) reports that 96% of Google's revenue comes from advertisement, based on the AdWorld system⁶⁰. AdWorld is the main prong of a successful revolutionary strategy based on advertisement: differently from the traditional media (TV, radio, newspaper) which are not able to distinguish the traffic of content from brand marketing, Google make the seller pay "per-impression" or pay "per-click". It means that Google charges only when users access a relevant page⁶¹ where the ad is displayed or when they click on it. This represent a very cost-effective marketing strategy both for business-runner, who are able to expose their brand to a very targeted audience with a small amount of money and risk involved⁶², and for Google itself, which can enjoy a high mark-up of its advertisement slot, by selling them via auction. However, the real revolution carried out by Google is probably the change of perception over the word "costumer". In accordance with McFarlane (2012) a "costumer" in a traditional sense, is someone who gives a company money in exchange for a service. It is hard to say if the real "costumer" of Google is the advertiser, who is actually the one to sustain Google's income by paying the company money for its ad slot service, or the user, who enjoys the numerous Google's services for free. Peter Norvig (2006), Google's director of research, states that among the high variety

⁵⁹ Del.icio.us. com is a social bookmarking Website, whose purpose is to help users to retrieve "interesting links" on the Web

⁶⁰McFarlane (2012) asserts that the 70% of Google's advertisement income comes from AdWorld, the rest from AdSense, which lets owners of other websites connect with Google's network in order to run Google-branded ads.

⁶¹ The ad of a bakery in South Dakota will be likely to appear on a search result page produced by words like "South Dakota" and "bakery". This makes the advertisement on Google very attractive for sellers, as they are supposedly put in touch directly with a perspective clientele (McFarlane, 2012)

⁶² Not only risk and money investment diminishes by joining Google's network. As McFarlane (2012) notices, one of the most remarkable strong point of the Google's successful marketing strategy is that there is not contract obligation. The relationship between Google and the advertiser is based on a "will-basis" and can be terminated at any time

of Google's stakeholders, such as stockholders, Webmasters, content providers, advertisers and employers, the company's main focus is indeed always going to be on the end user. At this regard, we put our point of view in line with Winston (2011), who identifies a three-poles synergistic relation of mutual dependence between Google, users, and advertisers: users evaluate Google as not expendable for their research queries, while Google cannot get rid of advertisers for its money-making; in the meanwhile, the more users spend their time on Google, the more sellers are attracted by this platform for their brand's exposure.

Google has two types of customers who both sustain the search engine and influence each other: the average user and companies who pay for advertising. The average user merely uses the search engine to find information and buy products, while advertisers give money to Google, which enables it to remain free for the user, and inadvertently receive money from the average user through purchases made from paid advertisements. It is difficult, if not impossible, to see how Google distinguishes between its two customers because all three are entirely reliant on each other for their success (p. 5-6)

McFarlane (2012) gets a point when he states that expensive services, such as Google Map, Earth, Gmail, Doc and Drive, offered by Google to its users for free, are worth the money they spent, as they reach the aim to keep users spending more time on Google, "perpetuating reading and clicking on Google ads".

Nevertheless, in light of these conditions, a question comes natural: since advertisement is central to the search business (Van Couvering, 2004) and since «Google's monetary success is still the only factor that matters because it guarantees Google's continuance» (Winston 2011, p. 6), how is this pursue of pleasing advertisers going to influence the quality of search results? In other words, is this huge financial advertisement incentive going to address users towards the Websites of its sponsors (Diaz, 2008; Hinman, 2008)? In his attempt to answer this question, Diaz (2008) notes that there are some difficulties to distinguish Web 2.0 paid ads from normal search results: differently from banner ads of the Web 1.0 era, normally very different from normal results returned to users, the most recent ones look almost the same. Furthermore, the same author points out how some unclear "criteria" with which Google allegedly choose advertisements, may eventually affect the quality of the results: the arbitrariness used by Google to inconsistently accept advertisements; the confusion to separate editorials from their paid advertisements; the discrimination with which Google accepts or rejects ads from some organizations, and its attitude towards those who have been critical of Google's partner. However, other scholars underline how a fair distinction between ads and search results is, after all, a precious strategy for the company. As an example Elgesem (2008) remarks that search engines such as GoTo, entirely based on "paid hits", miserably failed because of users' disappointment with their search

queries return⁶³. The same position is held by Van Couvering (2007) when she affirms that «many companies decided to move away from search results that returned many results from the parent company or that included hidden advertisements» (p. 872) ; and this seems to be confirmed by Google's Peter Norvig (2006), who proudly sustains that Google draws a strict line of separation between the editorial and the advertising content. However, the mixing between advertisement and search results is not the only issue to the point. Van Couvering (2007) also arise a concern around a possible commercialization of search results which may affect not only the quality of the results but also the quality of the research itself: instead of educating the user to look for "intelligent" results, the search engine would allegedly give him what he wants, in order to keep him "on the site"; but, as the scholar notices, the solution at the potential problem of the over-commercialization seems to go far beyond the discourse around search engines, involving an «utopian vision of [...] [a] perfect technology but also education and literacy distributed throughout the world» (p. 883).

The problem of the results commercialization is our direct link to the second point of the analysis herein carried out: the role of the human hand upon the modification of the result page. When we think about a search engine, we tend to conceive it as an automatic machine which provides us with information in return to our queries. We rarely remember the human hand giving the machine the first input. Grimmelman (2008-9) argues that the programmer instructions affect the supposed neutrality of the automatic algorithm, since «everything that Google's automated ranking system does, it does because Google programmers told it to. A computer is just a glorified abacus» (p. 944). This, of course, does not want to mean that a Google employee is allowed to modify a result page according to his beliefs and preferences, without being at least fired by the company. Nevertheless, «the "beliefs and preferences" of Google's employees and users do enter into its search results in another sense. The employees *prefer* that Google return results that the users *believe* to be useful.» (p. 944). And, in first place, the modification of results mostly occurs in the commercial way introduced shortly above. Diaz (2008) sustains that Google do not offer pages that users *need* to see but pages that users *want* to see. This concept is developed by Winston as follows (2011):

the results from a personalized algorithm are catered specifically to the users' interests. This means that the results are what the user wants and expects to see; the information users get is not comprehensive, but limited to what Google believes is the user's preference. Of course, Google is trying to please users by

⁶³ GoTo was, eventually, taken over by Google, which kept to use GoTo's system of paid-ad-based search results. However, in line with its policy, Google separated those results from search results, physically appearing on the center of its pages. (Elgesem, 2008)

giving them websites that will best suit their needs, and the majority of users are probably happy that Google always fulfils their expectations. At the same time, this restricts the information that users get, and the pages that they are not normally interested in receiving will not show up unless they specifically request it. As a result, it is hard for users to notice that they are missing key websites from the search results and, consequentially, it is almost impossible for them to get that missing information through follow-up searches unless they are looking for it specifically or Google recognizes subtle changes in their interests. (p. 5)

Van Couvering (2007) also approaches the problem of the human hand modification and the result's quality, by studying the connection between relevance and subjectivity. As the scholar explains, what is relevant for a search engine might not correspond to the achievement of other quality goal, such as "objectivity, fairness and diversity", which are paramount, for example, in journalism. In her survey she underlines that

many everyday practices in search engine programming [...] could be considered censorship of search results and have the potential to lead to biases in search. These included blacklisting, or the exclusion of certain sites or site owners; whitelisting, or the automatic inclusion of certain sites or site owners; weighting content according to whether sources were considered to be authoritative or not; and adjusting results based on pressure from executives to respond, for example, to current news events. (p. 882)

As she remarks, a set of human hand's "adjustments", which would be considered problematic in other information returning/reporting disciplines, are ordinary practices in search engines programming, where the difference between the "biased" and "subjective" appears to be controversial.

Furthermore, beside these forms of results' shaping performed by the people "behind the stage", aiming to design "more attractive" results for the audience, the human hand intervening over the machine might also be the one of the user himself. As Grimmerman (2008-9) points out, due to some algorithm's "imperfections" Google may happen to be tricked, as it has occurred in past cases of "Google bombing" and "link farming". Google bombing is a technique discovered by the former college student Adam Mathes in 2001, based on the assumption «that Google used links not just to learn how important a page was, but also what it was about» (Grimmerman, 2008-9, p. 942). Grimmerman reports how Mathes almost accidentally noticed that his friends, Ben Brown was the number-one Google hit for "Internet rockstar" search query. Interestingly

that phrase never appeared in the text of Brown's web page itself [...] It only showed up in the links other people made to Brown's page [...] Thus, Mathes reasoned, Google must figure out what a page is about by looking at the pages that link to it, since there's no way it could have learned that Ben Brown was an Internet rockstar by reading only benbrown.com. (p. 941)

Since Google does not directly read the content of a Website but rely on the words with which the site has been linked, Mathes figured out that in order to have a Website on the top of the list for a specific topic, you just need to produce as many link as possible, containing a particular word or sentence. As to confirm his intuition, Mathes (2001) revealed how himself created another Google bomb within few weeks: he had the home page of another friend, Andy Pressman, frequently linked using the phrase “talentless hack.” As expected, Pressman shortly after hit the first position for “talentless hack” search query. By the way, although it seems to have started as a joke put in practice by college students, Google bombing has seriously compromised the quality of the automatic algorithm performance in even more relevant matters, requiring the intervention of human correction. According to Grimmerman (2008-9)

the most famous Googlebomb of all time is probably the one many Democrats launched in 2003 to link to George W. Bush’s official biography page with the phrase “miserable failure.” This is a significant new form of politicking. Land a bomb like this and you can convince the world that Google agrees with your position. A successful Googlebomb doesn’t just *reflect* the consensus of web users; it can help *construct* that consensus (p. 942-943)

However, as we have already stressed above, also in case of a Google bomb, one of the Google’s point of pride is to try to touch the automatically returned results as less as possible, especially in political and social issue, in order to not “pollute” the page with employees’ points of view. At this regard, Grimmerman (2008-9) reports the case of Jewwatch.com, a Website full of paranoid anti-Semitic content that, in 2004, reached the first position for “Jew” search query, going through a Googlebomb operation that eventually made them able to overcome the Wikipedia page for the same term. Despite the insistent activists’ requests to remove Jewwatch.com from the first position of the list, Google refused to intervene, leaving the result alone and emblazoning a comment in a box at the top of the page, reading “Offensive Search Results. We’re disturbed about these results as well.” (Brandon, 2004). In this case, although there is not an effective removal, we witness a different, refined kind of human intervention over the machine, remarkably from both sides: by users, through a Google bombing enactment, and by Google programmers, through the expression of an opinion. Significantly, the comment in the page box represents a sort of detachment from the machine without ultimately touching it, as to leave to the automatism (and to the user) the last decision.

An even more sophisticated version of Google bomb, which has eventually required a further type of reply by the search engine programmers, is the so-called “link-farming”. Grimmerman (2003) refers

about it by reporting the case of Search King, an Oklahoma internet company which had allegedly set up a system of “mutual linking” among its customers, as to enhance their chances to have their business websites listed in the first positions of the search engine page result. The main source of these fake link was a link operator acting like a sort of “link farm”, in which links «were designed to look enough like real web content to trick a search engine, but consist mostly of links to other pages in the link farm itself. It’s a web form of spam » (Grimmelman, 2008-9, p. 946). In this case the search engine programmers intervention consisted in demoting Search King’s Website from PageRank8 to PageRank4⁶⁴, actually destroying their business. Grimmelman (2003) sustains that, after being sued by the company, Google defense corresponded approximately to the following statement «“We’re not admitting to anything, but *if* by some chance we were to have hand-tweaked the results a bit to punish Search King, *then* we would have had a good reason to”» (p. 946). As we can see, the Google ethics encourages different lines of conduct depending by the specific case: the no-human intervention policies and the legitimacy of machine, witnessed in Jewwatch.com case, seem to be not applicable in the case just mentioned. Eventually Google won the case and «this seems like the right result; if search engines didn’t have a fairly free hand to demote sites in their rankings, the Internet would be completely overrun with junk from link farms.» (Grimmelman, 2008-9, p. 947). However, such a sentence might encourage search engines to re-rank sites at will, making the government incapable to make the search engines stop, even when the re-arrangement of results was evidently dishonest.

If we consider the human modification to the page results as an attempt enacted by human hands to modify the results given by the automatism of the Page Rank system, also the increasingly important “discipline” of Search Engine Optimization might be considered within the boarder of this discourse. According to Winston (2011), in order “to remain competitive and protect its interests”, Google’s PageRank algorithm is protected by trade secret law, so that, «as a result, it is impossible to know the exact formula a Google search uses to decide the placement of each hit [...]. [As a consequence] marketers use a trial and error method to determine the most important algorithmic factors that are needed on a webpage in order to get it a higher ranking.» (p. 3). Search engine optimizers rely on SEO to make Websites related with their businesses more visible on Google (Fortunato et al, 2006). As Winston (2011) remarks, the SEO is vital for today internet business; however, since not everyone can afford a search engine optimizers, the “discipline” may happen to compromise the quality of the information returned after a search query , re-addressing the results in favor of the “richest”:

⁶⁴ Google has a 0–10 scale to decide how important a page is. If a Website has a PageRank8 in Google’s scale it is an 8 out of 10 (very important). If it has a PageRank4 it is a 4 out of 10 (not important). Grimmelman (2008-9) argues that for a business to have a PageRank4 is the same as not existing in Google and, we dare to add, on the Western Internet.

The possibility that these optimizers are able to increase websites' rankings and make themselves accessible for the average user indicates that the rich (those who can afford to increase their pages' ranking) control a large portion of the information users get. This is because the more money a website spends on optimizing its page, then the more likely it is to get significant ranking results. As a result, some of the pages on Google's results page have no business being there and, consequentially, some of the information users get, which contributes to the formation of knowledge, is probably subpar. (p. 7)

Furthermore, a final example of human intervention into the Google automatic search result returning, may be found in the "correction" practiced on a cultural contest basis. So far we have pointed out how the human oversight over the automatic algorithm, can be problematic for the traditional concept of objectivity of information, since the individual subjectivity may happen to compromise the quality of the results page, and the over-commercialization may "pollute" the relevance of the items listed. Now we will consider "how deeply political a search can be" (Grimmelman, 2008-9). As we have seen in the starting paragraph of these survey, the idea of a borderless Internet, so popular in its very first decades of existence, has turned into an illusion (Goldsmith and Wu, 2006): the "open commons" Internet has become an access contested space, featured by political and economic interests. In other words, the virtual world as well as its "real" counterpart, has to abide each single state's local law, regulations and policies, with the consequence that «you get different results in different countries» (Grimmelman, 2008-9, p. 948). «In Europe [...] [where] many countries have strong laws against hate speech», (Grimmelman, 2008-9, p. 947) many websites are not displayed; using a word that we have repeatedly called up in the first chapter talking about the Chinese framework, Reidenberg (2002), goes even further, stating that European sites are "censored" in various way. Grimmelman (2008-9) reports the example of the already mentioned website Jewwatch.com. If the word "Jew" were typed in a search query in Germany the Website did not show up, substituted by a notice at the bottom of the page, reading "Aus Rechtsgründen hat Google 3 Ergebnis(se) von dieser Seite entfernt," which translates to "For legal reasons, Google has removed 3 result(s) from this page." In other words, Google has removed some results because the German government told him to do so. The same author reports another interesting example regarding the Chinese contest: «compare a google.com image search on "Tiananmen" with the same image search performed on google.cn, the Chinese version of Google. Below is the U.S. version of that search—prominently featuring the famous photo of an anonymous nonviolent resister standing up to a line of tanks. Contrast that to the Chinese version of that search—principally photographs of the Tiananmen itself, the Gate of Heavenly Peace that gives the square its name.» (p.948.)This point makes the issue of objectivity and quality of the results and, all in all, the whole idea of an alleged Google

democracy a little bit more problematic, as this is not *just* a matter of “advertisement pollution” or human hand modification: by removing results for political and cultural reasons, often pushed by local government requirements and regulations, search engines in general, and Google in particular, might be considered as involved in a sort of information censorship, or in a kind of enforcement of an already existing forms of content restraint carried out by those government themselves. Indeed, as we will see in the next paragraph, Google and the supposed Googlocracy, had to face a significant moral issue, when evaluating the possibility to enter the Chinese market in 2006.

However, in order to complete our analysis over the search engine ethics on information result returning, there is still one point to discuss. If the difference in the page result on a country-to-country bases triggers some ethical problem, some controversies arise also when the results are tailored at the level of each single individual.

The personalization of the result returning, greeted as an important innovation by Google and considered useful by many users, in fact produces some remarkable bias in the objectivity of information. Some might believe that, even if the quality of the results is biased in various way, the search engine would give at least the same response to two different searchers typing the same query from the same country; but this is no longer the case in the era of personalization, when the results are returned on a user’s profile basis. Let’s take the example of Google Instant, launched on September 2010, which «takes the personalized algorithm to a new, almost mind-reading, level» (Winston, 2011, p. 5). Winston (2001) notices that the software «shows the search results as, and even before, users type in their query. It is able to do this by predicting the query before the user is finished typing it based on both personalized and standardized algorithms.» (p. 5). In Google Blog (2010), Google Instant’s production manager Jonathan Effrat explains that the point of this innovation is to let the user refine his search by visualizing the results as he types. However, Winston (2011) remarks how the software has «serious consequences for users because it leads them to become passive information seekers» (p. 5). In other words, they would let “another entity” increase the control of the information and knowledge they are retrieving, as they accept to be addressed to the source on a personalized profile basis. Increasing their passivity, «they lose agency because they are no longer making their own decisions»; and, most importantly, they give Google an immense authority and “extensive degree of control over information”. According to Hinman (2008) «never before will so few have controlled so much with so little public oversight or regulation» (p. 74). Furthermore, as Fallows (2005) interestingly remarks, the majority of users relies on search engines because they consider it as an impartial and unbiased source

of information. The irony is that 62% of users are not even aware of the difference between paid and unpaid search results.

To sum up, the excessive personalization promoted by these new software may lead, by channeling the information in different ways for different users, to a lack of objectivity; and the personal profile construction, based on the user's previous searches, may be as problematic as to address him towards inadequate search results. However, these are just some of the issues arisen by the individual data storing, carried out by search engine on a daily basis. Indeed, there is a number of ethical controversies to be discussed, whose coverage, nonetheless, goes beyond the purpose of these survey. Let's just think about the matters of privacy, the consent and the non-voluntary disclosure of personal information, the lack of control over the diffusion of content considered wrong and compromising, the monitoring and surveillance enacted by companies that keep track of their user's virtual habits. In our view, there is enough to go back and revise the whole concept of Googlocracy and to look with different eyes to the conflict "democracy VS censorship" promoted by the search engine to validate its entering in China in 2006 and to legitimate its "moral compromise".

As Introna and Nissenbaum (2000) note, although that search engines were considered as a technology that would have empowered the traditionally disempowered, by giving voice to social, economic, and cultural groups not frequently heard in the public sphere, they clearly present several "anti-democratic" aspects, as they "systematically exclude" certain sites over others. Hinman (2005), similarly, points out that «the flourishing of deliberative democracy is dependent on the free and undistorted access to information» (p. 25). Standing in the same line, Morozov (2011b) calls attention to the filtering of information that search engines make possible; Sunstein (2001) arises concerns over the excessive personalization which can trap users in "information cocoons"; Lessig (2000) equalizes Internet filtering to censorship, by blocking out some forms of expression; and Pariser (2011) sustains that «personalization filters serve up a kind of invisible auto-propaganda, indoctrinating us with our own ideas, amplifying our desire for things that are familiar and leaving us oblivious to the dangers lurking in the dark territory of the unknown » (p. 13). By all these point of view, the Googlocracy assumes a completely different face and the nature of the "moral compromise" in dealing with the Chinese government can be seen by a different perspective: it appears less as an attempt to supply information in a delicate framework and more as a move aimed to conquest a lucrative market. For some critics not only Google did not act as an herald of democracy and free flow of information into the Chinese contest, but its penetration in the country has somehow "facilitated and supported" the censorship regime (Spinello, 2012). Its compliance from 2006 to 2010 would confirm these positions. And the withdrawal

to Hong Kong in 2010 seems more the consequence of an unsuccessful business strategy, due mainly to some peculiar environmental characteristics, then a protest against a censorship regime. These issues will be covered in the next paragraphs.

2.1.1 - The “Google.cn” ’s moral compromise

In the previous paragraph we have taken into consideration several ethical issues regarding the nature of search engines; we have discussed about how these tools are becoming the most relevant information retrieval source in today’s “knowledge society” and how this function goes far beyond the mere search practice. Focusing on Google, the Western giant, we have seen how it plays a crucial role in shaping our knowledge and defining the current social trends, turning into a proper *resource allocator*. Most importantly, we have wondered whether Google, with its huge and increasing power, promotes a real democracy of information, with its attempt to spread a free flow of information all around the world, or it resembles more a new form of regime of information, due to the variety of controversies that affect the return of result to the users. In particular, we have observed that in one special case Google’ s action might become “deeply political”: following the entrance in specific contests, Google must respect the local regulation and policy over the diffusion of information. The consequences might be disastrous for the alleged Googlocracy: not only Google may happen to return different results if compared with different countries, with an evident lack of objectivity; it may also be involved in a real complicity with governments which promotes censorship of unwelcome content, such as the Chinese one. Google’s ventures in this kind of contests have been analyzed under different perspectives: on one side the contrast between Google’s aim of information freedom and the local regime of information has been stressed and the search engine has been often portrait as the new herald of political openness and social emancipation; on the other, many have put in evidence how this alleged “herald of freedom” has never hesitated to comply with the censorship in order to stay in the market. This is particularly evident in China’s case.

Before 2002, in the early years of Google, the company had a version of Google.com available in Chinese, running from servers outside the country; however as Elliot Schrage⁶⁵ (2006) states, the search engine began to experience some problems: it could be used sporadically by users in China and sometimes it was simply not available. Very soon the company found that the inconvenience was linked to “the extensive filtering performed by China’s licensed Internet Service Providers (ISPs)”. Brenkert (2008) sustains that at that point Google needed to deal with a crucial choice: it has to decide whether to abandon the market or to open a new licensed version of the service with servers located in China, as to remain competitive and to not lose market. Google went for the second choice and, in order to receive the license required to operate, it started to comply with the local regulation, meaning, it began filtering the Internet. In 2006 the decision to inaugurate a new Chinese censored version of the service «raised a significant outcry from groups such as Amnesty International, Reporters without Borders, Human Rights Watch, and others.» (Brenkert, 2008, p. 2). Reporter without borders (2006) accused the company of “hypocrisy” for not providing Chinese population with all the information about Tibet, democracy and human right. Human Right Watch (2006) expressed its indignation for the complicity with the local government in censoring the political and religious discourse and in “monitoring the peaceful speech”. According to Brenkert (2008) Google «has been attacked for compromising its basic values of honesty, responsiveness, trust, and “Don’t be evil,” all mentioned in Google’s “Code of Conduct.”» (p. 2). Nevertheless, Google maintained its position to operate the Chinese market: although it was clearly against its “basic values and commitments”, the decision was still considered compatible with the company’s mantra “Don’t be evil” (Amnesty International, 2006).

However, the accuses moved to Google go beyond the “hypocrisy” of a search engine company incapable to adequately maintain coherence with its mission and its always claimed values, and call upon a supposed responsibility to respect the Chinese people’s right of freedom of expression. Although the obligation to not violate basic rights of a population seems to interest only governments and not private organizations, Brenkert (2008) remarks that rights «that have been identified as “human,” [...] have been held to apply not only for governments party to those treaties or charters, but also for other organizations and bodies relevantly related to the rights holders» (pp. 3-4). Bowden (1999) by his side, seems to exonerate private companies from these accuses , by affirming that a kind of “private censorship” does not exist, since organizations are forced to undergo the coercive power of the

⁶⁵ Schrage is Google Vice President for Global Communications and Public Affairs

local government; on this view, the New York Times, the CBS or Google could not be accused of censorship, as it occurs only when the government put it in practice.

In order to understand better what this debate is all about, it is worth to clarify what the right to freedom of information really is. According to Brenkert (2008)

It is not a right that private organizations provide people with any and all information they want. This is not even the case with regard to the government. Instead, it is a right that responsible parties not prevent a person from obtaining information to which they would otherwise have access. Accordingly, the right to freedom of information is a negative right that some relevantly situated entity not block access to information. It is not a positive right that such entities provide that information. (p. 5)

Internet, differently from traditional media, does not produce its own content, but organizes the Web content produced by the World cyber population through a “link hierarchy” system. As we have considered in the previous paragraph, this system may have some bias and might be somehow limiting for a really clear-of-hindrance flow of information; but, in line with Brenkert (2008), it could hardly ever be considered as the same as a willingly censorship carried out by a government which has to authority to prevent the access to any unwelcome information. After all, if a search engine inadvertently (due to some bias of its automatic algorithm system), or even willingly (due to some human hand “correction”), happens to not being impartial or objective, theoretically it remains not able to prevent the access to a specific content from another source. This would be enough to exculpate Google from any accuse of Chinese people’s human right infringement, during its venture in China: the fault of violation would at this point have relapsed on the government, whose policies Google was just forced to follow.

However, as to Brenkert (2008) observes, this justification is not enough to prevent Google to be accused of complicity. A definition of complicity is given by the UN Global Compact/Office of the United Nations High Commissioner for Human Rights, or UNHCHR (2004):

a company is complicit in human rights abuses if it authorizes, tolerates, or knowingly ignores human rights abuses committed by an entity associated with it, or if the company knowingly provides practical assistance or encouragement that has a substantial effect on the perpetration of human rights abuse. The participation of the company need not actually cause the abuses. Rather, the company’s assistance or encouragement has to be to a degree that, without such participation, the abuses most probably would not have occurred to the same extent or in the same way (p. 19).

Was Google complicit in a human right abuse towards the Chinese population? Would the government censorship have been carried out to the same extent without Google assistance and encouragement?

Santoro (1998) argues that a company might be accused of complicity only when it has «a substantial influence on the policies of the host government» (pp. 37–38). In other words, only if the private organization has an effective power to alter the public institution policies, it can be considered as involved in a human right abuse; in any other case it may not be perceived as responsible in any retaliation or human right violation perpetrated by the local government. At this regard Brenkert (2008) points out «that with or without Google’s participation, the abuses would have remained largely the same in nature and extent» (p. 7). Therefore, Google seems to have been vindicated both for human right violation and complicity allegations: its position was the one of a forced and unwilling follower. Nevertheless, as Brenkert (2008) remarks, this is clearly not true since Google has willingly chosen to put itself in this situation. After all, the obligation to follow the government censorship policies might have been easily avoided by deciding to not enter the Chinese market; indeed, if Google ultimately had not approved the moral conduct of the local authority it would have chosen to not run this race. A choice that, undoubtedly, required courage and, in business environment, would have been considered at least irresponsible: to abandon the lucrative Chinese market without even attempting to threaten the leadership of the local leader Baidu or taking its share among the other foreign competitors, would have probably been considered unacceptable for the Western leader’s stakeholders.

So that, the company decided to walk the way of the moral compromise (Brenkert, 2008), meaning it chose to “morally compromise” some of its basic values and principle in order to let itself play this delicate field. A first line of moral compromise was to inform its users about the filtering practices. This might also be seen as a form of “implicit understanding” between Google, its users and the local government, which allowed Google to do so. Brenkert (2008) described this way the situation at that moment:

Google is filtering the Internet. It does not appear that China has compromised regarding filtering.[...] In addition, since Google is now informing Internet users when they filter, and the government has not intervened to prevent this, this might also be a compromise that the Government has made. Certainly, these are not compromises that the Chinese government and Google have openly arrived at. They may not have even arrived at it through negotiation. People may reach compromises without explicitly talking about them or negotiating to arrive at them. So too may businesses and governments. They may reach an “implicit understanding” with those with whom they are dealing (p. 11)

However, when Parr (2006) quotes Sergey Brin as having said “and we decided in the end that we should make this compromise”, there is probably a second line of moral compromise that the leader of Google meant to apply to themselves: the sacrifice of a set of moral values to protect other kinds of principles, as a sort of trade-off between moral integrity and business necessities. Some may call it

“moral dissolution” instead of “moral compromise”, especially in a traditional conception of business: in accordance with Benditt (1979) people should stand for something and not vacillates, «particularly when it appears that the principles he espouses serve his own interests» (p.31); similarly, Halfon (1989) and Rand (1964) sustain that people and businesses should never compromise their moral principles; Kuflik (1979) affirms that, according to many, «the willingness to compromise is a sad but sure sign of moral turpitude» (p. 38).

In our view, Brenkert (2008) has a point when he states that «situations involving moral compromise are *morally complex* [...] [and] the action dimension involves greater complexity the more a moral agent faces “heterogeneous forms of action,” which cannot be made compatible » (p. 13). Google is huge dimension global business, operating in an international and multicultural environment and «faces multiple, conflicting, and incompatible responsibilities, which it cannot fulfill at the same time without violating or infringing on some of them» (Brenkert, 2008, p. 13). As for it, Brenkert (2008) underlines the difference of interpretation between Google and its opponents that, in his view, is the main cause originating the conflict and, as a consequence, the need of a moral compromise: while human right organizations, such as Amnesty International and Reporter without Borders «tend to focus just on the one thing they are concerned about, viz., Google’s filtering of the Internet and the human right involved» (p. 14) Google has to take an “all the things considered” decision. Some might forget the plurality of aspects the Google has to consider before taking a responsible action:

- Google has to guarantee continuity to its business, developing it in a sustainable way
- Google operates in different countries and it has to abide the various local law
- Google has to deal with the conduct of its competitors: «Microsoft, Yahoo, Cisco, not to mention Chinese Internet companies like Baidu do not refrain from filtering, but operate under the restrictions that require filtering of the Internet» (Brenkert, 2008, p. 15)
- Google has a responsibility towards its stockholders, who are a considerable part of its capital and who have invested in the company expecting a relevant revenue
- Google has responsibility towards its employees, meaning it has to develop employment possibilities as well as to protect them to possible threatens. Brenkert (2008) asserts that «if Google were not to filter the Internet, it would put its Chinese employees at risk of fines, harassment, or imprisonment.» (p. 15).
- Google must respect its claimed mission to provide fast and reliable information all around the world. In Parr’s opinion (2006) «Google could still improve Chinese citizens’ ability to learn about AIDS, environmental problems, avian flu, world markets» (p. 86)

How has Google decided to deal with all this points at stake, in its course of action in China? In our view, Google has faced the moral complexity of this heterogeneous environment by ignoring the existence of a moral issue. Elliot Schrage, Google's Vice President for Global Communications and Public Affairs, is probably to one who best represents this attitude. When, in early 2006, he found himself in front of the Committee on International Relations of the U.S. House of Representatives, he gave three reasons to motivate Google's entering to China: satisfy the interests of users, expand access to information, be responsive with local conditions (Wilson et al, 2007). As Brenkert (2008) observes, «though Sergey Brin has spoken of Google's compromise, the official Google justification for its operations as offered by Elliott Schrage to Congress makes no mention of either human rights or moral compromise» (p. 21).

Google enters the Chinese market in 2006 because a different choice, at that time, would have been completely incoherent and illogical for such a business: it would have meant to lose a chance to play in a hugely profitable field, to run a relevant, lucrative and fast growing market; it would have been disappointing for all of its stakeholders, posing risks for its leadership position in front of its competitors. In 2010 Google chooses to withdraw: apparently the decision is driven by a sort of moral re-thinking, but it is evident that the business has not worked out. Google suddenly appears to view the situation by a new moral perspective: it joins the GNI, it starts to talk about the "end of the censorship within a decade" and it establishes a brand new relationship with all those human right organizations which were openly criticizing the search engine just few years before. However, it is clear that, under a business perspective, it was more convenient for the Western giant to leave this market, as it was producing more matters than revenues. This is not because Google business strategy was somehow wrong, but mainly because the Chinese contest has its own peculiar characteristics, which make it so different from the Western part of the World, where Google is the undisputed number one. China is not ready yet to set foreign companies free to develop as the Chinese ones, especially in a delicate field such as the information market. Chinese government, as we have seen in the first chapter, does not allow foreign companies to occupy leadership positions, since they are not featured with the same *cultural affinity* that characterizes local leaders.

No moral compromise needs to be settled with Chinese giants. Despite the economic and cultural openness that the country has been experiencing over the last 30 years, the obedience as a source of protection and security, remains a clear trait of a culture in which practical solutions still seems to count more than moral issues.

2.1.3 - China's market: a lucrative, fast-growing... nightmare

If we set apart any moral issue and we forget for a moment that operating in China means to comply with a censorship regime, the decision of launching a Chinese version of Google in 2006 was probably more than understandable; if we approach at the issue from a business' point of view, it was perhaps unavoidable, as missing this chance could have affected the long-term growth project of the company. As we have mentioned in the previous paragraph, the search engine company already had its version «capable of understanding character-based languages like Chinese, Japanese, and Korean» (Wilson et al, 2007, p.6), but it was still directed by servers located in the California headquarters. Thompson (2006) points out that in 2002 it controlled around 25%, of the Chinese market, having an audience mostly composed by white collars, Pro-Western Chinese businesspeople, and it was able to completely evade the Chinese censorship. However, in September 2002 the Chinese version of Google.com began to experience some problems: the search engine was initially blocked and its users redirected to a Chinese website; then it was eventually unblocked but at that point the Chinese censorship had increased, making it slower and not reliable (Kahn, 2002). The reason why Google had been targeted for this first attack is still unknown, but many think that since Baidu was, at that moment, a brand new company on the search engine scene, the attack was an effort aimed to pave the way for the new local competitor, restraining the Western leader's growth in China and as to let the newborn rival overcome (Thompson, 2006). Indeed, the "slow and less-than-satisfactory version of Google.com" (Wilson et al, 2007), started to lose its share of market, decreasing from 25% of 2002 to a 19% (Fong, 2007). However, the most representative data is the one describing the formidable rise of Baidu, increasing from an initial 3% to a dominant position with 63% of the market: a growth especially based on entertainment and MP3 file downloading service (Thompson, 2006).

This is the point where Google decides to ignore any moral issue, or by another point of view, to settle down a moral compromise, choosing to accept the rule of the censorship. As we have considered above, a solution of moral integrity would have involved for Google to abandon a field where the referee unfairly favors the local player. However, despite the game seemed arduous since the very beginning, the stakes were too high to be so easily left behind. Wilson et al (2007) reports that in early 2006, Google expected «the Chinese internet market [...] to grow from 105 million users to 250 million users by 2010. Moreover, in early 2006 there were already 350 million mobile phones in use in China and that number was projected to grow by about 57 million annually» (p. 6). Furthermore, Google's most influent

competitors were already on the field: Yahoo! had operated in China by 1999, since the establishment of Yahoo! China, and Microsoft in 2005 had set up a local version of its instant message service MSN (Kerner, 2005). Google opted to not really listen all the human right's indignation manifestations and decided that playing according to the local rules was worth a try. In January 2006 Google launches the self-censored Google.cn, with two major concerns: provide the high quality service that has been missing over the previous four years and determine the nature of the self-restraint, necessary to remain in the market. Regarding the quality, Google's first aim was the privacy of its users, since its most important foreign competitors, Yahoo! and Microsoft, had presented some deficiencies under this point: the former by revealing private user e-mail data to the Chinese government, leading some cyber-dissidents to imprisonment⁶⁶; the latter by shutting down Michael Anti's blog⁶⁷, at the Chinese authority's request (Kristof, 2006). Secondly, Google aimed to a different level of transparency. Therefore, they provided users «with a brief message indicating if any pages have been censored from their search results. The message does not inform users what specific pages have been censored; it simply lets them know that censorship has occurred» (Wilson et al, 2007, p. 9). Once again, this strategy distinguished Google's approach to the censorship from its direct competitors Yahoo! and Microsoft, and it might be put in line with the attitude kept by LinkedIn, during its recent breakthrough in China. The third quality objective was to recover the standard of speed and reliability that had characterized the search engine service before the blocking crackdown 2002. According to Wilson et al (2007)

In terms of satisfying user interests, Google prides itself on providing a high-quality user experience. After the Chinese government's 2002 Internet censorship crackdown, the Google.com experience for a user in China was no longer of high quality. Google.com generated search results extremely slowly because, regardless of the terms searched, each search had to pass through the elaborate "Great Firewall of China" censoring system. As a site hosted outside of China, and not within the Great Firewall itself, Google.com took a particularly long time to load search results, as compared to search engines hosted in-country like Baidu.com or Yahoo! China. (p. 7)

In addition, McLaughlin (2006) reports that Google.com in China was down over 10% of the time, Google News was not available and Google Images was available only half of the time. Google probably hoped that by locating its servers into the Chinese territory as to open a new season of compliance with the censorship, they would have been able to overcome these matters, ensuring a steady and fast flow of data within the country. Nevertheless, there is an important point to remark: Google has to determine

⁶⁶ Following these episodes, in October 2007 the House Foreign Affairs Committee enacted the Global Online Freedom Act, which made illegal for U.S. companies to disclose individual personal information to foreign governments using a given company's services (PEN American Center, 2007)

⁶⁷ Michael Anti is a pen name for Zhao Jing, a famous Chinese political blogger

on its own the nature of the self-censorship that it has to carry out in order to please the local authorities, since there was no mention of what pages, terms, content and information were to be blocked or filtered. Winston et al (2007) assert that

in terms of local conditions, it was important for Google to determine to what extent self-censoring would affect the company's search results. For users of Google.com in China, searches for censored subject matter, ranging from political subjects like "democracy" and "Tibet" to religious subjects like "Falun Gong" and "Dalai Lama" to social subjects like "pornography", would generate the same list of links as would be generated for a user based in the United States. However, if the user in China tried to open any censored links, either the user's browser would shut down or the user would be re-directed to a non-censored site. [...]No official list of banned terms exists.(p. 8)

As we have seen in the first chapter, the Chinese Great Firewall is not based on strict rules, such as a list of banned content or unwelcome words, that companies must censor and individual shall avoid; it is more similar to a resilient system of intimidation, aimed to enact a self-restraint behavior directly carried out by companies and individual; a sort of elastic social censorship established to instill in citizens and businesses the sensation of being constantly monitored, as to push them to a self-control attitude. So that, if Google wanted to operate the Chinese market it had to put in practice not just a form of compliance with the local authorities, but a form of proper complicity; as to say, the search engine was not just following some censorship regulation, it was actually create its own set of censorship rules. This point was probably the most unacceptable for all those organizations and intellectual positions which raised the herein considered moral issue⁶⁸. However, Google's resolution was unchangeable. It is worth to underline one more time, also in prospect of what will happen after a couple of years, how the company at that moment seemed to not consider any real moral conflict, leaving any form of indignation behind in order to keep up with its business conduct. Larking (2007) offers an interesting example to confirm the Western giant's attitude: following the moral issue raised by the Google's entering in China's market, in May 2007 the Office of the Controller of New York City submitted an anti-censorship proposal on behalf of various New York City pension funds which own Google stock. Stockholders voted against the proposal, after the company had recommended them to do so, as the proposal would have pulled the company out of China, shutting down Google.cn. Evidently,

⁶⁸ At this regard Zeller (2006) reports a significant episode occurred during a human rights hearing in the early weeks of Google's venture to China: the Iowa Republican James A. Leach asked Google Vice President Elliot Schrage to reveal exactly how Google.cn self-censored. Schrage explained that Google.cn studied both competitors and Chinese government's filtering methods to set up its own self-censoring system. Leach ironically replied that if the Congress now wanted to learn how to censor, they could go to the company that pride itself to symbolize the greatest freedom of information in the history of man

that was not what the company wanted: indeed they were preparing an aggressive strategy to attack the Chinese market and no space was left for any afterthought.

In the two years following the Google penetration in China, Google has been very active on the field: it has opened two research centers, one in Beijing, one in Shanghai (Poon, 2007); it has established partnerships with the most relevant “key” firms «that should help Google increase its Chinese market share» (Wilson et al, 2007, p. 10), such as China Mobile, China Telecom and Xunlei.com⁶⁹ (Barboza, 2007; Liu, 2007); and most importantly, it has renewed its own look or, in Schmidt’ s words, “its own voice, its own expression” (Dickie, 2007), trying to result as much attractive as possible for Chinese users. As Winston (2007) et al notice

In order to penetrate the China search market further, Google aims to make Google.cn as “Chinese” as possible, both by hiring Chinese employees and by partnering with Chinese technology firms. According to CEO Eric Schmidt, one of Google’s “big projects” during the year 2007 is to grant greater autonomy to Google’s local management in China. Google has tried to distinguish Google.cn as distinctly Chinese by adopting the local Chinese name of “Guge,” which roughly translates to “harvest song,” though this name choice has been widely mocked by Chinese users. (p. 10)

Nevertheless, as the second quarter on 2007 Google was still far away from threatening Baidu’s top position: according to Litterick (2007) the western search engine had just nibbled a tiny portion of the Chinese market while the Chinese number one remained the undisputed dominator: to put it into numbers, Google had increased from 19.2% to 22.8% share and Baidu had decreased from a 63.7% to a 58.1% share. Although the leadership was still hard to get, Dickie (2007) reports a Google’s Schmidt statement, who expressed with this words his aspirations at that time: “we were late entering the Chinese market and we are catching up. Our investment is working and we will eventually be the leader”. In our view, there is a point in Google’s business strategy that will never be compatible with the Chinese market characteristics: its leadership aspiration. Google may have its servers either located in its headquarter in California or into the Chinese territory, it may present itself with its traditional outfit or with a completely revisited guise in order to result more attractive, it may support the moral indignation of human right activists or just leave them behind and decide to comply with the censorship; but it will never have in China the same role that it has in the Western part of the World. In our opinion, if Google had kept its share of the market, without showing off any other ambition, it would be probably still operating the market as the same as Microsoft and Yahoo! which today occupy a marginal position; if Google had accepted to stay in a secondary role, without affecting the domination of Baidu, it would

⁶⁹ Xunlei.com is the Chinese music and video sharing YouTube-like website

have never had to withdraw to Hong Kong. But Google did not want to be just a player: it wanted to be the top player. Its leadership aim is simply not compatible with the cultural affinity that the Chinese government requires for the top companies in its territory. An American company to control the flow of information within the boarder of the country is just not welcome. It is a too thorny counterpart for the government to deal with. What would happen if this foreign firm increased its power until the point it can decide how to manage and control the flow of information in China? Probably the social censorship mechanism, described in the first chapter, would break up and the government would lose its tight and resilient control over the content production in its country. Some might say that this would be a gust of fresh air for the economic development as well as for the cultural progress and openness, but obviously this is a possibility that Chinese authorities prefer to not contemplate.

Thus, the lucrative fast growing ICTs market, capable to catch the attention of all the top companies of the world, eager to enter it in order to increase their profit and make business, may happen to turn into a no-easy-way-out nightmare, in which these companies themselves are the ones that eventually do pay the bill. This is the controversial position in which Google ended up in the second part of its Chinese campaign, together with Microsoft and Yahoo!. By 2008, when the management realized that the investments were not returning the planned revenue, they joined the GNI (Global Network Initiative), with the modalities described in the first part of this survey, engaging a battle on that moral field that had been completely ignored a couple of years before. A moral prospective that, however, has been never fully adopted, as these actors were still operating the market at that moment (Microsoft and Yahoo! are still there now). It is like to decide to play a game in which you know that you will never win but the prize is too high to pull back, and then protesting because the referee is favoring the local player; or in the middle of the race try to sensitize who since the beginning warn us to not run, because the condition of the competitors were not equal. This was Google in China from 2008 to 2010: by one side, pleasing the censorship and considering if this compliance would have somehow facilitated its growth and paved its way towards its leadership aspiration; by the other protesting against it, raising a moral concern, remonstrating against all those authorities guilty to not “let them work”. And, ultimately, this “grey area” position ended up affecting Google itself, since the company did not have sufficient commercial nor political power to respond to the cyber-attack episode occurred in January 2010, with the alleged directions of Chinese-government-supported hackers. At that time, Google had no other choice than withdraw from the market and repair in Hong Kong: although the move has been officially introduced as “bold” and full of moral integrity, the company did not seem to have any alternative. According to Open Net Initiative (2011)

In January 2010, Google made a bold move by announcing it would no longer comply with the legal requirements of content filtering imposed on companies operating within the PRC. Following a series of cyber-attacks that targeted Google's infrastructure and the e-mail accounts of several Chinese human rights activists, Google publicly stated that it would seek to discuss the establishment of an unfiltered search engine in China, or else officially close down China-based Google.cn. The attacks, which also hit a number of other Silicon Valley technology firms, led to responses from the central government that were largely dismissive of Google's accusations.[...] In March 2010, after a series of strained negotiations between Google and Chinese authorities, the company finally made good on its threat to stop filtering content, stating that it would redirect all traffic from Google.cn to its unfiltered Chinese language site, Google.com.hk, based in Hong Kong (pp. 275-276)

Not many inside China strongly expressed their disappointment for Google withdrawal: after all the most used Baidu was able to provide Chinese users with broadly the same service of Google. And outside China, although many applauded Google's initiative, the company could not find any real back up to shelter itself from the attack that push them out, as the search engine has not done much to build its moral credibility since the beginning of its Chinese venture. "While technologically and financially you are giants, morally you are pygmies,": with these words the then-chairman of the House Foreign Affairs Committee, Tom Lantos, labeled Yahoo and Google executives in a Washington hearing, back in 2007 (Carsten, 2014). Obviously this perception did not bring to much favor to the search engine during the withdrawal, 3 years later. Baidu clearly called the move "hypocritical" and defined it as "financially driven", as Google had failed to dominate the Chinese search market. "What Google said makes me sick," the chief architect of Baidu said "if you are to quit for the sake of financial interest, then just say it" (BBC news, 2010b).

Thus, this is the reality of the Chinese ITCs and search market: it surely represent a lucrative fast growing market, with its massive capacity of users, with the Internet more and more embedded in these people life, and with its economic progress that is both boosting businesses and making rich a part of society, more and more fond of technology tools; but it may easily turn into a nightmare if foreign companies refuse to accept a limited share of the market and threaten the top position of the local leaders.

As Luckerson (2014) has recently written in one of his article on TIME's newspaper, the race for China's 618 million Internet users is soaked with "moral and logistical problems": not only Google, but also Twitter and Facebook, have been packing in recent years. And now LinkedIn is trying to break through the market, implementing a strategy that in many ways remind Google at its very beginning, but keeping the dimension of a start-up without showing off any vain ambition of leadership. Carsten (2014) underlines how LinkedIn must learn from "Google lesson" if it wants to play in the Chinese market, meaning that it must accept its role without troubling too much the local counterparts. Mozur and

Tejada (2014) have remarked how “China's censorship efforts have a negative business impact” as the filtering system kick in every time a server tries to connect with a computer abroad, while the Chinese companies result unaffected. Their article reports the opinion of a long-term China-based foreign businessman, who states that “companies are unlikely to pull out of China in any case,[...] they will still invest in China, it just depends on what scale.”. Perhaps the only possibility for these foreign businesses to have a voice is to get it from in an ultimate people protest about a supposed lack of service, due to the censorship and to the restriction suffered by foreign competitors; but this is probably never going to happen, as the Chinese internet population has already whatever they need: the country is already “heavily connected” with many social networks, such as Sina Weibo, a sort of hybrid between Facebook and Twitter, WeChat corresponding to the Western WhatsApp, Dajie, Wealink and Tianji, with over 60 million members between them, all peers of LinkedIn (Luckerson, 2014; Carsten, 2014).

As a conclusion, Erixon and Lee-Makiyama (2010), give an adequate general portrait of the Chinese framework when they equalize the Great Firewall to a form of economic protectionism: the restricted access suffered by many online services coming from abroad and the shut-down of many international Websites “without much warning” is not only an instrument of political and social control: it has become an economic tool, able to effectively discriminate foreign suppliers and enhance the chance of success of the local ones. The example of Baidu, which remained untouched during Google crackdown despite producing similar search results, will be covered in the next sections.

2.2 Baidu or the China's Google

2.2.1 - Into the house of the local giant

Baidu is the largest and the most popular search engine in China. Its name, whose literal meaning is “hundreds of times”, was inspired by a poem written during the Song Dynasty, more than 800 years ago, the theme of which is the persistent search for one's ideal “while confronted by life's many obstacles”. (Baidu, 2014). Abroad it is known as the “Google of China” but its founders often underline the features that make this service different from their gigantic Western counterpart. Indeed, despite many similarities, Google has never been able to catch up with this search engine, which has been the undisputed leader of the Chinese market for 10 years and which has recently made the World aware of its expansion project. Baidu prides itself for providing its users with the best up-to-date technology as well as with a deep understanding of the Chinese language in all of its nuances, considered important for addressing searchers’ requests towards their specific needs (Baidu, 2014); it is probably for this reason and for the large variety of additional services offered by the company, that Baidu has today killed the competition with the other local search engines, tightly holding a dominant, almost monopolistic, top position.

Baidu was founded in 2000 by CEO Robin Li, today the second richest man of China (Sterling, 2010), with the mission of giving users the best information and services. Li graduated at Peking University⁷⁰ and obtained a master in United states; over the 90s he was an engineer at Infoseek. In 1996 he developed an algorithm for search result score page ranking, called RankDex (Greenberg, 2009, Yanhong 1998), which was followed by an US patent for the technology leading to the Baidu search engine. According to what Baidu reports in the profile *Baidu. Inc.*, for the US Security and exchange commission (2013)

Robin Yanhong Li is co-founder, chairman and chief executive officer of our company, and oversees our overall strategy and business operations. Mr. Li has been serving as the chairman of our board of directors since our inception in January 2000 and as our chief executive officer since January 2004. Mr. Li served as our president from February 2000 to December 2003. Prior to founding our company, Mr. Li worked as a staff engineer for Infoseek, a pioneer in the internet search engine industry, from July 1997 to December 1999. Mr. Li was a senior consultant for IDD Information Services from May 1994 to June 1997. Mr. Li currently serves as an independent director and chairman of the compensation committee of New Oriental Education & Technology Group Inc., a NYSE-listed company that provides private educational services in China. Mr. Li also acts as the vice chairman of the internet Society of China (ISC).

⁷⁰ Peking University is one of China's most prestigious educational institution

Mr. Li has also been a vice chairman of All-China Federation of Industry & Commerce since December 2012. Mr. Li received a bachelor's degree in information science from Peking University in China and a master's degree in computer science from the State University of New York at Buffalo. (p.93)

Other outstanding personalities of the company are *Jennifer Xinzhe Li*, «chief financial officer since March 2008 [...] in charge of [...] finance and accounting, human resources, marketing and communications, purchasing, corporate development and certain other areas» (US Security and exchange commission, 2013, p. 93); *William Decker*, *Nobuyuki Idei*, *James Ding*, independent directors; *Greg Penner*, previously senior vice president and chief financial officer of Wal-Mart Japan and now Baidu director since July 2004; *Nato Guo Yiguang*, international communication director, better known as Kaiser Kuo.

There are several milestones in this almost fifteen-year Baidu's history. We herein report them as follows:

- The company incorporates in the Cayman Islands in January 2000 (US Security and exchange commission, 2013)
- In 2003, Baidu launches news search engine and picture search engine, adopting a particular identification technology for identifying and grouping articles with related content (Alestron, 2003)
- On August 2005, Baidu lists on The NASDAQ National Market under the symbol "BIDU." (US Security and exchange commission, 2013)
- In December 2008, the company changes name from Baidu.com, Inc. to Baidu Inc. (US Security and exchange commission, 2013)
- In November 2009, Baidu moves into its new corporate headquarters, named as Baidu Campus, in Haidian District, Beijing (US Security and exchange commission, 2013)
- On January 12, 2010, Baidu is targeted for a domain hijacking by the Iranian Cyber Army⁷¹, so that the Website is made unavailable for four hours (BBC News, 2010c; Branigan, 2010). Internet users meet with a page saying "This site has been attacked by Iranian Cyber Army".⁷²

⁷¹ The Iranian Cyber Army was also behind the attack suffered by Twitter just several weeks before, during 2009 Iranian election protests (BBC News, 2010c)

⁷² After the episode Baidu sued Register.com for gross negligence: it came out that the domain registration company had changed the email address for Baidu.com on the request of an anonym hacker who pretended to be from Baidu, without going through appropriate verification procedures. As a consequence the individual was able to use the previous password feature to get Baidu's domain passwords and accomplish the domain hijacking (Fletcher and McMillian, 2010)

Fig 1 – Iranian Cyber Army



(People's Daily, 2010)

- In July 2011, the search engine acquires «a majority stake in Qunar, an online travel search services provider and have since then consolidated [its] financial results» (US Security and exchange commission, 2013, p. 37)
- In the summer of 2012 three Baidu's employees are arrested for allegedly having received money to delete posts from the search engine's forum service (BBC News, 2012)
- On July 31, 2012, Baidu announces its team-up up with Sina to offer search results on users' mobile devices (BBC News, 2012b)
- On November 18, 2012, Baidu announces its partnership with Qualcomm to provider free cloud storage to Android users (Mansell, 2012)
- On July 16, 2013, Baidu announces its intention to take over "91 Wireless" from NetDragon⁷³. The operation has been finally achieved in August 2013 (Baidu press releases, 2013; Carsten, 2013)

Baidu has been protagonist of a stunningly fast growth over the most recent years, especially after Google withdrawal in 2010. The company «had 10,887, 16,082 and 20,877 employees as of December 31, 2010, 2011 and 2012, respectively.[...] As of December 31, 2012, [Baidu] had 14,688 employees in

⁷³ According to Hsu (2013), 91 Wireless has been reported to enable download of pirated content.

Beijing, 6,139 employees outside of Beijing but within China, and 50 employees outside of China » (US Security and exchange commission, 2013, p. 100). Today the Chinese giant claims to control more than 34600 employees (Baidu, 2014b), many of which are housed in Baidu Campus, the search engine's headquarters located outside Beijing's Fifth Ring Road, not very far away from the Great Wall of China (Atkins-Krüger, 2011b). The Chinese giant's house is one of the most superb and hi-tech office buildings in our industry, designed by architects who took part in the construction of the famous "Bird's Nest" sports stadium, one of the main places at Beijing Olympics; there is a clear influence of the Silicon Valley's architectural styles, which has inspired all of the world's major search engines. (Atkins-Krüger, 2011b).

Fig – 2: Baidu' headquarter



.(Atkins-Krüger, 2011b)

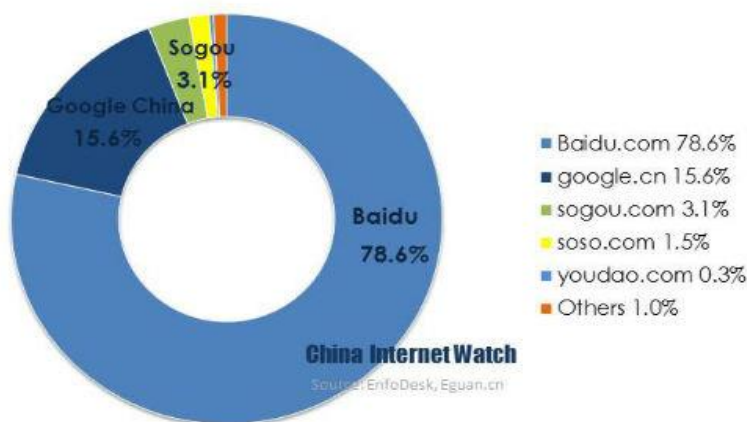
According to Carlson (2012), Baidu Campus structure, seen from outside reminds the shape of a search box, while inside it "evokes the quirky openness of Silicon Valley"; the company's logo, a blue dog's paw,

is emblazoned on the lobby ceiling with blue LED lights. The structure guests a basketball court, waterfalls, a yoga studio, a gym, and a Western restaurant with small, attractive wooden tables; there are no offices even for high-ranking executives and workers are welcome to address CEO Robin Li by his first name. Some other features are clearly local: the red and black LED screen scrolling current stock prices in Shenzhen, Shanghai and Hong Kong, and displaying the most popular search terms of the day; snack machines with Chinese food; meeting rooms named after classical Tang-dynasty Chinese poems. A part of the second floor is reserved to women, nursing mothers, or workers having a rest. The average age of the workforce is around 25 years old.

As we have mentioned above, Baidu's position in the Chinese market is almost monopolistic: its power has even increased and its share "have doubled in value" after Google decampment in Hong Kong in 2010 (Sterling, 2010) and by 2012 the company claimed to have almost 531 million regular users and nearly 80 percent market penetration (Marvin, 2013).

Fig 3 - China search engine market share in 2012

China Search Engine Market Share in 2012



(Marvin, 2013)

Nevertheless, the Chinese market has recently witnessed some adjustment: indeed, the figure do not consider the recent development of Qihoo 360 Technology Inc., a leading Internet security service company in China, which entered in the search market in 2013 and whose search engine, Leidian.com, quickly became the second most used in the country and the first competitor of Baidu. According to Hsu (2013), a relevant part of this successful business strategy is related with the mobile market, on which

the company is focused: Leidian.com is available on mobile devices and desktops and its search box is particularly indicate to search apps, e-books, ringtones, music, and other typical mobile device amenities; furthermore desktop users have the chance to send applications and other kind of content directly to their mobile device “with a simple one-click transfer”. It is significant to remark that Qihoo 360 has struck a deal with two international partners before launching its search engine: Nokia for the mobile phone industry and, perhaps is not a case, Google for search (Wikipedia, 2014g). By December 2013 the company claimed to have 475 million Internet users and 467 million mobile users each month, and to be first PC and Mobile Internet security provider in China⁷⁴, the leader among Web browser providers, the number one Mobile app store and the number two Search Engine in the country (Qihoo 360, 2014). Recently the company has confirmed its international tendency, joining the list of Asian “mega-companies”⁷⁵ investing in U.S.-based tech startups: as we learn from Chapman (2014), the Chinese security giant has set up a venture investing group in the Silicon Valley to finance “strategically significant” startups.

Another remarkable, but probably less relevant, changing in the Chinese Internet search market regards the newborn government owned search engine ChinaSo, a platform created by the merge of two preexisting State-run search engines, Panguso and Jike, rarely used. FlorCruz (2014b) reports comments from various articles describing the new search engine as a “waste of taxpayer money” and “terrible in comparison to already existing search portals”. While for many ChinaSo will face “a tough road” in nibbling away pieces of market in an already China’s competitive search engine market framework, others believe that the new search engine is revealing in advance an increasingly tighter control on China’s Internet, especially after the new Internet security and information technology panel, personally overseen by President Xi Jinping.

In light of these adjustments, the current picture of the Chinese search engine market will be probably more likely to resemble the figure reported by Global Times, with Baidu still abundantly leading the pack, holding 58.33 percent of users, followed by Qihoo, 24 .85 percent, and Sogou, 13.37 percent (FlorCruz, 2014b).

⁷⁴ Measured by user base

⁷⁵ Chapman (2014) explains how Asian Internet companies, such as Tencent Holdings and Alibaba Group Holding Ltd., are seeking technology from startups to boost its own offer power and reach new users

2.2.2 -We are not a Google clone

Google in China has never represented a real issue for Baidu's domination. For reasons that are still unclear, the Western giant has always been slow, erroneous and, all in all, unreliable, if compared with the local top search Website. There are many allegations sustaining that Baidu has somehow played a part in this difficult Chinese Google venture: Baidu may have had a role in helping the source of all those annoying problems, suffered by the Western leader during its stay in China. According to Sterling (2010) who reports details from a 2006 New York Times article, Google was frequently victim of domain name poisoning: users typing in Google.cn and ending up in Baidu Website instead; other times it was simply unavailable because of data jams.

Fig – 4 Baidu



(Schwartz, 2013)

Furthermore, the Firewall made users believe that Google had gone dead every time a user from Chinese territory searched for a banned term, since the page was not able to load for several minutes. It is not hard to imagine how problematic is for a company that “boast about delivering results in milliseconds” to have even a minute delay. And it is even easier to figure out how users may re-route themselves to the other search engine, the local one, once they discover that it offers a faster service and it does not present the same defects. For these reasons Baidu may even have partnered with the government to carry out the Gmail cyber-attack in 2010, that cost the American search engine the withdrawal to Hong Kong: after all, as we have seen in the previous paragraph, the move has been extremely beneficial for the local leader, which could take advantage of an almost monopolistic position at that moment. And the hypothesis become even more persuasive if we consider how the government may not appreciate a foreign search engine that perceive itself as a changing force aiming to open up Chinese society, while the local one willingly self-regulate itself, exercising the self-discipline that we have repeatedly included in the *cultural affinity* concept, within this survey. At this regard, perhaps is

not a case that Baidu seems to constantly “carry favor” to the communist regime (Sterling, 2010): a significant episode is the one happened on November 2008, when the government-operated China Central Television (CCTV) allegedly stated that Baidu earned millions by displaying ads of unlicensed medical providers, whenever users typed health-related queries. Lately, Baidu promoted its ad spending by 41 percent, with the largest part of the increase going to CCTV. Some may believe that it was just a coincidence when the negative coverage ceased.

However, despite many differences seems to distinguish this “fully” Chinese search engine from its Western counterpart, there are several points in common between Silicon Valley’s company and Baidu’s early development history. In fact, as interestingly Sterling (2010) notices, Baidu did not immediately create its own search engine after Li had invented his link ranking system: instead it made available its search index to the then-dominant Chinese search engine web portals Sohu.com and Sina, charging them every time a user conducted a research using this system, acting pretty much as the same as Inktomi⁷⁶ did for Yahoo!. The relationship between Baidu and the other local search engines went sour when the former decide to establish its own business: it was at that point that Yahoo! made a 40 million \$ offer to acquire the new Chinese “promise”. That was not the only acquisition attempt: in 2004, during the third round of financing, Google contributed for one third of Baidu’s capital, preparing the ground for a possible take-over. At that time Google’s rivals Yahoo and Microsoft made acquisition offers at over \$1 billion, but Google ultimate bid was \$1.6 billion. When asked the reason why he rejected all these respectable offers, Robin Li reportedly affirms that in his view Baidu was worth more than 1-2 billion, for its prospective revenue: when all the offers came out, China’s market was still new and even more fast-growing than today. In his opinion, Google, Yahoo and Microsoft were not able to see the enormous potential of this contest within the following 5 years (Sullivan, 2010). By that moment the competition between these foreign leaders and the local giant started: as we have described above, a couple of years later Google entered the Chinese market without affecting the top position of Baidu any time, and it was forced out in 2010; Yahoo! and Microsoft, together with other minor local competitors, were pushed in a marginal position by these two more relevant players; in light of these outcomes, the 2004 acquisition attempt was clearly a “missed opportunity” (Sterling, 2010).

Many in Western countries believe that Baidu is the result of the typical Chinese tendency to imitate from Western market: Atkins-Kruger (2011) introduces us to the concept of “C2C”, or *copy to China*, according to which Baidu would just be a clone of Google, starting with the algorithm technology at the

⁷⁶ Inktomi Corporation was a Californian company whose initial fortune was based on the early web search engine success. It was known for backing-up Yahoo! searches, before Google came out (Sterling, 2010). It eventually became victim of the dot-com bubble, and it was taken over by Yahoo!

base. However, at this regard Kaiser Kuo reportedly points out that although Robin Li obtained his US patent only in 1999, after Larry Page had launched Google, the algorithm was designed two years before, in 1997, while Li was working on a software related to information retrieval for Dow Jones Newswire and The Wall Street Journal (Atkins-Kruger, 2011); in other words, when Google's PageRank started to support Google researches at the end of 90s, RankDex, the algorithm backing up Baidu since its launch in 2000, was already existing. Moreover, when put in front to other similarities, such as the main search box page that, for the international version, is almost the same of Baidu, Kaiser Kuo replies that some items have become "ubiquitous" pretty much for all search engines and the fact that Baidu has an analogous appearance does not make it a Google "clone". In fact, the director of international communication likes to remark that despite the similar face, Baidu is capable to offer a variety of services that make the difference with its Western counterpart (Atkins-Kruger,2011).

Fig – 4 Baidu search box



(Sterling, 2010)

Over the most recent years Google has indeed enlarged the set of amenities made available for its users. As we learn from Baidu (2014c), Baidu today offers several categories of products and we herein describe some of them:

- Search products:
 1. Web search, it is the Baidu.com's search engine, the main service provided by the company
 2. Video search, offers users access to online video clips through hyperlinks to other Websites

3. Image search, It makes possible for users to search millions of images on the Internet organized in categories. Images are searchable by image size and by image file type
 4. News, offers links to pre-selected local, national and international news within minutes of their publication on the Web
 5. Web directory, provides users with a directory where Websites have been organized into categories
 6. Dictionary, provides users with a translation service between Chinese and English
 7. Top searches and search index, offers users a look-up on the search volume and trend for specific hot keywords and phrases.
- Social products:
 1. Post bar, it is an online community where users can share views, knowledge and experiences;
 2. Space, it is the Baidu's social network, it enables registered users to create personalized profiles, with personal blogs, photo album and certain personal information to share with their network of friends.⁷⁷
 - UGC-based knowledge products:
 1. Knows, it is a forum-like community where registered members of can post specific questions for other members to answer.
 2. Encyclopedia, it is the encyclopedia with the largest web traffic and the second by article count.
 3. Baidu Library, it is an open online platform⁷⁸ where users upload and share documents (lecture notes, exercises, sample exams, presentation slides, etc...) without having them changed or edited by the provider.
 4. Experience, is a product aimed to support users to solve practical problems. Differently from Baidu Knows is focusses on "how to do" issues without involving a wider range of problems. Furthermore users are offered to report their experience without actually being asked about

⁷⁷ Space reached 100 million member in July 2009

⁷⁸ However, it is not completely free: the user is enabled to use some services, such as the download of documents, only after he has collected a number of "Baidu points"; he can earn points by "improving" the Library through documents uploading, documents categorizing and evaluating, and so on (Wikipedia, 2014h).

Other products are:

- Location-based products and services (Maps, Travel, Group buy directory)
- Music products (Baidu music, Baidu FM, TT player)
- PC Client software (Browser, , Baidu Hi, Media player, Reader)
- Mobile related products and services (Mobile search, mobile browser, Cloud smart terminal platform, Palm, Mobile phone input method editor, contacts, netdisk, photo wonder, Wallpaper, desktop, One-click root, voice assistant)
- Products and services for developers (Developer center, Personal cloud storage, Baidu App engine, TS browsing engine, Mobile test center, ABS open platform , Baidu webmaster platform, Share)
- Other products and services (Qunar, IQiyi, Baijdo, Baidu pays. Search and Store, Application store, Ads manager, Data research center, Sky, Senior citizen search, Search for visually impaired, Translation, Missing person search site)
- Major products and services by associated or co-operative website (Leho, Leju)

It is evident from the list that several products and services are similar to what Google offers: Web-video-image search, browser service, translation box, mobile-related products and so on; yet Kaiser Kuo has a point when he remarks that some features are simply not expendable for a company willing to run a search engine, so that they eventually turn out to become common traits. On the other side, it is fair to underline that there are also some peculiar services in Baidu's offer, especially a number of specifically China-related tools. As we learn from Wikipedia (2014h), *Baidu Government Information Search*, for example, offers users a unique platform where they can find regulations, rules, notices, announcements by People's Republic of China government authorities; *Baidu Postal Code Search* helps searchers to locate postal codes of many cities within the country; *China Digital Village Encyclopedia* expectedly will include 500,000 administrative villages in China, almost 80% of the total, becoming the largest digital rural encyclopedia in China⁷⁹; *Educational Website Search* and *Baidu University Search* help students to search information about educational institutions and universities in China; *Baidu-Hexun Finance* is a platform established by the partnership between Baidu and Hexun, a financial

⁷⁹ In Baidu's view, China's rural areas have great potential in terms of electronic business revenue: the company has invested almost 5 million yuan to incentive the creation of the "Village encyclopedia" (Wikipedia, 2014h)

information Website where users can browse through economic and financial news, wealth management information and market statistics.

Moreover, as to improve its support to the professional search, Baidu has implemented *Baidu Legal Search* service, which enables professionals to search information about national and local laws and regulations, cases, legal decisions, and law dictionaries. According to Schwartz (2013), the company was also recently developing a “new image search feature for facial recognition”, which returns photos of a person according to the image uploaded by the user.⁸⁰ Furthermore, Baidu does not forget about security evaluation: by offering *Baidu Anti-Virus* and *Baidu Safety Center*, it helps users to protect themselves from virus, cyber-attacks and other virtual threatens.

Nevertheless, despite all these functionalities enriching the core search engine business, in our view the most lucrative source of revenue for Baidu certainly remains the entertainment industry. We agree with Kaiser Kuo when he stated, during the 2013 Milan convention “Meet the media guru”, that the Chinese netizen is not really interested in politics, so that every censorship issue does not really represent a concern for him: he plays, watches video, and publishes imagines of food (Zorloni, 2013). Baidu seems to have turned these words into action by establishing a wide variety of entertainment services (Wikipedia, 2014h): *Baidu Entertainment*, for example, is a platform for entertainment-related news retrieval, where users can find information about specific stars, movies, television series and music; *Games*, provide cyber-player with news and content about games; *Baidu Love* is community where individual can register to post messages to the loved one; *Baidu Youa*, is an platform where businesses can sell their products and services at Baidu-registered stores; *Baidu Movies* is a channel for watching and downloading free movies, television series, cartoons, and so on; *Discovery Networks Asia-Pacific* promotes an “educated” form of entertainment, focusing on science, technology, history, and culture; *Baidu around You* enables consumers to always choose the best place for food, shopping, recreation, hotels, fitness, beauty and traveling; and finally the *music*, from which Baidu probably still gets the best of its revenue. Baidu started with a popular music search engine named “MP3 Search” which offered users links to songs and other multimedia files; on download numbers basis it also created *Baidu 500*, listing “the most wanted” Chinese pop music. Atkins-Kruger (2011) noticed that by the time the MP3 download through Baidu has become popular and diffused, constituting a relevant part of the company’s fortune, the search engine has repeatedly dealt with the allegation of damaging intellectual property owners, although Kaiser Kuo reportedly pointed out that Baidu has never facilitated the illegal

⁸⁰ Ong (2012) sustains that the tool works well with celebrity but not with common people, and he reminds us that Google already has similar services, such as *Search By Image* and *Find My Face*, helping users to find their own pictures on the Web

music download. At this regard, several times the Chinese courts has rescued Baidu from any allegations' consequence, ruling that linking did not represent an infringement. Nonetheless, in order to clean its position the company struck numerous deals with some record companies, even on a global scale, to set up a payment system on a per-stream or per-download basis. In addition, the search engine asserted that all the links related with content provided by companies under these agreements will be removed. According to Atkins-Kruger (2011), Baidu is clearly working to "re-establish a reputation as an ethical company" around its intellectual property history in front of western commentators⁸¹.

At this point, after having roughly listed the services offered by Baidu, with its peculiarities and its points of common with its Western counterpart, it is worth to shortly describe, as well as we did with Google, how Baidu generates revenue, since most of the services herein introduced are made available for free. Similarly to Google's AdWorld and AdSense, Baidu has Tuiguang, a pay per click platform that enables advertisers to show their ads in Baidu search results pages (Wikipedia, 2014h). Maruma (2014) underlines how it is important for a business who wants to expose its brand in China to appear on Baidu search results page or to get their ad emblazoned on it. As we can see in the next paragraph, Baidu is almost monopolistic and having a business brand well displayed on its pages means a lot of visibility. The author also remarks how advertisers are understandably attracted by Baidu as they consider it the main channel for reaching the Chinese online advertising market, which itself had revenue of 110 billion Yuan (1.8 billion US dollars) in 2013. The Internet is definitely bringing changing to the way "people buy and sell products in China", so that Baidu has established a network of reseller to directly deal with the massive amount of business willing to get for their brand a space on the platform. According to Lawton (2012) these resellers' job is also to help the costumer to go through the entire process, which is different and far more complicated than Google's Adworld : first of all the procedure is entirely in Chinese; secondly, the brand must be localized, meaning that it must be adapted to the Chinese market, and this is more than just an issue of translation⁸². Among the resellers helping business to overcome the hassle due to the entry barriers, we mention *China Search International*, which has offices in Singapore, London, Sydney and Santa Monica and helps international advertisers like Quantas and British Airways navigate the complex process of catching up with and running on Baidu (Marvin, 2013).

⁸¹ The author also underlines how Google has been actively promoting the same practice with much less critics and with no need to rebuild its reputation

⁸² The author offers several tips to go through the process of adaptation to the Chinese market: offer a real-time support, such as a chat box, which is really appreciated by Chinese; polish your product but remember to maintain a low-key profile without flaunting to many leadership ambitions; present a foreign brand image, which is generally perceived as a symbol of reliability and safety; rely on the reseller to set up a payment account

Fig – 5 Baidu China Search International



(Marvin, 2013)

And *Glogou*, a Silicon Valley-based company with offices also in Boston and Beijing, which offers an English interface as a bridge to reach up for the Chinese search engine giant (Parker, 2012).

Fig – 6 Glogou English interface



(Parker, 2012)

Once these resellers have established the connection between the business and the search engine, Baidu will offer three categories of products: Paid search, Brand Zone and Display network (Maruma, 2014). “Paid search” is the same pay-per-click method already used by Google and described above: it is the easiest way for a brand to first enter the Chinese market as it allows a facilitated control of costs; “Brand Zone” is used by “well-branded companies” who want maximum exposure, so they pay a fixed price to have an “eye catching brand logo in a prominent position”, with a presentation of the company and personalized content; “Display network” allows costumers already having a pay-per-click account to get more visibility⁸³ by placing their brand in a banner on the page, which can be interactive and assume different forms, such as “text, images, flash and floating adverts”.

Fig – 7 Display Network



(Maruma, 2014)

What is really attractive for advertisers in having a Display Network account on Baidu is that the search engine targets the behavior of user in an extremely precise way. It tracks what sites they surf, what search terms they look for and what are their most recurrent post on social networks. Eventually they build profiles of users for the advertisers so that he can target directly the right audience for his product. And, as Maruma (2014) notices, perhaps the most remarkable point is “how the ads are targeted”.

⁸³ Maruma (2014) reports that with “Display Network” an ad can reach up to 5 billion impressions in total, much more than a pay per click mode

Indeed, clients can choose to target their ads in very specific ways: region, part of the day, time of the day, industry, keywords, Web traffic, specific websites, personal interests. The level of monitoring over the time and the place to display ads is a real point of strength of Baidu Display Network.

This precious role of intermediary between the massive amount of business willing to have their brand emblazoned into the Chinese market and the even huger crowd of Chinese virtual consumers, gives Baidu a power that has not always been managed in a proper way: as Atkins-Kruger (2011) asserts, Baidu has abused in the past of its attraction force towards advertisers, “polluting” the page of organic search result with too many ads, not always clearly distinguishable. It was possible to have even three pages of advertisement before meeting a real search result; today this policy has changed and, as Kaiser Kuo explains, ads are now limited to three on the page and they are clearly marked as to differentiate them to the organic search results (Atkins-Kruger, 2011). Another controversy that Baidu had to face, this time in common with Google and other search engines, is related with the allegation of “punishing organizations for not buying advertisements”. This accuse is tightly joined to the very nature of each search engine, acting like a broker of information and, as we have seen above, Google has also been said to reserve a particularly unfavorable treatment for companies colliding with its partner. Obviously Baidu’s reply is in line with its Western counterpart: every allegation is absolutely not true (Atkins-Kruger, 2011).

True or not, what we have to take into account is that, undoubtedly, search engines have a power in today’s global economy. In the next paragraph we will analyze in further details how Baidu exercise this power over the Chinese contest.

2.2.3 - Local monopoly and global expansion project

In the previous two paragraphs we have drawn a portrait of the Chinese search engine giant, putting in evidence the points of common and difference with Google; eventually we figured out how Baidu undoubtedly has a power in China, due to its dominant position: in this final section we are going a bit deeper through considering this enormous influence over the Chinese market of information, especially looking upon how much this authority is directly connected with its alleged partnership with the government.

After Google's withdrawal, Baidu's market share was around 80%. In other words, the flow of information running through the Chinese Web was channeled almost by one single search engine, which decided on behalf of everyone else what kind of information had to be displayed and what had to be hidden. We can easily imagine how this pivotal role became paramount for every business that wanted to have its activity in evidence; for the advertisers, struggling to have their brand exposed; for the government, willing to control and direct the information, according to the Great Firewall policies. Many at that time accused Baidu of carrying out an illegal form of monopoly: since Baidu was a business itself, it could take advantage from its unique position not only to privilege its partners and punishing the others, but also to hide information about its direct competitors, re-routing users towards its own Websites. The article of Yang (2011), published on the Economic Observer, is particularly exemplificative, as it reports the complaint of *Hudong*, also known as the China's Wikipedia, which witnessed a significant loss of visibility after Baidu launched its own virtual Encyclopedia. *Hudong.com*, which was founded in 2005, is the largest Chinese online encyclopedia, with more than 5 million entries, created by over 3 million users. However, Baidu in 2006 started its competition, launching *Baidu Baike*: according to the article the race has been unfair since the beginning because the search engine has abused its dominant position, manipulating search results in order to favor its own product. As a consequence, *Hudong* submitted a request for an investigation to the State Administration for Industry and Commerce, and asked the ministry to fine Baidu for 790 million yuan for illegal conduct. The company also expressed, in the words of the chairman and chief executive officer Pan Haidong, its hope that Baidu cease to be a tool for promotion of Internet companies and simply become an impartial social device. Apart from reporting this episode, the article also points out how the entire company's business model is supposedly built around the manipulation of results: by altering the page the company would favor its own Websites and its partner's. Baidu punctually denies any allegation, stating that the quality of their user's experience is vital for the future development of the site because if they can't find the

information they're looking for, Baidu will be blamed for not being able to find it. However, Yang's idea has grounded arguments. Indeed, by having its own platform more frequently attended, advertisers will be more easily lured by the prospective of having their brand exposed on there; furthermore, by interfering with the page as to favor its direct partners, the company might be expected to receive some form of benefit in the future. The consequence is a sort of cycle effect, where everybody wants to be recommended by this important, influent authority, as it possesses the kind of ultimate "Whoever I choose to recommend, they will succeed" power: if you are in, you will have your chance to be relevant, otherwise you will be likely to be gradually marginalized ; at the same time the "big authority" is keen to attract the largest number of elements within its network, as it means revenue and increasingly monopolistic power. Something that reminds the power of a gangster in an area where the public order does not exercise control, or is just allied with this alternative form of authority.

Today Baidu's market share has slightly decreased: due to the already mentioned rise of Qihoo 360, a local competitor that can play better than the American Google into the Chinese field, the strong monopolistic position of the search engine has been significantly mitigated. The most recent sources reports Baidu to be around the 58% (FlorCruz, 2014b). However its power still remain important: Yang (2011) reports the article 19 of China's anti-monopoly law, "if an enterprise has control of more than half the market share in any one sector, we can say that this enterprise has a dominant market position." The author also reports an antitrust law quoted by Xun Dasheng , the lawyer who followed the Hudong.com's investigation stating "an industry player that possesses a dominant market position cannot abuse its market dominance to eliminate or restrict competition.".

According to Wikipedia (2014) Baidu has expanded in different sectors and today it faces a competition involving a variety of players: apart from the already mentioned Google Hong Kong, Yahoo China, Qihoo 360 and Microsoft Bing for the core search engine business, Sina and Tencent QQ, Chinese giants of microblogging, social networking and instant messaging , it is worth to report about Alibaba, the main Chinese portal for online shopping, which recently looks incredibly healthy. As we learn from Rushton (2014) Alibaba, founded 15 years ago by the schoolteacher Jack Ma, owns three principal marketplaces: Taobao, China's eBay; Tmall, an equivalent of Amazon; and Juhuasuan, which killed the competition with Groupon. Last year these platforms reached 231-million customers, establishing a business \$248bn worth. The author sustains that the popularity of this online shopping platform is due to two main factors: the economic development of China still concentrated in few urban area, such as Beijing, Shanghai and Shenzhen, so that the virtual shopping has helped to satisfy the need for goods in second and third level cities and rural area in between; and the fast spreading of mobile device within the

Chinese population, since today many use the platform directly from their cellphone, tablet, iPad and so on.

According to Rushton's article (2014) Alibaba states that its portal has helped many Chinese small trades to prosper, giving them a way to enter the Internet market and have a space into the domestic economy as well as into the global one. This is particularly significant for the position of Baidu as a monopolistic channel for enterprise to access the global internet economy, especially if we consider the relevance of the number that today Alibaba presents: the company, which also allow customers to enjoy the payments service Alipay, is valued at between \$115bn and \$245bn, not far from Walmart, the world's largest retailer.

Fig – 8 Alibaba



(Rushton, 2014)

This competition coming from China is probably more up to represent a concern for Baidu than its Western counterpart: indeed, while racing with local player, Baidu may be not likely to enjoy the same protection that the government might have granted to the search engine when it was severely challenged by American companies . However, many sustains that the government is still “tilting the field in favor of Baidu” (Atkins-Kruger,2011). At this regard Kaiser Kuo reportedly explains that there is no such a thing as a communist party executives favoring Baidu, since the company operates just as the same as any typical western company. When asked if Baidu is proactive with the censorship, Kaiser Kuo answer that they just follow the law; they are dedicated to “expanding users’ information horizons”, and to provide the best channel to access information but at the same time they cannot avoid following their

country's regulation. He also points out that Google's transfer to Hong Kong allows netizens to access Google.com.hk by clicking on an image in Google.cn: it means that Google might still be able to play a role in China, saving itself "the cost of complying with censorship". Atkins-Kruger (2011) seems particularly keen with Kaiser Kuo position when he remarks that when Google left the battle field, there was no need for Baidu to be helped by the government, since the gap between the two search engine was already very large. Thus, in his view, this Baidu dominant position would not be the consequence of a supposed partnership with the government or proactivity with the censorship, but the result of the fact that Baidu was the first, well recognized search engine brand in China. Kaiser Kuo has also covered the topic at the 2013 Milan's "Meet the Guru" meeting: when asked about the relationship between his search engine and the censorship he replied that many people have an erroneous idea of the how the censor works in China: some might believe that there are two networks, one free and one censored, but this idea is far from reality (Zorloni, 2013). We agree with him when he defines the China's censorship as "adaptive": it monitors the hunger before it moves into the real world, preserving the social stability. A concept that gets along well with our idea of social censorship, explained in the first chapter.

Furthermore Baidu has recently defeated a U.S lawsuit over the allegation of suppressing political speech in China. Stempel (2014) reports of eight New York writers and video producers that accused Baidu of preventing Chinese users from seeing their articles and videos, unlike Google and Microsoft's Bing. They requested \$16 million in damages for the allegations of violating their civil and equal protection rights. However, U.S. District Judge Jesse Furman in Manhattan, concluded that the First Amendment protects Baidu's right to support systems of government other than democracy just as it protects plaintiffs' rights to advocate for democracy. The sentence of the judge is significant: despite Baidu's decision is in conflict with the American political and cultural system, it sustains the ideal that each person should decide for himself or herself the "beliefs deserving of expression", and adhere to the cultural system or set of values he or she deems more appropriate. In our view the judge conclusion can relate with the concept herein introduced of cultural affinity; moreover, it is in line with our critic to human right organizations, when they try to export a genuinely western set of value in a framework, such as the Chinese one, which is not ready, or willing, to accept it. Furthermore, as we have considered in section "2.1.1 - *The Googlocracy*", analyzing the ethical aspects that a search engine has to face, Baidu as well as Google and its competitors have to undergo a negative, not a positive, right: a search engine is not supposed to show all the information the user wants, it has just to make sure to not prevent the access to contents that the user might not be able to access from any other source. In the U.S lawsuit, the content producers were surely penalized in China by not showing up in the most

relevant local search portal, but theoretically their creative material was still retrievable from other sources available on the territory, such as Google and Bing.

Thus, despite the recent decrease of market share due to the rise of new relevant local competitors, the position of Baidu is still, if not monopolistic, very prominent in China. And probably privileged. But what about a future expansion? Would Baidu have the same power even where there is no reason to suppose that “the field is tilted in favor of Baidu”? It would surely be interesting to see how Baidu would approach a market in which it was not the first to enter, where it is not as well recognized as it is in China, where there is not the same cultural affinity. How would it adapt? And would it be so successful? Sterling (2010) quotes a Robin Li’s statement, who expresses his intentions to expand abroad in order to make Baidu a global internet power: while Google’s Schmidt aims to penetrate the Chinese internet with the encryption technology within 10 years, in the same frame of time Baidu’s Li hopes to become “a household name in 50 percent of the world”. He believes that the time in which we will see a Chinese internet company competing on a global basis is not far, and Baidu indeed may be the one to have this chance. Some might believe that one of the CEO and founder’s aim regarding a future global expansion, would be to penetrate the Indian market, as India guests the second most numerous population after China and it is just going through a period of fast digitalization; but this does not seem to be the case because, as he asserts, the majority of India speaks English and Google has already solved the problem. They would not be able to keep up with the growth (Sullivan, 2010). The prospective to compete in US seems also to be far and not really manageable, since the American market is already too large and mature. Instead, the places where Baidu will be more likely to find fortune are mostly related with young developing no-English-speaking markets: as we learn from Kaiser Kuo, the company is aiming to penetrate in Latin America, Eastern Africa and South East Asia (Zorloni, 2013).

As to confirm this tendency the company has recently tested three new versions of its search engine, respectively in Brazil, Egypt and Thailand (Kan, 2014b). The Websites, designed in the local language of each market, are still experimental and not officially available; they offer links to external services such as Facebook and YouTube, as well as local ones such as Hao123. This is the second attempt of exporting the search engine out of China, since its first establishment in Japan in 2008, but it is probably the first serious effort to build up an internationally recognized brand. According to Carlson (2012), most of these early endeavors are just remakes of Baidu services, targeting older or less sophisticated users. In his article he reports a Kaiser Kuo aware of this quite modest start, but also faithful about a future success across the developing world; he explains that Baidu is a “company that straddles two worlds” having both very sophisticated users in big cities as well as people from the very developing-world. In

other words, Baidu's users include “geeks as well as poor people” and even elderly Chinese who cannot type in pinyin⁸⁴. On the same line, Wang Menqiu, head of Baidu’s consumer products reportedly confirms how they can understand common users, very normal people. He sustains that, differently from Google, they first assume users as “lazy and naïve” so that they can design each service and product in the simplest way (Carlson, 2012).

Fifteen years after its establishment, today’s Baidu is no longer considered simply as a Google duplicate, but as an imposing internet titan, with revenues of CNY 31.944 billion at the fourth quarter of 2013 (Baidu Press Releases, 2014). As Carlson (2012) reports, many analysts express their optimism about the company, sustaining that Baidu has potential for an healthy, long-term growth, both in China and outside the country, both in search and non-search areas. The improving economic conditions coupled with the continuous Internet diffusion make a favorable field for Baidu to maintain a dominant position in its own house for a long time, with more than just a promise for any future expansion project.

⁸⁴ Official Romanization system of Chinese language, used to type Chinese characters on the screen using a standard Western computer keyboard

FINAL SUMMARY

IS IT SO EASY TO DEFEAT THE CENSORSHIP?

A - The Internet access contested era and the Great Wall culture

In the prologue of this survey we have introduced the Google's Chairman Schmidt declaration about the possibility of ending the censorship of information in China within 10 years from now, mainly resorting to the encryption technology. This declaration has offered us the chance to describe and analyze the complex Chinese framework: the massive and fast-growing market of information, as a consequence of the diffusion of the Internet; the relatively recent digitalization with the expansion of the mobile sector, running on a parallel way with the general economic progress; the censorship, playing this field with a peculiar resilience, capable to hinder content to preserve stability and at the same time allowing, and even encouraging the penetration of foreign capitals into the local market; the role of Google, the leader of the Western search engines, in its attempt never achieved to breakthrough this market to reach a dominant position, finding it eventually harder and more irksome than previously expected; Baidu, the local giant, always dominant and almost monopolistic immediately after Google's withdrawal, its alleged partnership with the government and its project of future expansion abroad; the battles of Western human right organizations, intertwined with economic and political interests, struggling to penetrate the unexpected strength of the Chinese cultural structure. The discourse developed through the pages of this survey has been our attempt to give an answer to the number of question and doubts proposed in the initial prologue: Is the moral battle genuine or tightly joined with economical stakes? Is Google encouraging a form of third millennium digital imperialism? Is Baidu helped by the government implementing a sort of Internet protectionism? Is the encryption effort really effective? Is it so easy to defeat the censorship in China? In this third and final part of the survey we will try to sum up our considerations and give our conclusions.

Today's Internet is very different from the "open commons" that it was designed to be (Lessig, 2001). The virtual no-man's land, where the information is free to run, improving the circulation of ideas, with no editor, no owner, no central intelligence to block, filter, re-direct, distribute, broadcast, today is far to happen. Internet is no more just an academic tool. Since it has become more and more embedded in people's everyday life, since individuals have started to use it for every routinely operation, such as looking for a job, paying a bill, booking a holiday, chatting or searching the loved one, all the information running through it has become more and more precious. And not only for the people who use it. Also for whoever is expected to rule it, companies or governments. Having the control of the Internet means to

exercise an enormous power, the equivalent of owning the source of a new raw material that everybody wants. The information as the new gold: the bit is for the 21st century is like the coal for the 19th or the oil for the 20th: you own the source, you make the price, you have the power. Thus, the virtual free land of information and content has begun to have its owners. The “open commons” has turned into an access contested space with its landlords. And search engines as the most relevant among them. The position of a search engine is quite controversial: while it should be acting as a social tool making order in the Internet’s “chaotic wasteland” (Grimmelmann; 2008-9), it turn out to miss a lot of information available on the web. As the info-professional researcher Mary Ellen Bates (2010) states

Search engines miss a lot of information that is on the web. They may not know about a newly added or a recently changed website. They may not dig enough into a website to find every page. They may not be able to read the textual or numeric data on the site if the information is not in a format the can process; graphics, databases, and multimedia files generally fall into this category. They have trouble keeping up with frequently updated blogs, and they usually cannot get into the social networking sites. In fact, some experts estimate that as much as 90 percent of the content of the web is invisible to search engine (p. 386).

Most importantly, it is almost impossible for them to be as neutral as required. Being the first broker of information between the “information wilderness” and the user longing for usable content, means to enact a form of blocking and filtering which may influence the general knowledge shaping. And this is especially true and relevant if we consider how expensive is to run a search engine: due to the high costs, the search market is a matter for few competitors, in which two or three among them have an almost monopolistic position (Diaz, 2008). The consequence is that these giants have a tremendous influence on the way they construct our knowledge (Hindman, 2008) and a huge power over whoever, for any reason, wants to put his name in evidence on the Web. A search engine can raise your name to the top of the result page or it can easily get rid of you making your title not accessible and up to be forgotten. And it sounds at least awkward for a tool who had been compared with an “open commons”, and which instead has turned into a resource allocator, able to promote certain social behavior, influence cultural pattern and play a significant role in the today’s integrated Internet driven economy. Many (Lessig, 2000; Sustain, 2001; Parisier, 2011; Morozov, 2011b; Hinman, 2005) have equalized this power to a censorship effort: the position is interesting since the dominant search engines have been repeatedly accused of reserving a special treatment to its partner, promoting an attitude of compliance as a consequence. Although the most relevant search engines celebrate the complete automatism of the algorithm generating the page search return as an unbiased system of impartiality, episodes in the past have clearly shown how the results are often re-touched and “adjusted” by human hand in a second

place (Van Couvering, 2007): by engineers “in the backstage”, in order to favor some company’s partners, to benefit some particularly appreciate advertisers, to avoid political problems in delicate contests, to personalize the page and stick with a certain user’s profile; by users themselves, in cases of Googlebombing, link-farming, SEO (Grimmelmann, 2008-9). However, other positions (Brenkert, 2008) sustain that all these reasons are not enough to make a censor out of a search engine because the initial selection operated by this massive information broker does not make the dismissed set of content not retrievable from other source. While a censorship filter fully prevents the access to the unaccepted information over the territory it covers, a search engine has no interest to actively struggle for deleting the content from other sources. If Microsoft’s Bing decides to show a result at the top of the list which Google has discarded, the latter should not be too bothered about it; since the information is treated as a product, Google will think that Bing has just followed a wrong marketing strategy, presenting a wrong product, a not interesting piece of information, in their best and most watched window. And that is because, differently from a censorship, the selection operated by a search engine follows commercial, and not political, criteria⁸⁵. A dominant search engine, such as Google or Baidu, offers its users a search box and a set of other expensive services for free (McFarlane, 2012) just because it forecasts a massive long-term revenue: the more the user is kept on the Website, the more the advertisers are willing to place their brand on that platform, the more the search engine is able to record the search habits of the people; It allows them building personalized profiles and becoming for the advertisers a tool for targeting users better and better, initiating a virtuous cycle capable to continuously enhance its power in today’s Internet economy and, all in all, in today’s culture and society. Not surprisingly, scholars have started to talk about *Googlocracy* (Diaz, 2008), the new government of information via Internet, the new form of authority in the Internet access contested era influencing our everyday life. It is still to figure out if it most resembles a regime or a democracy. In the Chinese contest, the five-years Google venture has been introduced as the arrival of the information democracy: on one side because the Chinese censorship is evident, undeniable, clear and more obviously filtering and blocking formation than how Google is doing in its more underhand, indirect, undetectable way, so that Google can easily play the role of the new herald of freedom and openness; on the other side because Google needed an excuse to justify its market strategy in the Chinese lucrative fast-growing digital contest, which involved compliance with the local regime and which may have been hardly digested by Western human rights organizations (Brenkert, 2008). However, in light of all the controversies and biases that a search engine

⁸⁵ However we have seen how in specific contests some political controversial results are removed in order to not hurt the collective conscience.

presents in its own nature, it is hard to conceive it as a real instrument willingly designed to open a breaches in all the censorships around the world, celebrating a new free-flow-of-information era. It is easier to perceive it as the protagonist of a substitution between a dictatorship of information, carried out on a political basis, with another form of governance, probably not so tight and not so pervasive, perhaps allowing a more unleashed flow of information, but eventually equally selective, equally powerful, equally so influent over individual' s destiny. A governance that, more than featuring the instances of a new form of democracy, seems to propose again the characteristics of a regime, this time enacted not on a political but on a commercial basis. As for it, the allegation of "third millennium Internet imperialism" (Zhaoxu, 2010) does not sound so out of the line. It is probably more unreasonable to think Google, which with its birth has marked the end of the Internet-as-an-"open commons"-era, and which most shapes the Western World's Internet as an access contested space, as the announcer of a new era of information management.

However, the China's contest is very peculiar. Chinese cyberspace has never been assumed as an open-commons; firstly because it arrived here later, when its very nature had already changed; secondly because the long tradition of information and content censorship does not let people conceive such a thing like a virtual information open commons. The information in China was already "access controlled" before the Internet shifted from "open commons" to "access contested" space. In the country a long-life censorship system still thrives, which has been adapted to the economic progress and Internet development of the most recent decades. The Great Firewall is not a bricks construction; it is not a delimitation aiming to separate "what is mine" from "what is yours", nor a fence built around something considered precious, such as land, goods, information; it is not a border defining a private property. The Great Wall is a set of population cultural features that Internet cannot so easily change, as it demonstrates a great adaptation ability. The Chinese population, thousands of years ago, erected the largest Wall ever seen throughout History, to prevent themselves from being attacked by other civilizations, perhaps even to avoid being mixed with them; today the Great Chinese Wall is a cultural heritage for human kind; it lost its ancient function and China has partially opened to the rest of the World; but somehow, something of this "protection and preservation" culture still remain into the minds of these people. The Chinese censorship system would be hardly ever understandable for a Western mind, if it does not try to "wear the cloak" of the Chinese one. A foreigner will never fully comprehend how the Chinese population has chosen to undergo such a censorship regime deciding what is good or wrong for them, unless he comes to figure out that the people themselves are actively promoting such a system . He will never conceive the idea of a government keeping its people like

children, until he realize that individuals themselves encourage the establishment of a stable authority, ruling for them, proving them with clear and identifiable regulations, “a big father” to which they can refer to have their personal path tracked in advance . As we have demonstrated within this survey, it would be a mistake to consider the Great Firewall as a barrier genuinely technological: it would be like to state that the Great Chinese Wall was just a barrier made of bricks, without considering the attitude of the population to be protected; it would be like to identify a complex phenomenon with its most superficial, solid, concretely visible face, which is, after all, the less effective. Indeed the technology would do nothing without its social counterpart, without the active self-censorship of the population, the self-restraint of individuals, the mindful or even unconscious effort to avoid some “uncomfortable” content carried out by the citizen in a first place. Without social censorship to promote this kind of attitude among the population, the technology alone would be easy to defeat: the Wall itself, would be a hurdle relatively easy to overcome, a simple barrier to climb, an obstacle with any particularly relevant impediment. The technology alone without the social censorship would make the Google’s Schmidt declaration to defeat the censorship in 10 years far more significant, as the encryption technology would represent a more serious threaten for the Chinese censorship stability; and also the position of all those intellectuals perceiving the Internet as a new tool to enhance the political debate in China would have more argument to be taken into consideration. However, in today’s China, people do not talk about politics on the Internet, at least not the vast majority. And that is not just because they are monitored, as someone might believe. It is because they accept to be monitored. The social censorship, the Golden Shield, the Green Dam, with their continuous citizen monitoring, activities tracking, habits recording exist because the citizens let it survive and even develop. After all, it is not so hard to conceive: firstly because even western businesses do decide to comply with the censorship on a daily basis in order to operate the Chinese market, letting it survive, develop and even enforcing it. The intermediary liability and the filtering and blocking delegation is ordinarily enacted by Chinese as well as Western providers. Secondly because, one way or another, we all have been through the childhood and, in some aspects, we may understand the Chinese if we imagine him like a child who would hardly ever detach from his family. Even when he grows up and he physically get far from his natural family in order to become an adult, some features of his personality never abandon the childhood stage. And that is because every authority that he has to deal with, somehow represents a surrogate of the parents: the teacher at school, the boss in the company, the government, all of these acting like a “big father” giving advice, suggestions, rules, identities, roles, constantly monitoring and controlling; as the same as when as children we carry out our ordinary practices, such us going to school, playing games and making

mistakes, with the awareness of having an eye of our parents always on us, to make us feel safe and protected; or when as adolescents we were trying to get our independence, sometimes even mocking our parents for their slowness, showing off our rule denial, boasting our illusory self-confidence, but deep insight always aware to have a warm and safe place waiting for us back at home. Interestingly, studies have confirmed how the psychological development of the Chinese teenager is very different from the Western one (Lam, 1997), and this eventually may happen to have an impact of the will-be adult. After having personally experienced the Chinese education system, we bring our opinion in line with these researches and we state that the way Chinese individuals go through their childhood and especially their adolescence may influence the personality as an adult. In China as well as in the West, the second social agency after the family is the school. However, in western countries the school is more open to informal relationship between students and it is surrounded by a variety of “non-formal” education agencies, such as sport places, after-school gathering places, bars, the “street”, where individuals are less controlled, roles and identities are not so clear and defined and where the subject absorbs many unwritten rule of social life, developing his personality in this very delicate stage of life. In China this rarely occurs. The school is in most cases the only agency for developing the individual’s social skill, and it is very different: rules and roles are clear and defined; the discipline is strong and presented as a paramount and not expendable quality; students stay at school all day long, from the early morning to the late evening, in many cases they are assigned a dormitory where they sleep; any relationship going beyond the “working partnership” student-student, student-teacher is not allowed; teachers in some cases become a substitute of the parents, exercising over students a form of control that goes further the mere scholastic profit, monitoring their private, social and extra-academic life; a great importance is given to the formal education, to the “knowledge coming from the book” and the relation “study hard- work hard- be successful” is constantly emphasized. It is evident how the Western adolescent is more involved in the pursue of a personal independence and in the construction of an individual personality, while the Chinese teenager is educated to preserve the stability of the group, with less attention for the improvement of personal social skills. The consequence is that in China, in the majority of cases, individuals get married and create a new family just few years after leaving school, re-creating a new family, a new group, following exactly their parents pattern, going through rare moments of research of independence, trying really hard to deal with it. In other cases they resort to other authorities, other groups, such as the ones already mentioned, where they can find the clear and defined rules and roles which they have been trained to follow, where they can find stability and protection. If left alone without such an authority, or if venturing in social environments or relationships where there are not

such characteristics, they suffer the “coldness” and the loneliness (Eberhard, 1971), showing a general lack of self-confidence: to the Western eye they might appear scared and confused, awkwardly shy or excessively arrogant, sometimes childish and generally not emancipated. However this behavior, that a Western superficial evaluation may label as a “social ineptitude” has its explanation: whereas the Western individual has to build up strong social skills, as they are paramount in its pursue of independence and personal ambitions, the Chinese one already finds into stable and defined groups whatever he is looking for, so that the construction of external “informal” connections loses relevance, becoming a sort of “waste of time”. The conversation, the “experience sharing” remains, and it should remain, at a very superficial level, a sort of innocent game which never goes beyond trivial and irrelevant matters, never get the point to involve the person as to endanger the stability of his formal ties. In other words, while the Western needs to be able to create informal relations, since he may happen to end up in loneliness while, far away from his family and closer friends, is tracking his personal individual path, the Chinese hardly ever abandons the stable group, so that he does not need to build proper connections out of it, or to be really able to handle them in an effective way. This sort of “incapability” to manage with balanced manners any possible “non-formal” social connections finds its trade off in the great care with which they handle their “formal” social ties. Indeed when they respect their cultural social “etiquette” following the clear rules governing their social life, they feel at home, safe and protected. In some cases they might not like this rules but it does not really matter: if they demonstrate tolerance and forbearance, they will find in the group a precious resource of company, association, advice, experience sharing. For this reason it is very hard, even for the “Westernized” Chinese to give up their cultural roots.⁸⁶ This short overview over the Chinese education is meant to make the Chinese digital behavior more understandable: by investigating into their cultural background the western eye might more easily comprehend how this population may accept to be monitored and to carry out a self-restraint, in order to not create concern for the *great-self* just to satisfy the needs of the *small self* (Hwang, 199-8). Furthermore, the cultural background also might help to understand not only why Chinese people accept to have their digital behavior monitored, but also the way this digital behavior is currently developing: the explosion of the instant message service, such as Tencent QQ or WeChat, undoubtedly the killer application of the Chinese Web, is the digital counterpart of their real world social life: the time they spend on this platform, travelling by subway or walking on the street, on the elevator or sitting at the workplace desk, is the digital version of that innocent, trivial, irrelevant

⁸⁶ Personal experiences confirm how Chinese students who enroll in Western universities and spend sometimes abroad, often end up joining the local Chinese community, without going through a real cultural mixing and language learning.

game that the social connection represents, when performed out of formal social ties. Nothing serious, just a way to distract, or in some cases to escape, from the “group discipline” that by one side means security and protection, but by the other may happen to result in boredom and lack of incitement. That is the Great Firewall culture in the digital age: a barrier that, despite Internet and the new technologies do not allow people to go to further, reproducing the traditional cultural pattern in a digital version.

And this Great Wall culture which, once again, is not just physical but is instilled inside the minds of the people themselves, is definitely the most relevant point of strength of the Chinese censorship. Firstly because, as we mentioned above, is not so easily destroyable as a wall made of bricks; secondly because that is what allows the government to carry out its censorship practices in a very resilient way: China can open its boarder, let foreign economies pass through a breach made on the physical wall; China can let them in as much as they need to improve the local economy, to boost the progress, to support the Internet expansion and the digital education, to back-up the mobile diffusion, to empower the industry and the third sector, to sustain the local currency increasing relevance, to let itself remain the important player in the worldwide integrated global economy that it has become today. All of this without modifying the main cultural root, or just touching it lightly and superficially. Sure enough, walking through a big Chinese city, today it may happen to meet Chinese people living a “western lifestyle”, enjoying entertainments, get married late, pursue individualistic ambitions; but it is rare and still quite superficial. As for what really matters, China does not want to change yet: the education system is still the one described above; foreign companies are, by now, reality in the Chinese framework and the economy has growth and it is still progressing, but there is no western leader exercising domination, especially in key sectors; Internet has spread across the country and China, with almost 600 million users, is prepared to be the biggest digital population in the World, but people still do not talk about politics, not in a really effective or revolutionary way (Liang and Lu, 2010). And regarding the immediate future we reserve some doubts about the probability to see Chinese actors struggling to change things.

By the population’s side there is no reason to bother the “great father”, the big authority, the source of protection; there is no point to do so especially after the touchable effects of the economic improvement, the general wealth it has provided for its population, or at least for the part of the population who can buy a mobile device or afford an Internet connection; there is no motivation for these individuals to use the Internet in a seriously critical way: they can still enjoy entertainment, sport, shopping and relationship platforms (Leibold, 2011); they can keep on posting pictures of food or

“selfies”⁸⁷; they can still satisfy their love for the superficial, not compromising chat, making the Internet far from the political arena that for many it was supposed to be and turning it into the “echo chamber of banality”, the new “digital opium” space, where netizens are enabled to discuss “mawkish and trivial topics” (Morozov, 2001; Fei et al, 2009; Leibold, 2011), without representing a concern for the status quo.

By the government’s side, there is probably no upside in enforcing an already extremely accelerated development, risking to confuse even more a population affected by relevant social division sharing the same environment, leaving side by side. It is worth to remark then when we talk about the China’s business growth we actually focus on a small part of this huge country, mainly composed by the 5 or 6 largest cities. The rest of the nation is still living in a rural environment, sustaining itself with agriculture and street market, touching the poverty and the lack of structure and education, suffering the urbanization. The censorship indeed keeps the population in its state of minority, even in the Internet era, but yet it is probably the best way to restraint the proliferation of criminality and violence, thriving in disadvantage background. At the moment, to have them calm and apathetic, is perhaps the only way to control this massive population. It is also the best way to improve the economy without having a concern for a possible culture shock, to open the boarder to foreign capital coming to ride the new Internet wave, without bothering to much for what new content they might introduce; it is the best way for the communist party to keep the power, maintaining the status quo still for a long time.

Finally, by firms’ side, Chinese companies have surely nothing to complain about. Foreign businesses are allowed inside the country as much as they need to improve the local economy, but still they cannot occupy leadership positions and, after all, Chinese brand, Chinese companies, Chinese businesses and even Chinese employees are always treated with regard, protected and eventually prevented from having too many problems linked to foreign operations . With the netizens buying every sort of low quality entertainment, accepting every kind of foolishness introduced as “the next big thing”, and the protection of the government as back up, companies like Baidu can easily make a fortune in their local, lucrative, numerous, fast-growing market. They are the gatekeepers of the information in China, they have the key for the people emancipation and their synergy with the government is vital for the balance of powers that guarantees the current status quo. The today’s strength of China is that nobody among the three main actors, population, government and business leaders, want to alter this balance. They

⁸⁷ A “Selfie” is a self-taken picture obtained by pointing the camera or the phone towards the user own face. It reflects a recent tendency of social network users to post on the platform different version of “me” and seems to be in line with the rise of a “me” culture, introduced by Yangzi S. and Pugsley P.(2010). The authors noticed how the phenomenon is taking place also into the Chinese contest, after the digitalization and the diffusion of the blogosphere

made up a perfect triangle, they built up a perfectly synergistic relation, everybody seems to sustain one another's needs, everyone seems to be so useful and so not expendable for each other.

We understand the reasons of Schmidt and his declaration; but it seems that Google will need more than some encrypted content to change the situation in this framework within a decade.

B – Google from the World to China, Baidu from China to the World

The main aspect that we have considered in the second part of our survey is the Google venture to China and its implications, as well as the Baidu monopolistic position in the local market and its project of expansion.

Regarding Google, the principal issue to the point in our opinion has been the interconnection between the economic imperative to penetrate the Chinese market, due to its large users capacity and to its prospective growth, and the moral repercussion that such an action involves. Google was already operating in China before 2006, as to say before the establishment of its proper Chinese version (Wilson et al, 2007); it just could not keep up with the other competitors, local or American, having their server located in China, so that they decided to make the move. It was simply unacceptable for the Western World leader not to be competitive in the fastest growing digital market on the globe, it would be hardly ever acceptable also for the variety of stakeholders that they have to satisfy. We do not believe Google had any particular moral scruple to make this drive. The company in our view had no problem to comply with the censorship, except for the extra-cost in terms of time and money that the establishment of a filtering and blocking system would have meant: setting up a list of banned words and forbidden topic, according to what their competitors had previously done⁸⁸; hire new personnel to monitor users' behavior while surfing on the platform; implement the necessary software structure for a huge censorship system exercised on a daily basis over such a massive amount of users. The company did not have also any particular interest in acting like the new "herald of freedom" going to China to open people's eyes with information and content they had never seen before: Google was not pursuing a political and social mission. Why should have they been looking for it? What was the point for Google in

⁸⁸ We remind that the local authorities did not provide any list or guidelines to help Google putting the censorship system in force (Brenkert, 2008)

going to China and find struggles with local business and authorities? No point. Google was instead trying to conquest a market that, compared with the one in which Google is the actual leader, is more lucrative and less saturated; a market where users are becoming more and more numerous, where people are still more easily impressionable, where being able to dump on someone the next naive application disguising it as the new tool that everybody should have means creating fashion and producing huge revenue. Of course, that was not so easy: firstly because Google had an imagine to defend in that part of the world where it comes from and where it exercises its leadership; secondly because the Chinese contest is peculiar, unique, and it is not the simplest to operate.

Google has a motto, “ Don’t be evil”, and a clear claimed mission: by affirming that its aim is to provide the best access to the information worldwide (Norvig, 2006), the search engine has featured its brand with an additional nuance, with a connotation that probably has supported and even enforced its dominant position. Google wants people to conceive it not only as a mere Internet search tool or as a company running a search box to earn money; they want to be perceived as a revolutionary platform with a social function; they want to address people towards the most appropriate information in a world where the globalization and the cultural-political-religious emancipation is leaving more and more people in a state of increasing uncertainty; they want to fully represent those values of freedom and openness that Internet has always intended to inspire since its very beginning; they want to personify the sharing attitude of the Silicon Valley and embody the spirit of the American constitution. Google is the leader in the Western part of the world also because it has been able to create this imagine around its brand, not just because of its impressive financial results, its far-reaching investments, its usable, useful, simple services. This is enough to make a good competitor; but in order to become the Western giant, Google needed to upholster its name with a sort of halo, to charge it with an additional signification, a further sense coming from its history and, above all, from its mission.

Thus, it is understandable how the Google’s decision to operate China’s market and, most importantly, its compliance with the local censorship system has arouse the indignation of many. Where is the halo of this faithful mate, which everyday helps me carrying out my ordinary practices? Where is this companion that is always available to assist me when I am tracking my paths? Just disappeared. The imagine has vanished, the nuance of meaning is gone. Now in front of my eyes I have just a company running an Internet search machine, which do not hesitate to please a regime to make money. No promotion of values of freedom and openness, no American constitution personification. That is in our view the main reason of the human right organization complaint in 2006, just after Google announcement to open its Chinese version: as depositaries of the public moral, Amnesty International,

Reporter without Borders, Human right Watch and so on, had to raise their voice: they could not let this portrait we all were used to so quickly fade away; they could not let it so easily pass by. In our opinion this first stage of protest is more than comprehensible. However, Google just ignored it. Some might say that Google tried to defend its image by resorting to explanations such as “ We are going in China to give people information they have never seen before, in order to open their eyes”, but we refuse to discuss it further, as this position is clearly not defensible. Since they please the censorship to stay in the market they do not open anyone’s eyes; if at all, they give their contribution to shut them further, as the less the customer thinks, the better he buys. At last resort the “moral compromise solution” (Brenkert, 2008) is the most believable, and it goes approximately this way: “ We know that by operating Chinese market we have to betray our mission, our image and our motto, but after all we are still a business, we have to make revenue and make our stakeholders as much satisfied as possible. Venturing in China now is simply unavoidable in order to keep the top position into the competition. We have to make a compromise and we are ready to pay the consequences”. And they did it: they put their moral bedrock in discussion, they took the risks and finally they paid the consequences; because the Google’s campaign in China can be, all in all, defined as a memorable defeat. As we mentioned shortly above, China is a very peculiar, unique contest. The image representing the basic values of the Internet’s free flow of information that Google has built in the West, does not work here: Chinese have never had Internet as an “open commons; the openness of the Silicon Valley and the free spirit of the American constitution does not work here either: nothing further from the Great Wall culture’s self-restraint; and even the compliance with the censorship does not work too much: it is enough to *operate* the market but not *to be the leader* in the market. In order to be the leader it is necessary to be Chinese, so that you do not need to undergo any moral compromise: your cultural affinity will not put you through any conflict between your moral principle and your business aims. As a consequence Google in China is nothing more than just a Website with a search box: no additional sense, no halo, no mission; and without all this things it has nothing new to offer, if compared with what they already have. It is just a platform offering a variety of service, surely a good one; but Baidu is also a good one and there is no reason for a Chinese user to trade a local service with a foreign one, offering exactly the same thing; actually even less if we consider that Baidu is probably more capable than Google to relate with the Chinese language, to understand Chinese users information needs, to provide them with information relevant to the everyday life practices in China. And if all of this would not be enough, we might believe that the government may play a role as a not so neutral referee in the challenge. After all, the Chinese government has always protected and enhanced the local economy, it has always sheltered its leader

against the possibility of a too strong penetration of foreign businesses; and all in all, the China's openness that has brought about the economic progress witnessed in the last 30 years is not *the end* or *the transformation* of the communism in a capitalistic model economy: it is a *reformed communism*, which has partially open the Chinese boarder to foreign capital in order to improve the local economy, without ever prevent the health of the local business and of the local leaders.

Fig – 1 Google in China



(Lee, 2014)

It is at this point that Google decides to play the “herald of freedom” card. As we have remarked shortly above in our view, the political and social mission was not the first intention of Google, otherwise it would not have complied with the censorship since the beginning; Google wanted a leadership position in the Chinese market; but since it was perceived nothing more than a search machine unable to defeat the already established local competitor, Google needed to holster its name with an additional sense, with a connotation giving it something different from Baidu, something more. And the only way “to be different” was to personify a role that Baidu could not ever have done: the role of the Western search engine coming in China from the “land of free thought” to change the perception of the people around the information and content flow. We can state that if the Google campaign in China was, all in all, a memorable defeat, this is probably the worst part. Because by choosing this conduct, Google made a double mistake: firstly it stopped to comply with the censorship. Many have considered this choice as a courageous sign of moral integrity but in our view that was completely incoherent. Since the company

had chosen the business over the moral from the beginning, they should have kept the same attitude even when the “campaign” was not going as planned, without suddenly turning into an indignant moral guardian. It was like Google had slept for two years before realizing that there was a censorship in China and they were an active part of it. It is easy to ignore the moral rebuke coming from the western watchdogs at the beginning, when the game is still all to play; it is not courageous to join them when the game is not going the way we thought and it is actually tougher than what we planned it would be. If Google had kept its compliance with the censorship, at least it would still be a part of the game; maybe it would not be the leader but it would be operating the Chinese market without being forever banned from it. But Google joined the GNI, it begun its “sensitization” and it eventually become the target of cyber-attack, which pushed the search engine out of the country. Of course we do not know if the government was behind it and we have no reason to make any allegation; but we have reasons to think that Google somehow was not welcome anymore.

And what is worst is that this effort has been carried out practically in vain. Because the second mistake that such an action implicates is that the “herald of freedom” not only is not welcome by the Chinese authority; it is also not particularly appreciate by the Chinese population itself. The Great Wall culture’s population do not want the internet to talk about political matters, or to give them more information than what they already have: the people will willingly avoid it, practicing the necessary self-restraint to keep the virtual debate to a very superficial and trivial level (Liang and Lu, 2010) . That is what guarantees stability. Give them entertainment, chat, instant messages and they will love you. Nothing more. The point is that Google has tried to do so but it has failed against the already established local Baidu; and when it has tried to differentiate the offer giving them other contents, or changing its face into a distributor of serious matters, it has failed even more, because it has touched a vibration that must not be touched in China. This is the same mistake done by all those human right organizations that continue to keep an “irate profile” against the Chinese censorship, without realizing that what is “human right” in the Western part of the World is not necessarily conceived as the same in the East (Lam, 1997). Forcing China to a change in their tradition by driving the population towards a not completely accepted Western (and American) lifestyle, can only create more hostility as a result, pushing these people even more inside their Great Wall culture. This idea seems to be particularly hard to understand for our moral guardians, or maybe they just pretend to not understand it, probably because in many cases the interest is not so genuinely social and moral: some of this association have founders, such as companies and business, which make their action economically driven: in other words, they end up insisting so much against the Chinese regime, sometimes even trying to force the change

because opening its political system means opening its economy and its market. It means more chance for everybody in the West to enter this market and get revenue from a huge, fast growing source, surely less saturated than our Western exhausted economies. It means to weaken the protectionism, enhancing for companies like Google, but also like Facebook or Twitter, the hope to have a dominant position in this massive and lucrative part of the World too.

By the way, the situation in China does not seem to be bound to change so easily. Google has recently resorted to its last card, the encryption technology, which looks like the last desperate attempt to have attention in a market that by now seems to have forgotten the Western giant. Surely for Schmidt this is not just an urgent kind of advertisement. The Google's Chairman is up to take it seriously and recent articles (Rogoway, 2014; Timberg and Lyinn Yang, 2014; Barakat, 2014, Knowles, 2014) report how he is determined to turn "the declaration" into action: Google has started to encrypt its content and it has considered to reward whoever will follow this example. But on the other side, as expected, Chinese authorities have reinforced the censorship: Google.hk, after the complete shut-down in correspondence to the last Tiananmen anniversary⁸⁹ (Fritzell 2014; Jabri, 2014; Bloomberg news, 2014), today barely works without a VPN; and even some American TV series or some platforms such as Instagram and Dropbox, so far considered innocuous, have become the target of recent crackdown (Kan, 2014c; WantChinaTimes, 2014)

The conclusion is that the government has chosen the path of a reformed communism and it does not seem to be willing to open it to a more substantial transformation. If it all, we are perhaps more likely to witness to an expansion of the Chinese economy abroad, more than a further penetration of foreign interests within the country. China has reached a good level of wealth after the last thirty years' openness and its economy looks very healthy. The government heavily sustains its private sector initiatives venturing abroad, establishing enterprises to make foreign know-how work for Chinese brands; the second generation of Chinese rich people is already reality and important Chinese names are turning into internationally recognized brands. And Baidu, with its expansion project in South east Asia, Latin America, North East Africa, is one of the most roaring among them. We still keep some reserve about its easy way to success in these different parts of the World, since there it will not find the favorable condition given by the synergistic relation with the government and the population. In the rest of the world it will not find the back-up of a Great Wall culture. But still Baidu, and China as a whole, has resources: China's economy is today the second in the world, probably the first for growth and progress,

⁸⁹ On 4th of June 2014 occurred the 25th anniversary of the events of Tiananmen Square, Beijing, 1989

and its currency, the RMB, is expected to be among the top three currencies within a very short time (Xinhua, 2012).

Fig - 2 China



(Jabri, 2014)

China might not have the “genius” of the western industry: it will probably continue to imitate things from other parts of the World and likely we will keep on talking about C2C, or “copy to China” (Atkins-Kruger, 2011), even in 20 years. We may even consider Baidu as a copy of our beloved Google, or Weibo as a copy of Twitter, or WeChat as the twin brother of WhatsApp. This may be true, but this is not the point. The point is that even if China is not able to produce original products but it is up to imitate, it has today enough financial power to do so, and to do in on a large, international global scale, making it appear as “made in China”. It has enough power to settle down in the Western part of the World, hire local personnel, make it work under Chinese management, take its know-how and finalize it for a Chinese brand.

This, and not the end of the Chinese censorship by the hand of the encryption technology, is what is likely to happen within the next, and the following, decades.

I want to thank the Luxian N 2 High School of Luxian, Sichuan Province, China for guesting me during the elaboration of this work

I want to thank my lecturer professor Roberta Bracciale, for her patience in keeping the China-Italy contact and for revising this research

I dedicate this work to Marco, Emanuela, Vania, Tina, Aldo, Roberto e Sofia, my family.

References

- ABC News (2008), *China 's Mobile Network: A Big Brother Surveillance Tool?* ABC.net, retrieved on 30th April 2014 from <http://www.abc.net.au/news/stories/2008/01/28/2147712.htm>
- Alestron (2003), *Baidu Launched News Search Engine and Pictures Search Engine*, Highbeam Business, retrieved on 25th July 2014 from <http://business.highbeam.com/436093/article-1G1-105619810/baidu-launched-news-search-engine-and-pictures-search>
- Alpert J., Hajaj N. (2008), *We Knew the Web Was Big*, Google Blog, retrieved on 14 June 2014 from <http://googleblog.blogspot.com/2008/07/we-knew-web-was-big.html>.
- Amnesty International (2006), *Undermining Freedom of Expression in China*, Amnesty International, UK, London
- Atkins-Kruger A. (2011), *6 myths Chinese search engine Baidu would rather to correct*, «Search engine land», retrieved on 5th August 2014 from <http://searchengineland.com/6-myths-chinese-search-engine-baidu-would-rather-like-to-correct-91068>
- Atkins-Kruger A. (2011b), *Behind the scene at the number one Chinese search engine*, Search Engine Land, retrieved on 26 July 2014 from <http://searchengineland.com/baidu-behind-the-scenes-at-the-number-one-chinese-search-engine-88544>
- Baidu (2014), *The Baidu story*, Baidu.com, retrieved on 23rd July 2014 from <http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-homeprofile>
- Baidu (2014b), *Investor FAQs Corporate Information*, Baidu.com, retrieved on 23rd July 2014 from http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-faq_pf#26139--Number_of_Employees
- Baidu (2014c), *Baidu products*, Baidu.com retrieved on 28th July 2014 from <http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-products>
- Baidu Press Releases (2013), *Baidu Signs Definitive Agreement to Acquire NetDragon's Subsidiary 91 Wireless*, Baidu.com, retrieved on 25 July 2014 from <http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-newsArticle&ID=1847426&highlight=>

Baidu Press Releases (2014), *Baidu Announces Fourth Quarter and Fiscal Year 2013 Results*, Baidu.com, retrieved on 1st August 1, 2014 from <http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-newsArticle&ID=1903991&highlight=>

Barakat C. (2014), *Google Considers Rewarding Websites that Use Encryption*, Social Times, retrieved on August 6, 2014, from http://socialtimes.com/google-considers-rewarding-websites-use-encryption_b146864

Barboza D. (2007), *Google Makes Another Investment in the Internet in China*, The New York Times (June 6th 2007)

Bates M.E. (2010), *"Building and Running a Successful Research Business: A Guide For the Independent Information Professional"*, Cyber Age Books, Information Today Inc., Medford, New Jersey

BBC News (2010a), *Google stops censoring search results in China*, BBC website, retrieved on 2nd June 2014 from <http://news.bbc.co.uk/2/hi/business/8581393.stm>

BBC News (2010b), *Google 'may pull out of China after Gmail cyber-attack'*, BBC website, retrieved on 2nd June 2014 from <http://news.bbc.co.uk/2/hi/8455712.stm>

BBC News (2010c), *Baidu hacked by 'Iranian cyber army'*, BBC website, retrieved on 25th July 2014 from <http://news.bbc.co.uk/2/hi/technology/8453718.stm>

BBC News (2012), *Baidu workers arrested for 'deleting posts for money'*, BBC Website, retrieved on 25th July 2014 from <http://www.bbc.com/news/technology-19149185>

BB News (2012b), *Sina and Baidu team up in China to focus on mobile*, BBC Website, retrieved on 25th July 25, 2014 from <http://www.bbc.com/news/technology-19061997>

Benditt, T. M. (1979), *Compromising Interests and Principles*, in J. R. Pennock and J. W. Chapman (eds.), *Compromise in Ethics, Law and Politics*, NOMOS XXI (New York University Press, New York),

Berry D. (2005), *The Commons*, Free Software Magazine, retrieved on 20th March 2014 from http://www.freesoftwaremagazine.com/articles/commons_as_ideas

Bimber, B. (2003). *Information and American democracy: Technology in the evolution of political Power*. New York: Cambridge University Press.

Bloomberg News (2014), *Tank Man' Googled in China as Hackers Bypass Censors*, Bloomberg, retrieved on 6th August 2014 from <http://www.bloomberg.com/news/2014-06-12/-tank-man-googled-in-china-as-hackers-bypass-censors.html>

Blumenstein R. (2014), *Schmidt Says Encryption Will Help Google Penetrate China*, «The Wall Street Journal», retrieved on 1st of March 2014 from http://blogs.wsj.com/digits/2014/01/23/schmidt-says-encryption-will-help-google-penetrate-china/?mod=e2tw&utm_source=twitterfeed&utm_medium=twitter

Bodeen C. (2010), *China Slams Clinton's Internet Speech: 'Information Imperialism*, Associated Press, retrieved on 14th May 2014 from http://www.huffingtonpost.com/2010/01/22/china-slams-clintons-inte_n_432691.html

Bowden, T. A. (1999) *Blacklists are not Censorship*, Aynrand.com, retrieved on 16th July 2014 from http://www.aynrand.org/site/News2?page=News Article&id=5242&news_iv_ctrl=1021

Brandon J. (2004), *Dropping the Bomb on Google*, Wired.com, retrieved on July 4 2014 from <http://www.wired.com/culture/lifestyle/news/2004/05/63380>

Branigan T. (2010), *Iranian' hackers paralyze Chinese search engine Baidu*, The Guardian (London), (January 10th 2010)

Brenkert G.G. (2008), *Google, Human Rights, and Moral Compromise*, Journal of Business Ethics, Springer

Brin S., Page L., (1998) *The Anatomy of a Large-Scale Hypertextual Web Search Engine* (unpublished manuscript), retrieved on 24th June 2014 from <http://infolab.stanford.edu/~backrub/google.html>.

Carpenter B. (1996), *RFC 1958 - Architectural Principles of the Internet*, IAB editor, retrieved on 16th March 2014 from <http://www.faqs.org/rfcs/rfc1958.html>

Carr D.F. (2006), *How Google Works*, Baseline, retrieved on 23rd June 2014 from <http://www.baselinemag.com/c/a/Infrastructure/How-Google-Works-1/>.

Carlson (2012), *Baidu, China's 'Google-killer,' looks to build its brand worldwide*, Global post, retrieved on 30th July 2014 from <http://www.globalpost.com/dispatch/news/regions/asia-pacific/china/120807/baidu-google-search-engine-international>

Carsten P. (2013), *Baidu says agrees to buy Netdragon's 91 Wireless for \$1.85 billion*, Reuter, retrieved on 25 July 2014 from <http://www.reuters.com/article/2013/08/14/us-baidu-91wireless-idUSBRE97D0AR20130814>

Carsten P. (2014), *In China, LinkedIn Must Beat Local Rivals, Win Over 'Loser' Workforce to Avoid Google Syndrome*, Reuter, retrieved on June 16th 2014 from www.reuters.com/.../us-linkedin-china-idUSKBN0EQ16N20140615

Clinton H. R. (2010), *Remarks on Internet Freedom*, U.S. Department of State retrieved on 1st of March from <http://www.state.gov/secretary/rm/2010/01/135519.htm>

Chang H.C., Holt G.R. (1991) *More Than Relationship: Chinese Interaction and the Principle of Kuan-Hsi*, Communication Quarterly, Vol. 39, No. 3

Chao L., Dean J. (2009), *Chinese Delay Plan for Censor Software*, Wall Street Journal retrieved on 15th of March from <http://online.wsj.com/article/SB124636491863372821.html>

Chapman L. (2013), *Qihoo 360 Joins Asian Companies Launching VC Groups in Silicon Valley*, Wall Street Journal (19th July 2013)

China Daily (2010), *Top Ten: Please Show Your ID*, retrieved on 30th April 2014 from http://www2.chinadaily.com.cn/china/2010-12/10/content_11684998.htm

China Internet Network Information Center (2011), *27th Statistical Survey Report on Internet Development in China* [in Chinese], retrieved on 30th April 2014 from <http://research.cnnic.cn/html/1295338825d2556.html>

Corporate China Alert (2013), *Will the Merger of SARFT and GAPP End The Turf War Over Control over the Internet?*, Hogan Lovells, retrieved on 2nd May 2014 from <http://www.hoganlovells.com/files/Publication/9e7448a7-ea0c-4ed1-8b70->

bc61da7648e5/Presentation/PublicationAttachment/f5997588-93f2-4bdd-bc31-ca3ce524e734/SHALIB01-%231083537.pdf

Cowan, T. (2010), *Infographic: Human knowledge, by the numbers*, The globeandmail.com, retrieved on 18 June 2014, from <http://www.theglobeandmail.com/news/national/time-to-lead/internet/human-knowledge-by-the-numbers/article1801253/page6/>

CNNIC (2011), China Internet Network Information Center, *27th Statistical Survey Report on Internet Development in China* [in Chinese], retrievable on 14th April 2014 from <http://research.cnnic.cn/html/1295338825d2556.html> latest access on 30/04/ 2014

CNNIC(2013), China Internet Network Information Center, *31st Statistical Survey Report on Internet Development in China*, , CNNIC.cn, retrieved on 30th April from <http://research.cnnic.cn/html/1295338825d2556.html>

CNNIC (2014), China Internet Network Information Center, *CNNIC Released the 33rd Statistical Report on Internet Development in China*, CNNIC.cn, retrieved on 3rd May 2014 from http://www1.cnnic.cn/AU/MediaC/rdxw/hotnews/201401/t20140117_43849.htm

Deibert R., Palfrey J., Rohozinski R., and Zittrain J. (2011), *Access Contested, Security, Identity, and Resistance in Asian Cyberspace*, , MIT Press, IDRC / 2011-01-01, Cap. 1,2,9,10

Diaz, A. (2008). *Through Google goggles: Sociopolitical bias in search engine design*. Information Science and Knowledge Management, 14(2), 11-34. doi: 10.1007/978-3-540-75829-7_2

Dickie M. (2007), *Google feels upbeat about China market*, Financial Times (London, England)

Dutton, William H.; Dopatka A.; Law G.; Nash V.(2011), *Freedom of connection, freedom of expression: the changing legal and regulatory ecology shaping the Internet*, Division for Freedom of Expression, Democracy and Peace, United Nations Educational, Scientific and Cultural Organization (UNESCO)

Eberhard, W. (1971). On three principles of Chinese social structure. In W. Eberhard (Ed.), *Moral and social values of the Chinese: Collected essays* , Taipei, Taiwan: Ch'eng-wen Publishing Company.

Elgesem, D., (2008) *Search Engines and the Public Use of Reason*. Ethics and Information Technology, 10(4)

Erixon F. and Lee-Makiyama H. (2010), *Chinese Censorship Equals Protectionism*, The Wall Street Journal, retrieved on 23rd of March from <http://online.wsj.com/article/SB10001424052748704842604574641620942668590.html>

Esarey A., Xiao Qiang (2011), *Digital Communication and Political Change in China*, International Journal of Communication 5, 298–319, University of California at Berkeley

Evans, M.P. (2007). *Analysing Google rankings through search engine optimization data*. Internet research, 17(1), 21-37. doi:10.1108/10662240710730470

Fallows D. (2005). *Search engine users: Internet searchers are confident, satisfied and trusting—but they are also unaware and naïve*. Pew Internet & American Life Project. Retrieved on 8th July 2014 from http://www.pewinternet.org/~media/Files/Reports/2005/PIP_Searchengine_users.pdf.pdf

Fallows D. (2008). *Data memorandum: Search engine use*. Pew Internet & American Life Project. Retrieved on 18th June 2014 from http://www.pewinternet.org/~media//Files/Reports/2008/PIP_Search_Aug08.pdf.pdf

Fei S., Ning W., Zhonshi G. and Liang. G. (2009) *Online Network Size, Efficacy, and Opinion Expression*. International Journal of Public Opinion Research 21 (4): 451–76.

Fong Mei (2007), *Google Builds China ties; Software firm deal is part of a move into other services*, The Wall Street Journal

Fletcher O. and McMillan R. (2010), *Baidu: Registrar 'incredibly' changed our e-mail for hacker*, Computerworld, retrieved on 25th July 2014 from http://www.computerworld.com/s/article/9162118/Baidu_Registrar_incredibly_changed_our_e_mail_f_or_hacker

FlorCruz M. (2014), *Microsoft's Bing Search Engine Accused Of Self-Censoring Chinese-Language Search Results*, International Business Times, retrieved on 2nd June 2014 from <http://www.ibtimes.com/microsofts-bing-search-engine-accused-self-censoring-chinese-language-search-results-photos-1554924>

FlorCruz M. (2014b), *China's Government Owned Search Engine 'ChinaSo' Unveiled Amid Increased Internet Censorship Concerns*, International Business Times, retrieved on 25 July 2014 from

<http://www.ibtimes.com/chinas-government-owned-search-engine-chinaso-unveiled-amid-increased-internet-censorship-concerns>

Fortunato, S. Flammini, A., Menczer, F., & Vespignani, A. (2006). *The egalitarian effect of search engines. Proceedings*, WWW2006 Conference, Edinburgh, United Kingdom. Retrieved on 7 July 2014 from <http://arxiv.org/pdf/cs.CY/0511005>

Frizell S. (2014), *Here Are 6 Huge Websites China is Censoring Right Now*, NY Post, retrieved on August 6, 2014 from <http://nypost.com/2014/06/02/china-censors-google-ahead-of-tiananmen-anniversary/>

Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity Press.

Global Times (2010), *The Real Stake in “Free Flow of Information”*, Globatimes.cn, retrieved on 19th March 2014, from <http://opinion.globaltimes.cn/editorial/2010-01/500324.html>

Google Blog. (2010) *Search: Now faster than the speed of type*. [Web log comment]. Retrieved on July 9 2014 from <http://googleblog.blogspot.com/2010/09/search-now-faster-than-speed-of-type.html>

Gosh S. (2014), *Google's Schmidt: encryption will thwart Chinese censors*, Pc Pro, retrieved from <http://www.pcpro.co.uk/news/security/386704/googles-schmidt-encryption-will-thwart-chinese-censors>

GOV.cn (2010), *The Internet in China*, GOV.cn (Chinese government's official web portal), retrieved on 30th April 2014 from http://english.gov.cn/2010-06/08/content_1622956_3.htm#

GNI (2012), *Annual report 2012*, Global Network Initiative, protecting and advancing freedom of expression and privacy in information and communication technology, retrieved on 28th May 2014 from www.globalnetworkinitiative.org

Goldman, E. (2008). *Search engine bias and the demise of search engine utopianism*. Information Science and Knowledge Management, 14(3)

Goldsmith J. and Wu T., (2006) *Who Controls the Internet?: Illusions of a Borderless world* Oxford University Press

Granick J. (2014), *Government Threats To The Internet: Commentary on the Drummond Talk*, CIS (The center for Internet and society), Stanford Law School, retrieved on 14th April 2014 from <https://cyberlaw.stanford.edu/blog/2014/02/government-threats-internet-commentary-drummond-talk>

Greenberg A. (2009), *The Man Who's Beating Google*, Forbes magazine (16th September 2009)

Grimmelman J. (2003), *Google Replies to SearchKing Lawsuit*, LawMeme, retrieved on 7 July 2014 <http://research.yale.edu/lawmeme/modules.php?name=News&file=article&sid=807>

Grimmelman J. (2008-9), *Google Dilemma*, New York Law School Review, Volume 53

Halavais A.,(2009). *Search Engine Society*. Malden, MA: Polity.

Halfon, M. S. (1989) *Integrity: A Philosophical Inquiry*, Temple University Press, Philadelphia

Hille K. (2009), *How China polices the internet*, Financial Times , retrieved on 10th June 2014, <http://www.ft.com/cms/s/2/e716cfc6-71a1-11de-a821-00144feabdc0.html>

Hinman, L. M., (2005) *Esse Est Indicato in Google: Ethical and Political Issues in Search Engines*, International Review of Information Ethics, 3: 19–25

Hinman, L.M. (2008). *Searching ethics: The role of search engines in the construction and distribution of knowledge*. In A. Spink & M. Zimmer (Eds), *Web Search: Multidisciplinary Perspectives*. Berlin: Springer-Verlag Berlin Heidelberg

Hindman M. (2008) *The Myth of Digital Democracy*. Princeton, N.J.: Princeton University Press.

Ho D.F (1979), *Psychological implications of collectivism: with special reference to the Chinese case and Maoist dialectics*. In Eckensberger L.H., Lonner W.J., Poortiga (Eds.). *Cross-cultural contributions to psychology*. Lisse, Netherlands: Swets and Zeitlinger

Hsu A. (2013), *Qihoo Launches New Search Engine Targeting Mobile Users*, Brightwire news, retrieved on 25 July 2014 from <http://bw-original-reporting.tumblr.com/post/55783815472/qihoo-launches-new-search-engine-targeting-mobile-users>

Hsu A. (2013b), *91 Wireless' App Store Has Piracy and Other Legal Issues*, Brightwire News, retrieved on 25th July 2014 from <http://bw-original-reporting.tumblr.com/post/55606959057/91-wireless-app-store-has-piracy-and-other-legal>

Huang C. (2014), *LinkedIn launches China version despite censorship fears*, Google hosted news, retrieved on 1st June 2014 from http://www.google.com/hostednews/afp/article/ALeqM5hol8H7DPomb88W00j45_jBOY-uKQ?docId=3f6ff6f8-ae8e-4858-a730-ff49615670ca&hl=en

Human Rights Watch (2006), *Race to the Bottom*, Vol. 18, No. 8(C) (August), retrieved on 12 July 2014 from <http://www.hrw.org/reports/2006/china0806/china0806webwcover.pdf>.

Hwang K.K. (1997-8), *Guanxi and Mientze: Conflict Resolution in Chinese Society*, Intercultural Communication Studies VII: 1, National Taiwan University

ICANN (2014), *Internet Corporation for Assigned Names and Numbers Website*, ICANN.org, retrieved on 17th May 2014 from <http://www.icann.org/en/about/welcome>

Information Office of the State Council Of the People's Republic of China and Afghanistan (1995), *Family Planning in China*, Embassy of the People's Republic of China in Lithuania. Section III paragraph 2

Information Warfare Monitor (2009), *Tracking Ghostnet: Investigating a Cyber-espionage Network*, retrieved on 21st May 2014 from <http://www.tracking-ghost.net>

Information Warfare Monitor and the Shadowserver Foundation (2010), *Shadows in the Cloud: Investigating Cyber Espionage 2.0*, retrieved on 21st May 2014 from <http://shadows-in-the-cloud.net>

International Telecommunication Union (2010), *ITU Estimates Two Billion People Online by End 2010*, ITU.int, retrieved on 15th of March 2014 from http://www.itu.int/net/pressoffice/press_releases/2010/39.aspx

Internet World Stats (2010), *World Internet Usage and Population Statistics*, retrieved on 8th March from <http://www.internetworldstats.com/stats.htm>

Introna, L. and H. Nissenbaum, (2000). *Shaping the Web: Why The Politics of Search Engines Matters*, The Information Society, 16(3)

Jin L. (2007) *Liwen's Digital Journey into the Computer World*. Confessions of an Aca-Fan, Henryjeckins.org, retrieved on 9th May 2014 from http://www.henryjenkins.org/2007/04/liwens_digital_journey_into_th.html

Jabri P. (2014), *China blocks Google sites ahead of Tiananmen anniversary*, BR recorder, retrieved on 6th August 2014 from <http://www.brecorder.com/world/southeast-asia/175993.html>

Kan M. (2014), *LinkedIn tackles China with a startup approach*, PC World, retrieved on 2nd June from <http://www.pcworld.com/article/2142760/linkedin-tackles-china-with-a-startup-approach.html>

Kan M. (2014b), *China's Baidu Testing Search Engines for Brazil, Egypt, Thailand*, cio.com, retrieved on 30th July 30, 2014 from http://www.cio.com/article/747147/China_39_s_Baidu_Testing_Search_Engines_for_Brazil_Egypt_Thailand

Kan M. (2014c), *China cuts access to Dropbox*, PC world, retrieved on August 6, 2014 from <http://www.pcworld.com/article/2365540/china-cuts-access-to-dropbox.html>

Kahn J. (2002), *China Seems to Refine Bid to Restrict Web Access.*, The New York Times

Karlekar D.K., Dunham J. (2012) *Press Freedom in 2011: Breakthroughs and Pushback in the Middle East*, Freedom House, retrieved on 9th March 2014 from <http://www.freedomhouse.org/report/freedom-press-2012/overview-essay>, pdf Version

Kerner S.M. (2005), *MSN China Opens its Doors*, InternetNews.com.

Knowles L. (2014), *Google search encryption expands to China*, The World, retrieved on August 6, 2014 from http://theword.co.uk/seo-manchester/google_encrypts_searches_in_china.html

King G., Pan J. and Roberts M. E. (2013) *How Censorship in China Allows Government Criticism but Silences Collective Expression*. American Political Science Review 107:1–18 retrieved from <http://j.mp/LdVXqN>.

Kristof N.D. (2006), *China's Cyberdissidents and the Yahoos at Yahoo*, The New York Times

Kuflik, A. (1979), *Morality and Compromise*, in J. R. Pennock and J. W. Chapman (eds.), *Compromise in Ethics, Law and Politics*, NOMOS XXI (New York University Press, New York)

Lam C.M. (1997), *A cultural perspective on the study of Chinese adolescent development*, Child and adolescent social work journal, Volume 14, Number 2

Lam O. (2009), *China: Blue Dam Activated*, Global Voices Advocacy, retrieved on 30th April 2014 from <http://advocacy.globalvoicesonline.org/2009/09/13/china-blue-dam-activated>

Lane F. (2007), *IDC: World Created 161 Billion Gigs of Data in 2006*, Top Tech News, Mar. 7, 2007, retrieved of 2nd March 2014
http://www.toptechnews.com/story.xhtml?story_id=01300000E3D0

Larkin E. (2007), *Google Shareholders Vote Against Anti-Censorship Proposal*, PC World

Lawton T. (2012), *Baidu pay per click: 7 tips for a successful campaign*, Search engine journal, retrieved on 29th July 2014 from <http://www.searchenginejournal.com/baidu-pay-per-click-7-tips-for-a-successful-campaign/51002/>

Leberknight C. S, Chiang M., Poor H.V., Wong F. (2012) *A Taxonomy of Internet Censorship and Anti-Censorship*, retrieved on 5th March 2014 from www.princeton.edu/~chiangm/anticensorsip.pdf

Lee J. (2014) (Photo), China state media calls for 'severe punishment' for Google, Apple, tech firms, retrieved on 6th August 2014 from <http://www.smh.com.au/it-pro/business-it/china-state-media-calls-for-severe-punishment-for-google-apple-tech-firms-20140604-zrxns.html>

Legal information institute (2014), *US constitution*, Cornell University Law School, retrieved on 30th April 2014 from <http://www.law.cornell.edu/constitution/overview>

Leibold J. (2011), *Blogging Alone: China, the Internet, and the Democratic Illusion?*, The Journal of Asian Studies, The Association for Asian Studies.

Lessig, L. (2000) *Code and Other Laws of Cyberspace*. New York: Basic Books.

Lessig L.(2001). *The future of ideas. The fate of the commons in a connected world*. Random House. New York.

Leyden J. (2009), *Chinese domain crackdown targets smut sites*, The Register, retrieved on 30th April 2014 from http://www.theregister.co.uk/2009/12/15/china_domain_regs/

Li, Y. Y. (1996), *Chinese traditional values and characteristics of Chinese health behavior* , Chinese Psychology and Therapy. Taipei: Laureate Book Co.

Liang G. (2007). *Surveying Internet Usage and its Impact in Seven Chinese Cities*. Shanghai: Center for Social Development, Chinese Academy of Social Sciences.

Liang S.M. (1967), *The essence of Chinese culture*. Tai Pei, Taiwan: Zheng Zhong Press

Liang B., Lu H. (2010), *Internet Development, Censorship, Cyber Crimes in China*, Journal of Contemporary Criminal Justice 26 (1): 103–20.

Liu J. (2007), *Google and China Telecom agree on Internet ad sales deal; Business Asia by Bloomberg*, The International Herald Tribune.

Luckerson V. (2014), *Why China Is a Nightmare for American Internet Companies*, TIME, retrieved on 1st June 2014 from <http://business.time.com/2014/02/27/why-china-is-a-nightmare-for-american-internet-companies/>

MacKinnon R. (2006), *China 's New Domain Names: Lost in Translation*, CircleID, retrieved on 17th May 2014 from http://www.circleid.com/posts/chinas_new_domain_names_lost_in_translation/#1905

Mackinnon R. (2008), *FlatterWorld and ThickerWalls*, Public Choice 134(1–2)

MacKinnon R., (2010), *Are China 's Demands for Internet ' Self Discipline ' Spreading to the West?*, McClatchy Newspapers syndicated service, retrieved on 10th June 2014 from <http://www.mcclatchydc.com/2010/01/18/82469/commentary-are-chinas-demands.html>

MacKinnon R. (2011), *Corporate Governance in the Networked Asia* in Deibert R., Palfrey J., Rohozinski R., and Zittrain J. (2011), *Access Contested, Security, Identity, and Resistance in Asian Cyberspace*, MIT Press, IDRC / 2011-01-01

Mansell L. (2012), *Baidu and Qualcom partner to offer free cloud storage*, Geek Hut, retrieved on 25 July 2014, from <http://www.geekshut.com/baidu-and-qualcomm-partner-to-offer-free-cloud-storage/6788>

Maruma M. (2014), *Understand Baidu Display Advertising in 5 Minutes*, Nanjing Marketing Group, retrieved on 29th July 29, 2014 from <http://www.nanjingmarketinggroup.com/blog/baidu/understand-baidu-display-advertising-5-minutes>

Marvin G. (2013), *Baidu resellers open US office, aims to lower barrier for US advertisers*, Search Engine Land, retrieved on 23rd July 2014 from <http://searchengineland.com/baidu-reseller-opens-us-office-aims-to-lower-barriers-us-advertisers-170265>

Mathes A. (2001), *Filler Friday: Google Bombing*, ÜBER

Ma Zhaoxu (2010), *Foreign Ministry Spokesperson Ma Zhaoxu 's Remarks on China-Related Speech by US Secretary of State on 'Internet Freedom'*, Ministry of Foreign Affairs of the People ' s Republic of China, retrieved on 1st April 2014 from <http://www.fmprc.gov.cn/eng/xwfw/s2510/t653351.htm>

McLaughlin A. (2006), *Google in China*, The Official Google Blog

Meng, B. C. (2010). *Moving beyond democratization: A thought piece on the China Internet research agenda*. International Journal of Communication, 4, 501–508.

Merriam Webster Dictionary, *Censorship*, retrieved on 29th April 2014 from <http://www.merriam-webster.com/dictionary/censorship>

Marxism. (2008). In *The Columbia Encyclopedia*. Retrieved on 2nd March 2014 from <http://www.credoreference.com/entry/columency/marxism>

McFarlane G. (2012), *How Does Google Make Its Money?*, Investopedia, retrieved on 27th June 2014 from <http://www.investopedia.com/stock-analysis/2012/what-does-google-actually-make-money-from-goog1121.aspx>

Ministry of Information Industry, State Council Information Office (2005), *Provisions on the Administration of News Information Services*, [in Chinese] Unofficial English translation retrieved on 2nd May 2014 from <http://www.cecc.gov/pages/virtualAcad/index.phpd?showsingle=24396>

Moore C.A. (1967) Introduction: The humanistic Chinese mind. In C.A. Moore(Ed.). *The Chinese mind: Essentials of Chinese philosophy and culture*. Honolulu: University of Hawaii press

Morozov E. (2011) *The Net Delusion: The Dark Side of Internet Freedom*. New York: Public Affairs

Morozov E. (2011b). "Your Own Facts" New York Times Sunday Book Review

Mozur P., Tejada C. (2013), *China's 'Wall' Hits Business, Firms Say Censorship Slows Web Connections, Curbs Access to Services*, Wall Street Journal, retrieved on 23rd March 2014 from <http://online.wsj.com/news/articles/SB10001424127887323926104578277511385052752>

Mueller M.L. (2011), *China and Global Internet Governance, A Tiger by the Tail*, in Deibert R., Palfrey J., Rohozinski R., and Zittrain J. (2011), *Access Contested, Security, Identity, and Resistance in Asian Cyberspace*, MIT Press, IDRC / 2011-01-01

Nanjing Marketing group (2012), *Pretty Graphs on Chinese Internet User Demographics, January, 2012*, retrieved on 7th March from <http://www.nanjingmarketinggroup.com/blog/chinese-internet-user-demographics-jan-2012>

Netcraft (2008), *May 2008 Web Server Survey*, retrieved on 18th June 2014 from http://news.netcraft.com/archives/2008/05/06/may_2008_web_server_survey.html.

Norvig P. (2006), *The Ethics and Politics of Search Engines*, panel co-sponsored by the Santa Clara University Markkula Center for Applied Ethics and the Santa Clara University Center for Science, Technology, and Society

Ong J. (2012), *China's Baidu is testing a facial recognition image search engine*, The Next Web, retrieved on 28th July 2014 from <http://thenextweb.com/asia/2012/12/31/chinas-baidu-tests-facial-recognition-image-search-engine/>

OpenNet Initiative (2009), *China 's Green Dam: The Implications of Government Control Encroaching on the Home PC*, retrieved on 30th April 2014 from http://opennet.net/sites/opennet.net/files/GreenDam_bulletin.pdf

OpenNet Initiative (2011), *Country Profile: China, Access Contested*, retrieved on 15th April 2014 from <http://access.opennet.net/wp-content/uploads/2011/12/accesscontested-china.pdf>

Orlikowski, W. J., & Gash, D. C. (1994). *Technological frames: Making sense of information technology in organizations*. ACM Transactions on Information Systems, 12(2),

Osbourne C. (2013), *Chinese cyberattack on Google exposed spy data: US officials*, Zero Day Net, retrieved on 22nd May 2014 from <http://www.zdnet.com/chinese-cyberattack-on-google-exposed-spy-data-us-officials-7000015653/>

Ottinger L. (2014), *LinkedIn goes boldly to China, where Google, Facebook and Twitter have failed*, Peninsula Press, retrieved on 2nd June 2014 from <http://peninsulapress.com/2014/04/14/linkedin-china/>

Pan P.P. (2005), *Chinese crackdown on student web site*, Washington Post Foreign Service retrieved on 1st May 2014 from <http://www.washingtonpost.com/wp-dyn/articles/A61334-2005Mar23.html>

Pariser, E. (2011) *The Filter Bubble: What the Internet is Hiding from You*. New York: Penguin

Parker P. (2012), *Glogou launches products to help US company to do search marketing in China*, Search engine Land, retrieved on 29th July 29, 2014 from <http://searchengineland.com/glogou-launches-products-to-help-us-companies-do-search-marketing-in-china-141056>

Parr, M. (2006), *Google's China Problem and China's Google Problem*, New York Times Magazine

PEN American Center (2007) *House Foreign Affairs Committee Unanimously Passes Global Online Freedom Act* (October 23, 2007).

People ' s Daily (2006) *China Adds Top-Level Domain Names*, retrieved on 17th May 2014 from http://english.people.com.cn/200602/28/eng20060228_246712.html

People ' s Daily (2008), *Highlights of China ' s Institutional Restructuring Plan*, retrieved on 1st May 2014 from <http://english.peopledaily.com.cn/90001/90776/90785/6374104.html>

People's Daily (2010), *China's top search engine Baidu hacked*, retrieved on 25th July 2014 from <http://english.peopledaily.com.cn/90001/90778/90860/6866089.html>

Pew Research Center. (2008). *The 2008 Pew global attitudes survey in China: The Chinese celebrate their roaring economy, as they struggle with its costs*, retrieved on May 8th 2014 from <http://pewresearch.org/pubs/906/china-economy>

Philipp J. (2014), *LinkedIn Self-Censorship Shows Cost of Doing Business in China*, Epoch Times, retrieved on 10th June 2014 from <http://www.theepochtimes.com/n3/717960-linked-in-self-censorship-shows-cost-of-doing-business-in-china/>

Pievatolo M.C. (2007-2008), *L'età della stampa e l'industrializzazione dell'informazione*, all'interno di *La comunicazione del sapere, la questione del diritto d'autore*, Bollettino telematico di filosofia politica retrieved on 10th June 2014 from <http://btftp.sp.unipi.it/dida/fpa/ar01s02.html>

Poon T. (2007), *Google to Open Research Center in Shanghai*, The Wall Street Journal

Powell S. and Galligan J. (2010), *Ethical Asia: Corporate Good Guys? It ' s All about Labour and Environment*, CLSA Asia-Pacific Markets, retrieved on 11th June 2014 from <https://www.clsa.com/assets/files/reports/CLSA-Ethical-Asia.pdf>

Press Release (2008), *comScore, comScore Releases May 2008 U.S. Search Engine Rankings* retrieved on 23rd June 2014 from <http://www.comscore.com/press/release.asp?press=2275>

Qihoo 360 (2014), *About Qihoo 360*, 360 SAFE GLOBAL Website, retrieved on 25th July 2014 from <http://360safe.com/about.html>

Rand, A. (1964), *The Virtue of Selfishness*, The New American Library, Inc, New York

Reidenberg J. (2002), *Yahoo and Democracy on the Internet*, 43 Jurimetrics J. 261.

Reporters Without Borders, (2006) *Google Launches Censored Version of Its Search-Engine*, retrieved on 12th July 2014 from [www.rsf.org/ print.php3?id_article=16262](http://www.rsf.org/print.php3?id_article=16262)

Reporters Without Borders (2010a), *Web 2.0 Versus Control 2.0*, retrieved on 30th April 2014 from <http://en.rsf.org/web-2-0-versus-control-2-0-18-03-2010,36697>

Reporters Without Borders (2010b), *Woman Sentenced to a Year 's Forced Labor over One Ironic Tweet*, retrieved on 1st May 2014 from <http://en.rsf.org/china-woman-sentenced-to-a-year-s-forced-24-11-2010,38886.html>

Reporters Without Boarders (2012), *Internet enemies report 2012*, retrieved on 1st May 2014 from <https://en.rsf.org/report-china,57.html>

Reuters (2011), *Baidu says Microsoft's Bing to power some of its English search*, Reuters Edition, retrieved on 31st May 2014 from <http://www.reuters.com/article/2011/07/04/baidu-microsoft-idUSB9E7H900V20110704>

Reuters and Gosh S. (2013), *Google's Schmidt: censorship will "end in a decade"*, Pc Pro, retrieved from <http://www.pcpro.co.uk/news/security/385528/google-s-schmidt-censorship-will-end-in-a-decade>

Roberts H., Zuckerman E. and John Palfrey (2009), *2007 Circumvention Landscape Report: Methods, Uses, and Tools*, The Berkman Center for Internet & Society at Harvard University, retrieved on 9th June 2014 from http://cyber.law.harvard.edu/sites/cyber.law.harvard.edu/files/2007_Circumvention_Landscape.pdf

Robertson M., Yu M. (2008), *In Chinese Internet Rumble, User Rights Not the Focus*, The Epoch Times, retrieved on 30th April 2014 from <http://www.theepochtimes.com/n2/china-news/chinese-internet-rumble-user-rights-not-focus-45580.html>

Rocha da Silva P. (2006). *La politique de l'enfant unique en République populaire de Chine [The politics of one child in the People's Republic of China]*. University of Geneva

Rogoway M. (2014), *PSU professor wins surprise, \$100,000 grant from Google's Eric Schmidt to help overcome online censorship*, The Oregonian, retrieved on 6th August 2014 from http://www.oregonlive.com/silicon-forest/index.ssf/2014/03/psu_professor_wins_surprise_10.html

Rose M.(1993), *Authors and Owners. The Invention of Copyright*, Cambridge (Mass.), Harvard U.P.

Ruggie J. (2008), *Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development — Protect, Respect and Remedy: A Framework for Business and Human Rights* , United Nations Human Rights Council retrieved on 11th June 2014 from <http://www.reports-and-materials.org/Ruggie-report-7-Apr-2008.pdf>.

Rushton K. (2014), *THE CHATTER: Will China's Alibaba prove to have the magic touch?*, Business Times, retrieved on 30th July 2014, from <http://www.bdlive.co.za/business-times/2014/05/11/the-chatter-will-chinas-alibaba-prove-to-have-the-magic-touch>

Santoro, M. A. (1998), *Engagement with Integrity: What We Should Expect Multinational Firms to do About Human Rights in China*, Business & the Contemporary World X(1), 25–54.

Schmidt E.E., Cohen J.(2014). *The Future of Internet Freedom*, New York Times, (11th March 2014)

Schrage, E. (2006) '*Testimony of Google Inc. Before the Subcommittee on Asia and the Pacific, and the Subcommittee on Africa, Global Human Rights, and International Operations*', Googleblog.com, retrieved on 12th July 2014 <http://googleblog.blogspot.com/2006/02/testimony-internet-in-china.html>

Schwartz B. (2013), *Baidu Testing Facial Recognition Search; Similar To Google's "Search By Image"*, Search engine Land, retrieved on 28th July 2014 from <http://searchengineland.com/baidu-testing-a-facial-recognition-search-similar-to-googles-search-by-image-144169>

Sewell, W. H. (1992). *A theory of structure: Duality, agency and transformation*. American Journal of Sociology, 98(1)

Searls D., Wainberger D. (2003), *World of Ends, What the Internet Is and How to Stop Mistaking It for Something Else*, retrieved on 9th March from <http://worldofends.com/>

Spinello, R. A. (2012). *Google in China: Corporate Responsibility on a Censored Internet*. In *Investigating Cyber Law and Cyber Ethics: Issues, Impacts, Practices*. Eds. A. Dudley, J. Braman, and G. Vincenti, Hershey, PA: IGI Global

Spink, A., & Zimmer, M., (Eds.). (2008). *Web search: Multidisciplinary perspectives*. Berlin: Springer-Verlag Berlin Heidelberg

State Council (2000), *Measures for Managing Internet Information Services*, Article 14, 15, 20 [in Chinese], Unofficial English translation retrieved on 30th April 2014 from http://www.chinaculture.org/gb/en_aboutchina/2003-09/24/content_23369.htm

Statista (2014), *Population growth in China from 2002 to 2012*, retrieved on 30th April 2014 from <http://www.statista.com/statistics/270129/population-growth-in-china/>

Stempel J. (2014), *China's Baidu defeats U.S. lawsuit over censored search results*, Reuters, retrieved on 30th July 2014 from <http://www.reuters.com/article/2014/03/28/us-baidu-china-lawsuit-idUSBREA2Q1VS20140328>

Sterling G. (2010), *How Google Could Have Bought Baidu And Other Fascinating Details About China's Largest Search Engine*, Search Engine Land, retrieved on 23rd July 2014 from <http://searchengineland.com/how-google-could-have-bought-baidu-and-other-fascinating-details-about-chinas-largest-search-engine-55579>

Sterling G. (2011), *Report: Bing To Power Baidu English Results*, Search Engine Land, retrieved on 31st May 2014 from <http://searchengineland.com/report-bing-to-power-baidu-english-results-84164>

Sullivan D. (2010), *Live Blogging Baidu CEO Robin Li At Web 2.0 Summit*, Search engine land, retrieved on 28th July 2014 from <http://searchengineland.com/live-blogging-baidu-ceo-robin-li-web-20-summit-56061>

Sullivan D. (2013), *Google still World's most popular search engine by far, but share of unique searchers dips slightly*, Search engine land, retrieved on 28th July from <http://searchengineland.com/google-worlds-most-popular-search-engine-148089>

Sunstein, C. (2001) *Republic.com*. Princeton, NJ: Princeton University Press

Telegeography (2010), *Broadband Provider Rankings: The Rise and Rise of China*, retrieved on 1st May 2014 from http://www.telegeography.com/cu/article.php?article_id=33858

Thompson C. (2006), *Google's China Problem (And China's Google Problem)*, The New York Times Magazine

Timberg G. and Linn Yang J. (2014), *Google takes aim at Chinese censors and NSA*, Whashington Post, retrieved on 6th August 2014 from http://www.philly.com/philly/business/technology/20140313_Google_takes_aim_at_Chinese_censors_and_NSA.html#d4odSvGO4ZD8CLu2.99

UNHCHR (2004), *Embedding Human Rights in Business Practice*, UN Global Compact/Office of the United Nations High Commissioner for Human Rights, retrieved on 28th July 2014 from <http://www.ohchr.org/EN/Pages/WelcomePage.aspx>

Van Couvering, E. (2004). *New media? A political economy of search engines*. Paper presented at the International Association of Media and Communications Researchers, Porto Alegre, Brazil.

Van Couvering E. (2007), *Is Relevance Relevant? Market, Science, and War: Discourses of Search Engine Quality*, Journal of Computer-Mediated Communication, International Communication Association

Wales A., Gorman M., Hope D. (2010), *Big Business, Big Responsibilities: From Villains to Visionaries: How Companies are Tackling the World's Greatest Challenges*, Palgrave Macmillan

Wallis C. (2011). *New Media Practices in China: Youth Patterns, Processes, and Politics*. International Journal of Communication 5: 406–36.

Wen, C. (1988). *The kuan-hsi of the Chinese* , In K.-s. Yang (Ed.), *The thinking and behavior of Chinese* . Taipei: Yuan-liou Publishing Company

Whyte, M. (2010). *Myth of the social volcano: Perceptions of inequality and distributive injustice in contemporary China*. Stanford, CA: Stanford University Press.

Wilson K., , and Yanelly R., Harvey D. under the supervision of Professor Wayne Norman (edited by Professor Chris MacDonald (2007), *GOOGLE IN CHINA “the great firewall”*, Business Ethics, The Kenan Institute for Ethics at Duke University

Winston S. (2011), *“Don’t be evil” : Uncovering the Implications of Google Search*, Dalhousie Journal of Interdisciplinary Management , Volume 7

WantChinaTimes (2014), *Instagram becomes latest victim of Chinese censorship*, Want China Times, retrieved on 6th August 2014 from <http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1101&MainCatID=11&id=20140713000055>

Wikipedia(2014a), the free encyclopedia, *Deng Xiaoping*, retrieved on 2nd April 2014 from http://en.wikipedia.org/wiki/Deng_Xiaoping#Economic_reforms

Wikipedia(2014b), the free encyclopedia, *Four Modernizations*, retrieved on 2nd April 2014from http://en.wikipedia.org/wiki/Four_Modernizations

Wikipedia(2014c), the free encyclopedia, *Internet Censorship*, retrieved on 3rd April 2014 from http://en.wikipedia.org/wiki/Internet_censorship#cite_note-NYT-20140311-1

Wikipedia(2014d), the free encyclopedia, *Proxi Server*, retrieved on 9th April 2014 from http://en.wikipedia.org/wiki/Proxy_server

Wikipedia, the free encyclopedia (2014e), *Sina Corp*, retrieved on 1st May 2014 from http://en.wikipedia.org/wiki/Sina_Corp

Wikipedia, the free encyclopedia (2014f), *Encryption*, retrieved the 1st of May from <http://en.wikipedia.org/wiki/Encryption>

Wikipedia, the free encyclopedia (2014g), *Qihoo*, retrieved on 25th July 2014 from <http://en.wikipedia.org/wiki/Qihoo>

Wikipedia, the free encyclopedia (2014h), *Baidu*, retrieved on 25th July 2014 from http://en.wikipedia.org/wiki/Baidu#cite_note-36

Xiaofeng G, (2007), *Most people free to have more child*, China Daily, retrieved 25th July from http://www.chinadaily.com.cn/china/2007-07/11/content_5432238.htm latest access 05/05/2014

Xinhua (2012), *RMB ready for currency leadership?*, China Daily, retrieved on 6th August 2014 from http://www.chinadaily.com.cn/business/2012-10/26/content_15850480.htm

Yang G. (2009) *The Power of the Internet in China: Citizen Activism Online*. New York: Columbia University Press.

Yang Y. (2011) translated by Guo Wei and edited by Paul Pennay, *China's "Wikipedia" Submits Complaint about Baidu*, Economic Observer, retrieved on 30th July 2014 from <http://www.eeo.com.cn/ens/Industry/2011/03/04/195125.shtm>

Yangzi S. and Pugsley P.(2010) *The Rise of a 'Me Culture' in Post-socialist China: Youth Individualism and Identity Creation in the Chinese Blogosphere*. International Communications Gazette 72(3): 287–306.

Yanhong L. (1998), *Toward a Qualitative Search Engine*, IEEE Internet Computing, vol. 2, no. 4

Zeller T. (2012), *Web Firms Questioned on Dealings in China*, The New York Times (11 October 2012)

Zhaoxu Ma (2010), *Foreign Ministry Spokesperson Ma Zhaoxu 's Remarks on China-Related Speech by US Secretary of State on ' Internet*

Zheng Y. (2007) *Technological Empowerment: The Internet, State and Society in China*. Stanford: Stanford University Press.

Zorloni L. (2013), *Baidu, il motore di ricerca cinese che sfida Google*, Quotidiano.net, retrieved on 28th July 2014 from <http://qn.quotidiano.net/esteri/2013/06/03/898855-google-cinese-baidu.shtml>