

# Impact of the Internet and Political Development in China

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Google made a surprising announcement January 12, 2010 that it was reviewing its operations in China. The possibilities of allowing uncensored search results on its google.cn search engine or leaving the country were reportedly on the table in Google's negotiations with the Chinese government.<sup>1</sup> A mutually satisfactory agreement between Google and the Chinese government could not be reached. Google redirected its simplified Chinese language products from mainland China to Hong Kong in March 2010.<sup>2</sup> Media coverage of this saga brought global attention to the tension Internet and communication technology (ICT) companies face in participating in the Chinese Internet market. The case of Google provides an opportunity to re-examine the Internet and its control in China.

There is a tension between the economic dimension of the Internet and its political or social dimension. In China, this is evident in the need to expand the reach of the Internet in order to be globally connected and competitive, and the potentially socially destabilizing effects of a freer flow of information. The idea that the Internet is inherently decentralized and democratic has been used to justify U.S. ICT companies' acquiescence to Chinese censorship. Despite the censored nature of the search results companies such as Google provided, it was thought that the benefits of providing another avenue to access information, albeit censored, outweighed the costs.<sup>3</sup> However, this assumption may be called into question when the primary issues defining the politics of the Internet in China are considered.

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<sup>1</sup> Andrew Jacobs and Miguel Helft, "Google, Citing Attack, Threatens to Exit China," *New York Times*, January 12, 2010. Available at: <http://www.nytimes.com/2010/01/13/world/asia/13beijing.html>.

<sup>2</sup> David Drummond, "A new approach to China: an update," *The Official Google Blog*, March 22, 2010, Available at: <http://googleblog.blogspot.com/2010/03/new-approach-to-china-update.html>.

<sup>3</sup> On the decision to operate in China: "We ultimately reached our decision by asking ourselves...how can we provide the greatest access to information to the greatest number of people," Andrew McLaughlin, "Google in China," *The Official Google Blog*, January 27, 2006. Available at: <http://googleblog.blogspot.com/2006/01/google-in-china.html>.

This paper examines the dilemma China faces in maximizing the commercial benefits of the Internet while minimizing its political fallout. I argue that China, thus far, has successfully maintained the balance between economic benefits and political costs. U.S. ICT companies face a related dilemma in their participation in the Chinese Internet market. Censorship is counterintuitive to Internet culture. However, many ICT companies participate in the Chinese market. For Google and all other ICT companies, this means adhering to the Chinese government's censorship policies. American companies have accepted Chinese government restrictions and the social and political cost of that censorship in order to reap commercial benefits. Chinese Internet usage has grown rapidly, largely to the benefit of both parties. The backlash against Google's participation in China is a result of the tensions between reaping commercial benefits while censoring search results.<sup>4</sup> The case of Google shows the difficulty China has in maintaining this balancing act and has thrown the dilemma into the open. In its exit, Google emphasized human rights and censorship, appearing to rebalance its calculation against commercial considerations.

This study will evaluate the media surrounding Google's departure from China and the reasons for its effective exit from the mainland China search market. The primary factors influencing Google's decision to exit include: concern about betraying its motto, "do no evil," or censorship and human rights reasons; commercial disappointment in the Chinese market; and commercial espionage, the cyber attack against Google's servers. This third factor provided the tipping point in Google's decision to leave and demonstrates the presence of commercial considerations. I will examine why China opened to the Internet, who entered the Chinese

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<sup>4</sup> For example: Jonathan Watts, "Backlash as Google shores up great firewall of China," *The Guardian*, January 25, 2006. Available at: <http://www.guardian.co.uk/technology/2006/jan/25/news.citynews>.

market and under what conditions, and why Google has left. Finally, the effect of this case on China's drive to become a major 21<sup>st</sup> century power will be considered.

The research question guiding this study is: Why has people's increased access to the Internet in China not resulted in political liberalization? Despite theories predicting political change in China due to the spread of the Internet, I will show that more complexities exist in the relationship between Internet use and the Chinese system of government. Google may have framed its decision to enter China under this framework. However, the increased access to information Google and other companies provided has not resulted in significant political change. A deterministic and human rights-focused viewpoint does not explain the nature of the Chinese Internet. The Internet and actions of ICT companies must be seen in the Chinese context. Technology exists within social and political contexts; the Internet alone will not change China's political system. Google's exit from China demonstrates the explanatory power of strategic and commercial considerations for the impact of the Internet in China, and not human rights. Relevant issues surrounding the primary impact of the Internet include: economic development, regime legitimacy and cyber attacks.

Internet control has primarily been viewed as a human rights issue.<sup>5</sup> In addition to the attention paid to Internet censorship as a human rights issue at Congressional hearings, the U.S. State Department highlights Internet censorship as a major human rights concern in its annual Human Rights reports.<sup>6</sup> However, Google's announcement and the immediate political reaction

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<sup>5</sup> See for example: Peter Brophy and Edward Halpin, "Through the Net to Freedom: Information, the Internet and Human Rights," *Journal of Information Science* 25, no. 5 (1999):351-364; Steven Hick, Edward F. Halpin and Eric Hoskins, *Human Rights and the Internet* (New York: St. Martin's Press, 2000); James Stanyer and Scott Davidson, "The Internet and the Visibility of Oppression in Non-democratic States: The Online Exposure of Human Rights Violations and Other Repressive Acts," prepared for the 2009 Annual Meeting of the International Communication Association Conference, Chicago, IL, May 20-25, 2009.

<sup>6</sup> Recent examples include: Sharon Hon, testimony, "Google and Internet Control in China: A Nexus Between Human Rights and Trade?" hearing, Congressional-Executive Commission on China, March 24, 2010; U.S.

demonstrate that Internet control has wider political and economic considerations for both U.S. ICT companies and the Chinese government, as discussed in greater detail below.<sup>7</sup>

The relationship between the Internet and politics in the People's Republic of China has interested scholars since access to the Internet began to spread in China in the early 1990s. Since the Internet offers access to information from a variety of sources, the primary characterizations of Internet use in China focus on its potential as a tool of democratization.<sup>8</sup> Chinese practices of media censorship and propaganda have made Internet control part of the human rights discourse. However, I argue Chinese citizens' increased access to the Internet has not resulted in significant liberalization of the Chinese political system. Despite changes in state-society relations via the online sphere, the state has successfully navigated the technology to further its own goals. Therefore, an examination of the Internet in China must move beyond analysis focused on human rights and political liberalization to wider economic and strategic issues. Through a review of the existing literature, I will demonstrate the necessity of re-examining the impact of the Internet in China, particularly in the context of U.S. ICT companies' participation in the Chinese Internet market. An understanding of modernization theory and assumptions about the nature of technology can be used to shed light on the existing literature on the Internet and China.

### Modernization Theory and the Internet

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Department of State. "2009 Human Rights Report: Introduction," *2009 Country Reports on Human Rights Practices*, United States Department of State, Bureau of Democracy, Human Rights and Labor. March 11, 2010. Available at: <http://www.state.gov/g/drl/rls/hrrpt/2009/frontmatter/135936.htm>.

<sup>7</sup>See for example: "Don't Become a Tool of Hegemony, Google!" *People's Daily*, January 27, 2010; Cecilia Kang, "Hillary Clinton Calls for Web Freedom, Demands China Investigate Google Attack," *Washington Post*, January 22, 2010; Steven Mufson, "Chinese Government Sharply Criticizes Clinton's Speech Urging Internet Freedom," *Washington Post*, January 23, 2010.

<sup>8</sup>See for example: Geoffrey Taubman, "A Not-So World Wide Web: The Internet, China, and the Challenges to Nondemocratic Rule," *Political Communication* 15, no. 2 (1998): 255-272; Tamara Renee Shie, "The Tangled Web: Does the Internet Offer Promise or Peril for the Chinese Communist Party?" *Journal of Contemporary China* 13, no. 40 (August 2004): 523-540; Li Haibo, "Sprouting Online Democracy," *Beijing Review* 48, no. 34 (August 25, 2005); John L. Thornton, "Long Time Coming: The Prospects for Democracy in China," *Foreign Affairs* 87, no. 1 (January/February 2008):2-22.

Modernization theory appears to underpin classic predictions of the impact of the Internet in China. The connection made between the Internet and democratization can be traced to modernization theory's exploration of the connection between economic development and political change. Modernization theory, characterized by Seymour Martin Lipset's work, argues that economic development and political development are linked. Therefore, the wealthier a nation is, the more likely it is to sustain democracy.<sup>9</sup> Economic development causes a series of social changes leading to democratization. According to Lipset, economic development, as a complex characteristic of a social system, is comprised of processes such as industrialization, wealth, urbanization and education.<sup>10</sup> A useful clarification of the importance of economic prosperity to democracy is offered by Lipset and Lakin. They specify that the main impact of capitalist economic development is the "dispersion of skills, power and resources away from a single center toward new groups."<sup>11</sup> This changes the relationship between state and society. Rueshemeyer et al. argue that the changing class structure as a result of capitalism is the key factor linking economic development and democracy.<sup>12</sup>

Social change as a result of economic development is emphasized by Inglehart and Welzel as the crucial factor in the relationship between economic development and political change. They use global surveys of mass values and attitudes to demonstrate the shift in worldviews as that occurs in societies as a result of development. Inglehart and Welzel argue democracy will most likely emerge and survive with the existence of certain social and cultural

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<sup>9</sup> Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *The American Political Science Review* 53, no. 1 (March 1959), 69-105.

<sup>10</sup> *Ibid.*, 71.

<sup>11</sup> Seymour Martin Lipset and Jason M. Lakin, *The Democratic Century* (University of Oklahoma Press, 2004), 232-232.

<sup>12</sup> Dietrich Rueschemeyer, Evelyne Huber Stephens and John D. Stephens, *Capitalist Development and Democracy*, (Chicago: University of Chicago Press, 1993).

conditions. The process of modernization, described as a syndrome of the social changes linked to industrialization, advances the emergence of the conditions linked to democracy.

The transformation of social life brings mass participation in politics and makes the establishment of democratic political institutions increasingly likely. Inglehart and Welzel concede the limitations of early, simplified accounts of modernization theory but argue “the central premise appears to be correct: economic development does tend to bring about important, roughly predictable changes in society, culture, and politics.”<sup>13</sup>

Inglehart and Welzel’s concept of modernization theory sheds light on the impact of ongoing cultural changes. The new concept of modernization recognizes that the process is not linear, social and cultural change is path dependent, modernization is not westernization, and it does not automatically lead to democracy. The shift from thinking merely about survival to valuing attributes of self-expression occurs through the rise of a post-industrial society. The value placed on attributes such as freedom of expression, participation in decision-making and tolerance of minorities is crucial to democracy. This explains how economic growth, which takes societies from agrarian to post-industrial, leads to democratization. Though Inglehart and Welzel argue the values and beliefs of a given society reflect its level of economic development, they acknowledge that a society’s cultural heritage continues to shape its values. Despite this ongoing cultural influence, they argue economic development still results in changes that make democratization increasingly likely.<sup>14</sup>

Similarly to economic development, the spread of the Internet is often discussed as linked to democratization. Taubman explored the “built-in incompatibility between nondemocratic rule

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<sup>13</sup> Ronald Inglehart and Christian Welzel, “How Development Leads to Democracy: What We Know About Modernization,” *Foreign Affairs* (March/April 2009).

<sup>14</sup> Ibid.

and the Internet.”<sup>15</sup> Nye and Owens wrote about the impact of information technology on the centralized authority of communist and authoritarian regimes. They argued that information “ineluctably democratizes societies.”<sup>16</sup> The connection between the Internet and democratization in cases around the world is explicitly explored by Ferdinand.<sup>17</sup>

This literature reflects a technological determinism that argues a society’s technology drives the development of its social structures and values. Technological determinism offers a technology-led theory of social change by viewing the development and diffusion of technology as developing independently of society but producing societal effects.<sup>18</sup> Instead, theories about the socially constructed nature of technology argue for understanding how a technology is embedded in its social context in order to understand the ways a technology is used.<sup>19</sup> The following discussion of basic Internet history and technology illuminates the source of common assumptions about the impact of the Internet.

The Internet was designed to be difficult to control by a centralized authority due to the specific economic, political and social environment in which it was created.<sup>20</sup> The first network technology was born during the Cold War as a solution to the problem of building a reliable command and control system that would survive a nuclear strike. Instead of a hierarchical system, the network had built-in redundancy so there were many possible paths for a packet of data to take to its destination. This packet switching method was adopted as the foundation architecture

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<sup>15</sup> Geoffrey Taubman, “A Not-So World Wide Web: The Internet, China, and the Challenges to Nondemocratic Rule,” *Political Communication* 15 (1998): 256.

<sup>16</sup> Joseph S. Nye Jr. and William A. Owens, “America’s Information Edge,” *Foreign Affairs* 75, no. 2 (March-April 1996): 35.

<sup>17</sup> Peter Ferdinand, ed., *The Internet, Democracy and Democratization* (Portland, OR: Frank Cass Publishers, 2000).

<sup>18</sup> Leslie Regan Shade, “Technological Determinism,” in *Encyclopedia of New Media: An Essential Reference to Communication and Technology*, ed. Steve Jones (New York: Sage Publications, 2003), 433-434.

<sup>19</sup> Janet Fulk, “Social Construction of Communication Technology,” *Academy of Management Journal* 36, no. 5 (1993): 921-950; Wanda J. Orlikowski, “The Duality of Technology: Rethinking the Concept of Technology in Organizations,” *Organization Science* 3, no. 3 (August 1992): 398-427.

<sup>20</sup> Janet Abbate, *Inventing the Internet* (Cambridge, MA: MIT Press, 1999).



of the Arpanet, the precursor to the Internet.<sup>21</sup> The network's dispersed architecture is designed to route around damaged nodes, making censorship, meaning control of the packets of data, antithetical to the original architecture of the Internet. The value placed on a decentralized structure from the birth of the Internet is a significant contributor to the idea of the inherently democratic nature of the Internet.

A brief description of Internet protocols is needed in order to understand both the democratic nature of the Internet and the possibilities for control. The Internet Protocol (IP) provides addressing systems for computers on the Internet and enables internetworking. Protocols are technical specifications that describe how to exchange data over the network. IP is the primary protocol and is tasked with delivering data packets from the source host to the destination host based on their addresses. Specific protocols are used to make IP packet forwarding decisions across IP connected networks. As the design principles of the Internet assume the network infrastructure is inherently unreliable at any given network element, the intelligence in the network is located at the end nodes of each data transmission. Routers in the transmission path simply forward data packets to the next known gateway matching the address described by the data packet's IP until it reaches its destination.<sup>22</sup>

The assumption of the inherently politically liberal nature of the Internet can be seen in the 1996 "Principles of Internet Architecture." According to this document, the goal of the community involved in building the Internet is connectivity and intelligence is not hidden in the network (thus free flow of information). The technical cooperation required between service providers for compatible protocols is described as "flourish[ing] in the increasingly liberal and

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<sup>21</sup> Stewart Brand, "Founding Father," *Wired* Issue 9.03 (March 2001). Available at: <http://www.wired.com/wired/archive/9.03/baran.html>.

<sup>22</sup> "Internet Protocol," DARPA Internet Program, Protocol Specification, RFC no. 791. September 1981. Available at: <http://www.ietf.org/rfc/rfc0791.txt>.

competitive commercial telecommunications environment.” Related to this value of interconnectivity and equal cooperation, having only one protocol at the Internet level is seen to be the ideal situation.<sup>23</sup>

Flanagin et al. use a technical code perspective to examine design characteristics of the Internet that have important social outcomes. Technical code is defined as the cultural and social assumptions and values that become manifested in technology’s physical and structural forms. Elements of the technical code that support Internet openness include: “decentralized technical interoperability that increases the potential for innovation, coupled with a sense of empowerment achieved through enhanced agency and collaboration.”<sup>24</sup> A primary example given by Flanagin et al. is the expanded sense of agency for individual users from tools of the Internet that leverage the potential contributions of a wide variety of users, making the Internet a dynamic collaborative environment. The end-to-end structure of the Internet with the network indifferent to specific data content and information processing functions in the control of interconnected users at the periphery of the network, not controlled within the network, makes the design of the Internet suited for personalization. Tools that promote user self-provision and self-organization of content on the Web demonstrate this. “Credentialing” activity that relies on peer rating such as the performance of sellers on the online auction site, eBay.com or the user-created articles of the online encyclopedia Wikipedia are given as examples.<sup>25</sup>

As it is a global technology, Flanagin et al. show how the dominant code of the Internet can violate political and ideological norms and expectations across countries. The dominant code

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<sup>23</sup> B. Carpenter, ed., “Architectural Principles of the Internet,” Network Working Group, 1958 IAB, June 1996. Available at: <http://www.ietf.org/rfc/rfc1958.txt>.

<sup>24</sup> Andrew J. Flanagin, Craig Flanagin and Jon Flanagin, “Technical Code and Social Construction of the Internet,” *New Media Society* 12, no. 2 (2010):188.

<sup>25</sup> Ibid., 185-187.

of openness of the Internet conflicts with priorities and controls the Chinese government wants to impose on information. Therefore, the Chinese government re-aligns use of the Internet in ways that better reflect its view of how communication and information sharing should occur. Though the technical code supports openness, there are technical aspects that facilitate control as well. For example, the technology and administrative control of Internet addresses and names is highly centralized. The naming system ties Internet activities to specific jurisdictions, agencies and individuals. The Chinese government uses this feature to target what international Web content is blocked. The source of a given data packet can be identified and then its transmission expedited or delayed if necessary. This occurs through the IP address. Therefore, there is an “...ambivalence of values articulated in [the Internet’s] technical code, and in the values and priorities that can be articulated through it.”<sup>26</sup> Elmer comes to a similar conclusion by showing that Internet protocols can be political tools, and not merely neutral technical code, as they impact access to information and can harness the behavior of Internet users for the benefit of information aggregators like Google and authoritarian governments.<sup>27</sup>

Despite the ambivalence of values embedded in the Internet as described by Flanagin et al., the Global Internet Liberty Campaign (GILC) asserts that the Internet is “uniquely suited to promoting democracy and inherently resistant to government controls.” GILC claims that the Internet has already demonstrated its capacity to promote democracy by facilitating participation in government, expanding access to government information, strengthening civil society by building networks among individuals, and broadening access to traditional media and promoting pluralism. The Internet can be viewed as uniquely global, decentralized, open, abundant,

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<sup>26</sup> Ibid., 190.

<sup>27</sup> Greg Elmer, “Exclusionary Rules? The Politics of Protocols,” in *Routledge Handbook of Internet Politics*, edited by Andrew Chadwick and Philip N. Howard, 376-383. (New York: Routledge, 2009).

interactive, user-controlled and infrastructure independent.<sup>28</sup> The inherently democratic nature of the Internet can be seen when it serves as a powerful weapon to empower the voices of people around the world that would not otherwise be heard. It can be viewed as the ultimate town hall or grassroots forum. Elites are not necessarily monopolizing the discourse any longer and individuals are empowered. Against this background, Kedzie argues that the Internet poses a “dictator’s dilemma” in that autocrats must either connect to the Internet and democratize or turn their backs on the information revolution and accept economic decline.<sup>29</sup>

As articulated above, this viewpoint does not adequately take into account the technological possibilities for control or the social and political context that makes the situation more complex. In particular, Mackenzie and Wajcman argue the use of the Internet for political participation is shaped within the parameters of current trends of participation.<sup>30</sup> Papacharissi suggests that capitalist patterns of production transform the Internet into a commercially oriented media that has little to do with the promotion of social welfare or democratic practice.<sup>31</sup> In the United States, Bimber cites the absence of a clear link between increases in information and increases in popular political action.<sup>32</sup> Warf and Grimes argue that cyberspace is not an uncontested domain of individualists but that computer networks and traffic have deeply social and political roots. The Internet is a terrain of contested philosophies and politics. However,

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<sup>28</sup> James X. Dempsey and Daniel J. Weitzner, “Regardless of Frontiers: Protecting the Human Right to Freedom of Expression on the Global Internet,” Global Internet Liberty Campaign. <http://gilc.org/speech/report/>.

<sup>29</sup> Christopher R. Kedzie, *Communication and Democracy: Coincident Revolutions and the Emergent Dictator’s Dilemma* (Santa Monica, CA: RAND, 1997).

<sup>30</sup> Donald Mackenzie and Judy Wajcman, *The Social Shaping of Technology* (Buckingham: Open University Press, 1999).

<sup>31</sup> Zizi Papacharissi, “The Virtual Sphere: The Internet as a Public Sphere,” *New Media and Society* 4 (2002): 9–27.

<sup>32</sup> Bruce Bimber, “The Internet and Political Transformation: Populism, Community, and Accelerated Pluralism,” *Polity* 31, no. 1 (Autumn 1998): 133–160.

most users view themselves, and their use of the Internet, as apolitical so hegemonic discourses are unintentionally reproduced.<sup>33</sup>

Polat offers an analysis of the link between political participation and the Internet. This question is examined in terms of three different roles played by the Internet: the Internet as an information source; as a communication medium; and as a virtual public sphere. The assumption that the Internet will contribute to increased participation due to easier access to a high volume of information is directly relevant to the case of search engines studied in this paper. Polat calls the linkages between more information and increased participation “not self-evident.”<sup>34</sup> The availability of information does not automatically lead to a more informed society; information must be processed by the user to have meaning. The Internet may be used to access traditional news instead of alternate sources of information. Unequal distribution of Internet access, different motivations for using the Internet and selective consumption of information that may reinforce a user’s own views are other limitations of the Internet’s promotion of political participation.<sup>35</sup>

#### Development, Democracy and the Internet in China

In a speech on March 8, 2000 arguing for U.S. support for China's entry into the World Trade Organization, President Clinton spoke of extending permanent normal trade relations status as "the most significant opportunity that we have had to create positive change in China since the 1970s." An oft-repeated line from the speech links the Internet to this optimistic view on the political impact of economic development: "We know how much the Internet has changed

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<sup>33</sup> Barney Warf and John Grimes, “Counterhegemonic Discourses and the Internet,” *Geographical Review* 87, no.2 (April 1997), 259-274.

<sup>34</sup> Rabia Karakaya Polat, “The Internet and Political Participation: Exploring the Explanatory Links,” *European Journal of Communication* 20 (2005): 437.

<sup>35</sup> Rabia Karakaya Polat, “The Internet and Political Participation: Exploring the Explanatory Links,” *European Journal of Communication* 20 (2005): 435-459.

America, and we are already an open society. Imagine how much it could change China. Now, there's no question China has been trying to crack down on the Internet -- good luck. That's sort of like trying to nail Jello to the wall.”<sup>36</sup> These remarks encompass American expectations for the impact of economic development and the Internet for political liberalization in China.

The formal beginning of the reform and opening era in China began in 1978 with Deng Xiaoping’s announcement of the Four Modernizations at the Third Plenum of the 11<sup>th</sup> Central Committee. To make China a great economic power by the early 21<sup>st</sup> century, modernization in the fields of agriculture, industry, science and technology, and national defense was called for. An open door policy allowed international trade and foreign direct investment. After the upheaval of the Cultural Revolution, Deng Xiaoping set forth the Four Modernizations to emphasize economics over ideology while emphasizing the need to uphold the Four Cardinal Principles as a prerequisite for achieving modernization. The four principles: to keep the socialist road, uphold the dictatorship of the proletariat, uphold the leadership of the Communist Party, and uphold Marxism-Leninism and Mao Zedong Thought, were not to be questioned though the manner of interpreting them could be. This set China on the path of economic liberalization without political liberalization.<sup>37</sup>

Over thirty years after the beginning of reform and opening, the characteristics of economic development identified as important by Lipset are increasing rapidly in China. However, modernization theory’s prediction of democratization’s occurrence as a result of the social changes stemming from economic development is being confounded in China. The

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<sup>36</sup> William Jefferson Clinton, “Permanent Normal Trade Relations Status for China,” The White House, Office of the Press Secretary, address at John Hopkins University, Washington, DC, March 8, 2000. Available at: <http://www.techlawjournal.com/cong106/pntr/20000308sp.htm>.

<sup>37</sup> Merle Goldman, “The Post-Mao Reform Era,” in *China: A New History* by John King Fairbank and Merle Goldman, (Harvard University Press, 2006):406-471.

necessary changes in attitudes and behavior are not occurring. There is continuing support for the status quo of economic liberalization without political liberalization set forth by Deng Xiaoping.

Wright explains how China's economic and political structure gives both the 'winners' and 'losers' of economic reform a stake in maintaining the current system. Declining sectors, such as workers laid off from state-owned enterprises, have incentives to support Chinese Communist Party (CCP) rule in the hope the Party will follow through on its socialist promises. Rising sectors, such as private entrepreneurs, fear political reform might threaten the prosperity and privileges they currently enjoy. This combination of state-led development and socialist past gives the winners and losers an interest in supporting the status quo of economic liberalization ahead of political liberalization.<sup>38</sup>

Lee provides a further criticism of the link between economic development and democratization in the case of China by drawing attention to the structure of the Chinese economy. As a state-dominated system, the CCP strategically controls economic resources and remains the primary dispenser of economic opportunity and success in Chinese society. This builds institutions and supporters that entrench, and even enhance, the Party's monopoly on power.<sup>39</sup>

A picture of China's economic elite, as drawn by Fewsmith, reinforces this conclusion and refutes the effect the expansion of the middle class will have on democratization in the near future. The elite is described as composed of five broad groups: former managers of state-owned or collective enterprises who became rich after their enterprises were privatized; successful business people who are politically well connected; mid- and senior-level managers of multinational corporations; professionals, specialists, and technical personnel who have profited

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<sup>38</sup> Teresa Wright, "Disincentives for Democratic Change in China," *Asia Pacific Issues* no. 82 (February 2007): 1-8.

<sup>39</sup> John Lee, "Putting Democracy in China on Hold," Center for Independent Studies Issue Analysis 95.

from their expertise; and the senior management of government ministries and large state owned enterprises.<sup>40</sup> Finally, those in occupations such as shopkeeper, restaurateur, hotelier, retailer and tourism operator round out the Chinese middle class. They are living a comfortable life with relatively high levels of disposable income due to CCP-engineered economic growth.

Predictions about the rising middle class's demand for democracy assume the current system and institutions will fail to meet their needs, expectations and wants. However, the nation's political institutions have not remained static. Lee writes that the CCP learned from the experience of the Soviet Union and Eastern Europe the need to welcome new and existing elites into the system instead of opposing them. Private entrepreneurs want to join the CCP as it offers such benefits as easier access to loans and protection from adverse regulation. The Party also sponsors intellectuals by offering career advancement and financial benefits.<sup>41</sup> In the same manner as the current regime has remained responsive to the needs of new social groups, such as by accepting private entrepreneurs and *capitalists* as members in the *Communist Party*, new institutions have likewise responded to the spread of the Internet.

Theories that acknowledge the existence of technology in specific social contexts should be privileged as part of our understanding about the relationship between the Internet and politics. This is demonstrated by authors such as Boas who argues that authoritarian governments can establish effective control over the Internet while promoting its development.<sup>42</sup> Wacker also calls into question the belief that electronic communication over the Internet cannot be subjected to

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<sup>40</sup> Joseph Fewsmith, "The Political Implications of China's Growing Middle Class," *China Leadership Monitor* no. 21 (Summer 2007): 1-8.

<sup>41</sup> Lee, "Putting Democracy in China on Hold."

<sup>42</sup> Taylor C. Boas, "Weaving the Authoritarian Web: The Control of Internet Use in Nondemocratic Regimes," in *How Revolutionary Was the Digital Revolution? National Responses, Market Transitions, and Global Technology*, 361-378, edited by John Zysman and Abraham Newman (Stanford, CA: Stanford University Press, 2006).



political control by examining the Chinese Communist Party's formal and informal means of control.<sup>43</sup>

In a key study on the impact of the Internet in China, Yongnian Zheng aims to provide a conceptual framework for understanding the political impact of the Internet in China by conceptualizing it as part of the literature in state-society relations. He argues that the state and social forces are constantly transforming each other through their interactions in the Internet-mediated public space.<sup>44</sup> Both the state and society are trying to expand their political space on the Internet; however, it is not a zero sum game between the two. This is an important contribution to the literature as most authors examine the Internet from one side or the other of the state-society divide. For example, Yang writes of how the Internet empowers civil society in China by fostering public debate, expanding principles of association and introducing new dynamics of protest.<sup>45</sup> Others, such as Kalathil and Boas, focus on the capacity of the authoritarian state to navigate the challenges posed by the Internet. They predict that the Internet is likely to consolidate China's authoritarian regime rather than undermine it.<sup>46</sup>

Though these studies break out of the deterministic view of the Internet's impact on political change, few authors examine these issues through an economic or commercial framework. Kang reviews the effects of the Internet on the Chinese economy by analyzing the ways in which "informatization" supports the industrialization process. However, an economic or commercial basis for understanding the impact of the Internet in China is not common in the

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<sup>43</sup> Gudrun Wacker, "" in *China and the Internet: Politics of the Digital Leap Forward* edited by Christopher R. Hughes and Gudrun Wacker (New York: Routledge, 2003), 58-82.

<sup>44</sup> Yongnian Zheng, *Technological Empowerment: The Internet, State, and Society in China* (Stanford, CA: Stanford University Press, 2008).

<sup>45</sup> Guobin Yang, "The Internet and Civil Society in China: A Preliminary Assessment," *Journal of Contemporary China* 12, no. 36 (August 2003), 453-475.

<sup>46</sup> Shanthi Kalathil and Taylor Boas, *Open Networks, Closed Regimes: The Impact of the Internet on Authoritarian Rule* (Washington, DC: Carnegie Endowment for International Peace, 2003)

literature. Kang explains the economic impetus for the government's support for "informatization" but does not pursue this inquiry to examining the political impact of this economic focus.<sup>47</sup> Wilson also offers a periodization of the commercial development of the Internet in China.<sup>48</sup> Dai writes about the use of information and communication technologies in China's strategy to 'leapfrog' development. He assesses the combination of support for the 'new' and 'old economy' and its impact on processes such as infrastructure development and technological innovation.<sup>49</sup> However, a closer examination of the impact of the Internet on Chinese political development is required.

Though it is undeniable that the spread of the Internet in China results in social changes, as it has around the world, the impact of the Internet on political development focusing on commercial and international interactions in China has not been fully explored. An examination of Internet development in China provides the necessary background for investigating the behavior of U.S. ICT companies in China and possible consequences.

### Motivations for Internet Opening

There are three broad reasons why the Chinese government opened to the Internet despite the challenge it represents to the control of information. The government promoted the Internet for reasons of economic growth and administrative improvement.<sup>50</sup> Finally, cyber espionage and

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<sup>47</sup> Xie Kang, "Industrialization supported by informatization," in *Chinese Cyberspaces: Technological Changes and Political Effects* edited by Jens Damm and Simona Thomas (New York: Routledge, 2006).

<sup>48</sup> Ernest J. Wilson III, *The Information Revolution and Developing Countries* (Cambridge: MIT Press, 2004) 241-2.

<sup>49</sup> Xiudian Dai, "ICTs in China's Development Strategy," in *China and the Internet: Politics of the Digital Leap Forward* edited by Christopher R. Hughes and Gudrun Wacker, 8-29, (New York: RoutledgeCurzon, 2003).

<sup>50</sup> Nina Hachigian, "China's Cyber-Strategy," *Foreign Affairs* (March-April 2001):118.

warfare offer China a strategic advantage.<sup>51</sup> These motivations guiding the government's use of the Internet will be explored before turning to the topic of Internet control.

### *Economic Development*

China's leaders recognized the potential of the Internet for economic development early on. The telecommunications industry was recognized as a strategic sector as early as 1986 through its inclusion in the 863 program. The 863 program aims to promote excellence in scientific research and building capacity in high technologies to compete with industrialized countries. In the 1990s, Informatization of the National Economy (INE) was launched.<sup>52</sup> A 2001 speech by President Jiang Zemin urging the nation to hasten development of information and network technologies described the Internet as "vital to the nation." He said China should promote the application of information technology to all sectors; the Internet "boosts the national economy but also enriches the culture and is conducive to improving governmental efficiency."<sup>53</sup>

Internet development was also prioritized under Golden Bridge proposals for information infrastructure development in 1993. Under then-Vice Premier Zhu Rongji, Internet development was prioritized under "Golden Project" proposals for the development of information infrastructure in China. The projects' backbone was the Golden Bridge, which connected ministries and SOEs through an Internet protocol network and provided support for the other projects. These developments in networking technologies for government were overtaken by the

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<sup>51</sup> Sergio Tenreiro de Magalhaes, Maria J. Rios, Leonel Santos, and Hamid Jahankhani, "The People's Republic of China-The Emerging Cyberpower," in *Global Security, Safety, and Sustainability*, edited by Hamid Jahankhani, Ali G. Hessami and Feng Hsu, (New York: Springer, 2009): 138-144.

<sup>52</sup> Xiudian Dai, "ICTs in China's Development Strategy," in *China and the Internet: Politics of the Digital Leap Forward* edited by Christopher R. Hughes and Gudrun Wacker, 8-29, (New York: RoutledgeCurzon, 2003).

<sup>53</sup> Ministry of Foreign Affairs, People's Republic of China, "President Jiang: Internet Vital to the Nation," July 12, 2001. Available at: <http://no.china-embassy.org/eng/dtxw/t110012.htm>.

Chinese academic community's connection with the global network but the project is considered important to early Internet development.<sup>54</sup>

There was early recognition of the importance of the Internet for making China a global player. The Internet allows for industries to be efficient and competitive, particularly in an era of globalization in which companies are dependent on outsourcing and complicated production chains that require efficient communication. The Internet enables access to global market information and capital flows crucial for economic growth. Improved communication helps improve service and reduces logistics costs. Due to this, the Internet is extremely important in managing global supply chains.<sup>55</sup>

Through reports such as the "Okinawa Charter on Global Information Society" from the 2000 G8 meeting, the West encouraged Chinese leaders' optimism about the use of ICTs to 'leapfrog' development.<sup>56</sup> ICTs were seen as a "dragon head" (*longtou*) that could lead the way for further development through providing the infrastructure necessary to support growth and reform in other industries. In one example of leapfrogging, China could deploy nation-wide fiber optic cables due to its low level of telecommunications infrastructure instead of re-engineering from a copper wire network as in the United States.<sup>57</sup>

Despite the potential of the Internet in development, there is currently a digital divide within China that reflects the income gap between rural and urban citizens. In this case, a digital

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<sup>54</sup> William Foster and Seymour E. Goodman, "The Diffusion of the Internet in China," Center for International Security and Cooperation, Stanford University, Report (November 2000), 11.

<sup>55</sup> Richard A. Lancioni, Michael F. Smith, and Terrence A. Oliva, "The Role of the Internet in Supply Chain Management," *Industrial Marketing Management* 29 (2000): 45-56; Zillur Rahman, "Internet-based supply chain management: Using the Internet to Revolutionize Your Business," *International Journal of Information Management* 23, no. 6 (December 2003): 493-505.

<sup>56</sup> "Okinawa Charter on Global Information Society," Kyushu-Okinawa Summit 2000, Okinawa, July 22, 2000. Available at: <http://www.g7.utoronto.ca/summit/2000okinawa/gis.htm>.

<sup>57</sup> Xiudian Dai, "ICTs in China's Development Strategy," in *China and the Internet: Politics of the Digital Leap Forward* edited by Christopher R. Hughes and Gudrun Wacker, 8-29, (New York: RoutledgeCurzon, 2003). 10ish.

divide is defined as the social divide between the information rich and poor in a nation.<sup>58</sup> Hope is expressed that the Internet and other ICT technology can be used in service of rural development. The Internet is perceived as a “new engine for rural empowerment.” Despite some positive effects the introduction of the Internet has had on the livelihood and education of rural people, Jinqui Zhao found that rural areas have not experienced dramatic social and economic changes as a result of the Internet.<sup>59</sup> This conclusion supports the argument that society shapes the adoption of new technology; therefore, the extent of its impact is determined by the existing socio-economic context in rural areas.

### *Administrative Improvement*

Adoption of the Internet is also crucial to the process of “informatization.” This is defined by Lovelock as the government’s efforts to use information technology to decentralize decision-making while continuing to control it centrally.<sup>60</sup> Technology can make government more efficient as well. Damm describes e-government in China as part of government reforms that increase efficiency and speed. In addition to delivering information from the government to citizens, e-government is also useful to the government’s internal management system by making the delivery of information between agencies more efficient. Administrative and governmental reforms such as e-government are part of the CCP’s effort to maintain legitimacy by implementing forms of governance that promote participation and efficiency.<sup>61</sup> Just as the Internet has driven the globalization revolution by making businesses more efficient and

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<sup>58</sup> Pippa Norris, *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide* (New York: Cambridge University Press, 2000): 10-12.

<sup>59</sup> Jinqui Zhao, “ICT4D: Internet Adoption and Usage among Rural Users in China,” *Knowledge Technology Policy* 21 (2008): 9-18.

<sup>60</sup> Peter Lovelock, “E-China: Why the Internet Is Unstoppable,” *China Economic Quarterly* 3, no. 1 (first quarter 1999): 19-35. (Look for access to this. Is cited in Diffusion of Internet in China)

<sup>61</sup> Jens Damm, “China’s e-policy: Examples of Local E-Government in Guangdong and Fujian,” (102-131) in *Chinese Cyberspaces: Technological Changes and Political Effects* edited by Jens Damm and Simona Thomas (Routledge: New York, 2006), 102-104.

lowering transaction costs, the central government can take advantage of the Internet to improve its governance and maintain legitimacy. This e-government strategy that helps the CCP maintain power is an example of the importance of seeing how new technology can be used within existing contexts.

The Internet presents both an opportunity for the government to control political development and exercise continued influence as well as offering a platform for dissent. The state can reap benefits from increased citizen participation on the Internet. The spread of stories about corruption, pollution or other serious problems at the local level to national authorities allows the CCP address discontent of the population that they might otherwise be unaware of.<sup>62</sup> Nationalist furor can be safely directed against the United States or Japan in online bulletin boards instead of against the government. Though this may sometimes constrain the government's response, it is way to have the population let off steam without directly challenging the government's management of the situation. Supervision of the online discussion can also help rein in these emotions when they begin to be judged a threat.<sup>63</sup> In 2009, "Charter 08," a pro-democracy petition calling for comprehensive overhaul of the current political system, spread across the Internet. It has been described as "one of the few sustained campaigns [for democracy] since the 1989 Tiananmen Square protests."<sup>64</sup> On balance, however, the Internet has increased the CCP's power rather than undermining it.

### *Cyber Warfare*

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<sup>62</sup> The cover-up of a school explosion and schoolchildren's work assembling fireworks is one famous example. See: Craig S. Smith, "Chinese Leader and Parents in Dispute Over School Explosion," *New York Times*, March 9, 2001. Available at: <http://www.nytimes.com/2001/03/09/world/chinese-leader-and-parents-in-dispute-over-school-explosion.html>.

<sup>63</sup> Suisheng Zhao, "China's Pragmatic Nationalism: Is it Manageable?" *The Washington Quarterly* 29, no. 1 (Winter 2005-2006): 131-144.

<sup>64</sup> Ariana Eunjung Cha, "In China, a Grass-Roots Rebellion," *Washington Post*, January 29, 2009. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2009/01/28/AR2009012803886.html?sid=ST2009012900102>.

In addition to the commercial potential of the Internet, China has recognized its strategic value as a tool of espionage or even warfare. China appears to be using cyber espionage as a part of its 'leap frogging' strategy. As expert James Mulvenon said in 2007, "The Chinese are the first to use cyberattacks for political and military goals...they are the first state actor to jump feet first into 21<sup>st</sup> century cyberwarfare technology."<sup>65</sup>

In 1993, President Jiang Zemin announced a Revolution in Military Affairs (RMA) as part of the national military strategy for modernization. RMA is a theory about the future of warfare that is tied to modern information, communications, space technology and total systems integration. The U.S. military's decisive execution of Operation Desert Storm in 1991 spurred China to reformulate its military strategy from "people's war" to fighting under "high-tech conditions" and modernize its force.<sup>66</sup> Observation of U.S. involvement in Kosovo, Afghanistan and Iraq has increased interest in both network-centric warfare, used by the U.S., and asymmetric warfare used against the U.S.<sup>67</sup>

The U.S. has long viewed the Internet as a potential tool of warfare. The precursor of the modern Internet was a project funded by the U.S. military. In the 1990s, emphasis was placed on developing network-centric warfare (NCW). NCW seeks to translate an information advantage, aided by information technology, into military advantage through networking well-informed but geographically disparate forces.<sup>68</sup> China's informationization includes education of soldiers in cyber attacks and NCW. The 2008 Annual Report to Congress on China's Military described

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<sup>65</sup> Robert Marquand and Ben Arnoldy, "China emerges as leader in cyberwarfare: In recent weeks, China has been accused of hacking the Pentagon as well as British and German government offices," *Christian Science Monitor*, September 14, 2007.

<sup>66</sup> Chu Shulong, "The PRC Girds for Limited, High-Tech War," *Orbis* 38, no. 2 (1994): 177-192. Available at: <http://irchina.org/en/xueren/china/view.asp?id=678>.

<sup>67</sup> Jason Fritz, "How China will use cyber warfare to leapfrog in military competitiveness," *Culture Mandala* 8, no. 1 (2008): 28-80. Pg 28.

<sup>68</sup> Jason Fritz, "How China will use cyber warfare to leapfrog in military competitiveness," *Culture Mandala* 8, no. 1 (2008): 40.

China's "systematic effort to obtain dual-use and military technologies from abroad through legal and illegal commercial transactions."<sup>69</sup> Acquiring foreign military knowledge through espionage and technology transfer is a way of leapfrogging so China can begin working at a comparable level on military technology instead of investing the large amount of time and effort to independently acquire this knowledge.<sup>70</sup> The PLA is improving its training in the area of cyberwarfare and NCW. Universities teach courses in cyber attack and defense, computer virus design and application and network security protocols.<sup>71</sup>

Hackers are non-traditional threats who just need a computer and Internet connection to cause massive damage. They tend to not have military training and may or may not have a political agenda. While the term "black hat" refers to purely destructive hackers and "white hat" hackers break into security systems for non-malicious reasons, "gray hats" have ambiguous ethics and operate on the borderline of legality. China's hacking abilities come from "gray hat" hackers. They can be thought of as "techie mercenaries," loosely affiliated with the government and with the ability to be mobilized to attack systems when needed.<sup>72</sup> Cyber warfare fits with China's established patterns of pursuing asymmetry and technology transfer. A simple Internet user can become intertwined with military activity. Hacking can cause massive damage with little funding, is difficult to detect and defend against, provides a high level of deniability and eliminates the problem of geographical distance.<sup>73</sup> Cyber warfare is a low cost way to level the

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<sup>69</sup> "Military Power of the People's Republic of China." Office of the Secretary of Defense. Annual Report to Congress.

<sup>70</sup> Fritz, "How China will use cyber warfare," 37.

<sup>71</sup> "Military Power of the People's Republic of China."

<sup>72</sup> Robert Marquand and Ben Arnoldy, "China emerges as leader in cyberwarfare: In recent weeks, China has been accused of hacking the Pentagon as well as British and German government offices," *Christian Science Monitor*, September 14, 2007.

<sup>73</sup> Fritz, "How China will use cyber warfare," 49.



playing field and strikes at key weaknesses of the United States—heavy reliance on high-tech computerized weaponry and a civilian population reliant on unsecured computer infrastructure.<sup>74</sup>

### Internet Governance and Strategies of Control

China's cyber-strategy was outlined by Hachigian in 2001. She predicts the “power shifts wrought by the Internet will surface clearly only during an economic or political crisis in a future China where the Internet is far more pervasive.”<sup>75</sup> Today, the Internet is far more prevalent in China than in 2001, however, the government's strategy still holds. Her analysis identifies the government's three-part strategy for maintaining authority in a networked society as providing economic growth with some personal freedoms, managing the Internet's risks, and harnessing its potential.

A discussion of Internet governance in China provides background on the regulations guiding Internet use. Measures such as the Internet police and encouragement of self-censorship will also be examined. Finally, the rules for foreign Internet companies will be examined as an introduction to U.S. ICT companies' participation in this business environment reliant on acquiescing to this culture of censorship.

China's first computer network was the China Academic Network (CANET) which was set up in 1987. Its purpose was to facilitate academic and research support in computer science and could perform email exchange services with the global Internet via a university in Germany. In 1988 and 1989, two wide-ranging academic networks were established. In these early networks, direct international Internet connections were not available. China registered its domain name, “cn,” with the U.S. Network Information Center in 1990. The network of the Institute of High Energy Physics began operating the first official international Internet link in

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<sup>74</sup> Ibid., 80.

<sup>75</sup> Hachigian, “China's Cyber-Strategy,” 118.

1993. By 1995, coinciding with the development of the World Wide Web, the first commercial network in China, ChinaNET, was set up by the Ministry of Posts and Telecommunications (MPT) and individuals could buy Internet accounts directly from ChinaNET. The networks in China are linked to the international Internet via the MPT's gateways.<sup>76</sup>

Internet governance in China is complicated by the various ministries that view the Internet as part of their domain. There was early conflict between MPT and the Ministry of Electronics Industries (MEI). Foster and Goodman describe each ministry as hoping to economically leverage their role in the Internet. MPT historically was the regulator and operator of telephony and data networks and was interested in protecting its position as the dominant provider of telecommunications. MEI manufactured information technology products and wanted to leverage its “decaying” manufacturing base and political power to pursue the lucrative service industry.<sup>77</sup>

The State Council established a Steering Committee on National Information Infrastructure (NII) to coordinate Internet policy in 1996. It was responsible for functions such as formulating policies, regulations and laws; development of strategic plans of China's NII; coordinating cross-ministry projects; coordinating technology R&D and developing standards for China's NII.<sup>78</sup> Any domestic organization or firm could get a license to provide Internet services. However, tight control over international connectivity was maintained. MPT was given monopoly power in controlling China's gateway to the international Internet in February 1996. The Ministry of Information Industry (MII) was created in 1998 and had broad responsibility for

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<sup>76</sup> Richard Cullen and Pinky D.W. Choy, “The Internet in China,” *Columbia Journal of Asian Law* 13 no. 1 (1999), 99-134. 103-105

<sup>77</sup> Cullen and Choy, “The Internet in China,” 113.

<sup>78</sup> William Foster and Seymour E. Goodman, “The Diffusion of the Internet in China,” Center for International Security and Cooperation, Stanford University, Report (November 2000), 15.

planning and overseeing China's electronics, telecommunications and electronic information industries.

Though MPT and MEI merged into MII in 1998, the hierarchical infrastructure to manage the Interconnecting Network regime (networks that connect to the global Internet) is an artifact of this ministerial conflict. The State Council ensured that one government organization was responsible for all the organizations that could access the Internet through its network but limited which organizations could run Interconnecting Networks. MII also competed with the State Administration for Radio, Film and Television (SARFT) over whether cable networks can offer Internet services.<sup>79</sup> There has also been competition over the responsibility for censoring the Internet content between these two government organizations.

According to Cullen and Choy, systemic regulation of the Internet in China did not begin until 1996. CCP methods for controlling the Internet resemble its methods of controlling traditional media including physical restrictions, regulations that dictate permissible use, and ownership and operation of information providers.<sup>80</sup> Physical restrictions include registration requirements at Internet cafes and the end of anonymous registering of websites. This makes users responsible for the content they access and produce on the Internet and allows their activity to be tracked. This is coupled with aggressive physical restrictions such as detainment and arrest.<sup>81</sup>

Regulations fall into four categories: regulations governing the establishment of ISPs and international network connections; regulations dealing with crimes related to the Internet;

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<sup>79</sup> Foster and Goodman, "The Diffusion of the Internet in China," 2-3.

<sup>80</sup> Clara Liang, "Red Light, Green Light: Has China Achieved Its Goals Through the 2000 Internet Regulations?" *Vanderbilt Journal of Transnational Law* 34 (2001): 1428.

<sup>81</sup> Kate Merkel-Hess and Jeffrey N. Wasserstrom, "Will the Real Chinese Internet Please Stand Up?" *Dissent Magazine*, February 11, 2010. Available at: <http://www.dissentmagazine.org/online.php?id=333>.

regulations monitoring ISPs and Internet users; and regulations dealing with domain names.<sup>82</sup>

For example, ISPs and individual Internet users have to register with the relevant Public Security Bureau office within 30 days of connection. Regulations also make ISPs responsible for the websites their customers visit.

New regulations in 2000 targeted the entire commercial sector of China's Internet industry. The Measures for Managing Internet Information Services were issued in 2000 to restrict ISPs from providing certain types of information. Commercial internet information services (IIS) providers must also apply for a license and guarantee that the information they provide is legal. The Measures require self-censorship by IIS providers and require ISPs to maintain records about subscribers' Internet access. The records must remain on file for a period of time and be furnished to authorities if demanded.

These regulations were a means to pre-empt the formation of a "new corporate elite" that could introduce citizens to new information.<sup>83</sup> Despite CCP tolerance of the Internet due to its economic potential, regulations such as these are believed to cost the Internet industry billions of dollars. The regulations also ensure that publicly-owned enterprises outnumber and outperform private companies, "creating political and ideological revenue" for the CCP.<sup>84</sup>

Hachigian describes self-censorship as the primary way officials control what Chinese Internet users view. Regulations released in 2000 prohibit the online transmission of "state secrets." Content that "disturbs social order," undermines reunification efforts with Taiwan, spreads rumors, "preaches the teachings of evil cults," distributes "salacious materials," pornography or harms the "honor" of China are also prohibited. These regulations could cover

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<sup>82</sup> Cullen and Choy, "The Internet in China," 119.

<sup>83</sup> Liang, "Red Light, Green Light," 1433.

<sup>84</sup> Ibid., 1441.

much of the activity of Internet content providers (ICPs) so these entities self-regulate in order to not draw the attention of the authorities. Some websites use monitors nicknamed “Big Mamas” to delete sensitive content. Well publicized arrests reinforce self-censorship. Another strategy is to flood online media with government content.<sup>85</sup> The Ministry of Public Security has hundreds of “computer supervision and monitoring units.”<sup>86</sup> Internet service providers (ISPs) must store all user data for sixty days and disclose it to the authorities upon request. Internet cafes must be registered with the local Public Security Bureau.

The concept of the panopticon, invented by Bentham and mediated by Foucault, is often employed to describe Chinese Internet regulation.<sup>87</sup> The panopticon is a prison in which an unseen warden might be watching what an individual prisoner is doing at any time. In this scenario, the prisoner must act as if he is under constant surveillance even though such surveillance is not physically possible for the warden. Therefore, effective control of the Internet becomes possible even though complete control of the Internet is not.<sup>88</sup>

#### U.S. ICT Companies’ Participation

China’s entry into the World Trade Organization in 2001 opened up its Internet sector to foreign participation. Foreign ICT companies may have a 49 percent stake “basic” telecommunications services and 50 percent in “value added” services, which includes Internet content.<sup>89</sup> Any company offering Internet content services and must abide by all local laws and regulations.

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<sup>85</sup> Hachigian, “China’s Cyber Strategy,” 123-124.

<sup>86</sup> Ibid., 126.

<sup>87</sup> Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Pantheon Books, 1978).

<sup>88</sup> For example: Lokman Tsui, “The Panopticon as the Antithesis of a Space of Freedom: Control and Regulation of the Internet in China,” *China Information* 17, no. 2 (2003): 65-82.

<sup>89</sup> Hachigian, “China’s Cyber Strategy,” 125.

U.S. ICT companies are attracted to participate in the Chinese market due to its large size and potential for growth. The China Internet Network Information Center (CNNIC) has undertaken statistical surveys every six months since 1997 to report on trends in Internet development. An Internet user is defined as a Chinese citizen over six years of age that accessed the Internet over the past six months. The number of Chinese Internet users has experienced remarkable growth—from 5,000 users in 1994 to over 8 million in 1999. Between January and July of 2000, the number of users approximately doubled.<sup>90</sup> The number of Chinese Internet users has roughly tripled in the past five years. CNNIC reported the number of Chinese Internet users in June 2009 as 338 million, approximately 25 percent of the population.<sup>91</sup> For context, the U.S. population is approximately 300 million.<sup>92</sup>

China's need for Internet architecture and the allure of its many users has presented business opportunities for American ICT companies from the beginning of China's development of the Internet. Despite initial wariness of potential national security vulnerabilities as a result of relying on technology from U.S. companies, China relies on American companies such as Cisco to provide for its vast Internet architecture needs. The rapid growth of Chinese Internet users is also a key motivation for U.S. companies' involvement in the Chinese market. For example, Cisco has seen the Internet censorship program as an opportunity to do more business with China. As China upgraded its public safety and security network infrastructure in 2002, an internal document titled "Cisco Opportunities" made suggestions for how the company could service the "Golden Shield" or Great Firewall system. Cisco's routers were being specifically marketed to

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<sup>90</sup> Foster and Goodman, "The Diffusion of the Internet in China," xi.

<sup>91</sup> China Internet Network Information Center, People's Republic of China, "24<sup>th</sup> Statistical Survey Report on China's Internet Development." July 2009.

<sup>92</sup> "U.S. Population Clock," United States Census Bureau.

aid in censorship.<sup>93</sup> Many different American companies benefitted from Chinese demand in surveillance systems in preparation for the 2008 Beijing Olympic Games.<sup>94</sup>

Self-censorship is critical to private Internet companies. Companies must sign a license agreeing not to provide access to certain content. However, the regulations are intentionally vague to give officials lee-way in demanding the removal of content. There is coordination between government officials of the State Council Information Office and executives of the Internet service companies on likely topics that should be censored. However, American companies discover that there is no official blacklist of words and phrases that will draw the government's ire.<sup>95</sup>

Yahoo entered the Chinese market in 1999 as one of the first foreign Internet companies. It facilitated censorship by maintaining a list of words and addresses to be filtered out of search results. In 2002, Yahoo signed a document called a "Public Pledge on Self-discipline for the Chinese Internet Industry."

Beginning in 2003, Yahoo began providing information about cyber dissidents to Chinese authorities. Yahoo's business in China is characterized by the infamous case of its involvement in convicting a Chinese journalist for leaking state secrets. The journalist, Shi Tao, was sentenced to ten years in prison in 2005 for sending an anonymous posting to a New York-based website summarizing a communication from CCP authorities to national media outlets.<sup>96</sup> Beijing State Security was assisted by Yahoo in identifying Shi as the author of the message. As Tina

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<sup>93</sup> Michael D. Whiting, "The Great Firewall of China: A Critical Analysis," Air Force Institute of Technology, (June 2008): 32.

<sup>94</sup> Keith Bradsher, "China Finds American Allies for Security," *New York Times*, December 28, 2007. Available at: [http://www.nytimes.com/2007/12/28/business/worldbusiness/28security.html?\\_r=2&hp=&oref=slogin&pagewanted=all](http://www.nytimes.com/2007/12/28/business/worldbusiness/28security.html?_r=2&hp=&oref=slogin&pagewanted=all).

<sup>95</sup> Clive Thompson, "Google's China Problem (And China's Google Problem)," *New York Times*, April 23, 2006.

<sup>96</sup> Joseph Kahn, "Yahoo Role Documented in Chinese Trial," *New York Times*, September 8, 2005. Available at: <http://www.nytimes.com/2005/09/08/technology/08yahoo.html>.

Rosenberg wrote at the time, the case offered “the latest piece of evidence” that the United State’s bipartisan human rights policy in China of trade was not working out.<sup>97</sup>

Yahoo’s motto was “Yahoo! For Good.” Yahoo’s merger with Alibaba.com in 2005 allowed Yahoo to do business in China while being able to claim no responsibility over day-to-day operations.<sup>98</sup> Though Jack Ma, CEO of Alibaba, was speaking of his own firm’s position regarding online speech and censorship, it is ultimately similar to any ICT company: “We are a business! Shareholders want to make money. Shareholders want us to make the customer happy. Meanwhile, we do not have any responsibilities saying we should do this or that political thing. Forget about it!”<sup>99</sup>

Google’s motto is even more explicit in proclaiming the company’s corporate ideals: “make money without doing evil.”<sup>100</sup> Google faced criticism for its complicity in censorship that is inherent in launching a Chinese search engine. Though it has not escaped negative publicity for its participation in the Chinese market, Google’s later entry into the market undoubtedly helped as Yahoo had already taken a fall for its actions.

The surprise about Google’s announcement regarding its Chinese operations is that it upset the long-standing practice of acceptance by U.S. companies of Chinese control of the Internet. Responses in the Western media characterized Google’s move as standing up for human

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<sup>97</sup>Tina Rosenberg, “Building the Great Firewall of China, with Foreign Help,” *New York Times*, September 18, 2005. Available at:

<http://query.nytimes.com/gst/fullpage.html?res=9E05E6DC1F31F93BA2575AC0A9639C8B63&sec=&spon=&pagewanted=2>.

<sup>98</sup> Surya Deva, “‘Yahoo! For Good’ and the Right to Privacy of Internet Users: A Critique,” *Journal of International Law* 11, no. 9 (2008), 3-10.

<sup>99</sup> Clive Thompson, “Google’s China Problem.”

<sup>100</sup> Brian R. Israel, “‘Make Money Without Doing Evil?’ Caught between authoritarian regulations in emerging markets and a global law of human rights, U.S. ICTs face a twofold quandary,” *Berkeley Technology Law Journal* 24 (2009), 619.



rights and even living up to its motto to not be evil.<sup>101</sup> Though the issue of censorship is important to the case, it is also useful to view it in its commercial context.

On January 12, 2010, Google announced its intention to stop censoring search results from 'google.cn' in response to cyber attacks that targeted the Gmail accounts of human rights activists and 20 Silicon Valley companies' source code. In response to the attacks based in China, Google threatened to end its cooperation with the Chinese government's censorship unless a solution could be negotiated.<sup>102</sup> Eric Schmidt, CEO, said, "This was not a business decision—the business decision would obviously have been to continue to participate in the Chinese market. It was a decision based on values. We tried to ask what would be best from a global standpoint."<sup>103</sup> Others call it a clever PR move. "Google was in need of some positive PR to correct its worsening image...Google.cn is the goat that would be sacrificed, for it will generate most positive headlines and may not result in devastating losses to Google's business."<sup>104</sup> Reportedly, Google's decision to condemn China was strongly influenced by co-founder Sergey Brin's strong feelings about censorship as a result of his family's experience in the Soviet Union.<sup>105</sup> Though Google tied its decision to human rights concerns and censorship, its announcement occurred in response to a strategic and commercial attack.

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<sup>101</sup> Caroline Davies, "Google China: Search Engine's Stand Against Censorship Welcomed by Campaigners," *Guardian*, March 22, 2010. Available at: <http://www.guardian.co.uk/technology/2010/mar/22/google-china-censorship-amnesty>.

<sup>102</sup> David Drummond, "A new approach to China," *The Official Google Blog*, January 12, 2010. Available at: <http://googleblog.blogspot.com/2010/01/new-approach-to-china.html>.

<sup>103</sup> Fareed Zakaria, "A Conversation with Google's Chairman and CEO," *Newsweek*, January 15, 2010. Available at: <http://www.newsweek.com/id/231117>.

<sup>104</sup> Evgeny Morozov, "Doubting the Sincerity of Google's Threat," *Foreign Policy*, January 13, 2010. Available at: [http://neteffect.foreignpolicy.com/posts/2010/01/13/doubting\\_the\\_sincerity\\_of\\_googles\\_threat](http://neteffect.foreignpolicy.com/posts/2010/01/13/doubting_the_sincerity_of_googles_threat). For example, Google is facing a backlash in Europe over its privacy policies. See: Eric Pfanner, "Privacy and Copyright Clashes Threaten Google in Europe," *New York Times*, February 1, 2010. Available at: <http://www.nytimes.com/2010/02/02/technology/companies/02google.html>.

<sup>105</sup> Jessica E. Vascellaro, "A Heated Debate at the Top," *Wall Street Journal*, January 14, 2010. Available at: <http://online.wsj.com/article/SB10001424052748704675104575001281662251848.html>.

From the beginning, Google has faced challenges in operating in China. The company entered the market locally with the website, google.cn, after it became apparent Google.com was not delivering positive experience for its users. The decision was made to launch a Google domain that filters search results after concluding it would further Google's mission to "organize the world's information and make it universally useful and accessible."<sup>106</sup>

Google and Yahoo were available to Chinese users before Baidu's launch in 2000 but Google's Chinese site, 'google.cn' was not launched until 2006. This effectively gave Baidu first-mover advantage. It was able to begin offering a Chinese-language search engine responsive to the way Chinese users used the Internet, particularly in finding entertainment and social-networking based search.

Google seems to have made missteps that hurt its ability to perform in China. According to consultant Kaiser Kuo, Google "had a name that was hard for Chinese to pronounce and harder to spell," while it also forgo traditional marketing efforts as is Google's practice around the world. Baidu's site also better reflected the preferences of Chinese Internet users with a busy interface, unlike Google's sleek search page, and promotion of services such as bulletin boards, popular search topics and online videos. Another analyst said that Baidu's software and technology is better at understanding the correct meanings of characters in a search request.

Only two weeks after announcing its Chinese name, *Gu Ge* (谷歌), meaning "valley song" or "harvest song," Google faced backlash from Chinese Internet users. The name was chosen to symbolize a "fruitful and productive search experience" but Chinese users were unimpressed. An online petition was started at 'www.noguge.com' to demand a name change

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<sup>106</sup> Andrew McLaughlin, "Google in China," *The Official Google Blog*, January 27, 2006. Available at: <http://googleblog.blogspot.com/2006/01/google-in-china.html>.

with more than 10,000 signatures.<sup>107</sup> Chinese media characterized the Chinese name choice as reflecting the U.S. company's "lack of understanding of the Chinese psyche." Some users felt the name felt "traditional and rural" or outdated.<sup>108</sup> As a Chinese blogger, Huang Jixin, pointed out at the time, "'Baidu' has already found its place in modern Chinese vocabulary. If 'Gu Ge' wants to become a commonly-used word, Google has got its work cut out...To create a new word, though, is really quite hard."<sup>109</sup>

Huang Jixin also noted that *Gu Ge* had a long way to go before it becomes a verb. In line with its long-time practice around the world, Google did no marketing of its search engine in China. However, Baidu successfully used nationalism to present itself as *the* search engine for Chinese people to use. One 2006 advertisement has Baidu, represented by a Chinese scholar, competing with and 'knowing more' about the meaning of a Chinese scroll than a white male. Images of traditional Chinese culture abound in the ad and the white male's Chinese girlfriend even leaves him for the Chinese scholar.<sup>110</sup> Another advertisement uses English to emphasize the search engine is: "Always Right On," and "The Most Used Search Engine in China." This advertisement also tells viewers if they have a question, they should "Baidu a bit," thus using 'Baidu' as a verb in Chinese just as 'google' has become a verb in English.<sup>111</sup>

The popularity of (illegal) online music sharing also drove Baidu's success. Reflecting the wider problem of Chinese entities ignoring the protection of intellectual property rights (IPR),

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<sup>107</sup> "China: Google Under fire over its choice of Chinese name," *Taipei Times*, April 29, 2006. Available at: <http://www.asiamedia.ucla.edu/article.asp?parentid=44469>.

<sup>108</sup> "China: Google Gets Flak for its New Chinese Name," *Straits Times*, April 22, 2006. Available at: <http://www.asiamedia.ucla.edu/article.asp?parentid=43904>.

<sup>109</sup> John Kennedy, "What's In a Name: Google in Chinese," *Global Voices*, April 15, 2006. Available at: <http://globalvoicesonline.org/2006/04/15/whats-in-a-name-google-in-chinese/>.

<sup>110</sup> "百度 广告 打击 google" (Baidu Advertisement Combats Google), YouTube, Uploaded May 24, 2006. Available at: <http://www.youtube.com/watch?v=I81G3FmGK2I&feature=related> (accessed March 22, 2010).

<sup>111</sup> "百度广告" (Baidu Advertisement), YouTube, Uploaded May 24, 2006. Available at: <http://www.youtube.com/watch?v=hIoxTAqodZQ&feature=related> (accessed March 21, 2010). "有问题百度一下"

Google followed IPR laws while Baidu allowed easy access to illegal music and other media downloads.<sup>112</sup> U.S. losses due to Chinese piracy are estimated to be between \$1.85 billion to \$2.54 billion annually in displaced sales of CDs, DVDs, VCDs, and software. Chinese music companies also lose millions of dollars each year due to piracy.<sup>113</sup> In 2004, searches for music to download accounted for 20 percent of Baidu's total traffic.<sup>114</sup> In April 2009, Google, in partnership with major record companies, began offering free music downloads to users within China in order to build traffic and win new advertisers. Record companies will get a share of the advertising revenue with the Chinese partner in the deal, Top100.cn. With the vast majority of music downloaded in China violating copyright laws, record companies are willing to officially give away music in an attempt to find a new business model applicable in China.<sup>115</sup>

Part of a reasonable explanation for Google's action includes acknowledgement of the fact that it has a small share of the Chinese search market when compared to domestic competitors like Baidu. An account by Clive Thompson, written in 2006, examining Google in China sheds some light on why this is the case. The 'google.com' website was not blocked in China until 2002. Prior to September 2002, the search engine would display all search results, however clicking on links to access sensitive content would result in an error message. This was a reminder to Chinese searchers that content is censored. However, Google was popular—it enjoyed approximately 25 percent market share—so the government did not want to block it entirely. It is thought that people affiliated with Baidu, a Chinese search engine that had less than 3 percent of the search market at the time, demonstrated that many banned materials could be

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<sup>112</sup> Normandy Madden, "Why Google Wasn't Winning in China Anyway," *Business Insider*, January 15, 2010. Available at: <http://www.businessinsider.com/why-google-wasnt-winning-in-china-anyway-2010-1>.

<sup>113</sup> Eric Priest, "The Future of Music and Film Piracy in China," *Berkeley Technology Law Journal* 21 (2006):798.

<sup>114</sup> *Ibid.*, 800.

<sup>115</sup> David Barboza, "Google and Music Labels Bet on Downloads in China," *New York Times*, April 5, 2009. Available at: <http://www.nytimes.com/2009/04/06/technology/companies/06music.html?fta=y>.

found via Google and pressured the government to block google.com. This demonstrates that censorship policies are used as both a competitive and political tool.<sup>116</sup>

Echoing the alleged strategy of Baidu in 2002 to draw the authorities' attention to Google so as to impede their China operations is the recent pornography campaign primarily waged against Google. In August 2009, concerns by analysts and investors about Google's competitive threat to Baidu's share of the search market in China were reported.<sup>117</sup> Most of China's pornography comes from overseas (American) web servers making Google and the U.S. Internet an easy target for those trying to increase bureaucratic power and control over Internet content while favoring certain companies.<sup>118</sup>

Google.cn was briefly blocked in June and some search functions were disabled because the site was "linking too often to pornographic and vulgar content." Google was forced to disable the associative-word search function that suggests words related to a search word after it. In a segment on China Central Television (CCTV), reporters showed how typing in an innocent word, son (*erzi*), to search brought up vulgar search suggestions. The next day, Google was forced to disable this functionality.<sup>119</sup>

Censorship issues in ICT and their relationship with commercial considerations can be seen in the outcome of a recent controversy about a new filtering program. In May 2009, it was announced that Chinese regulators would require computer makers to install a filtering program, Green Dam-Youth Escort, on all computers to protect children from pornography. The Green Dam software was to automatically block Internet users from seeing "unhealthy Internet

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<sup>116</sup> Clive Thompson, "Google's China Problem."

<sup>117</sup> Rory Maher, "Baidu Gets an Upgrade," *Business Insider*, August 3, 2009. Available at: <http://www.businessinsider.com/analyst-upgrades-baidu-from-sell-to-neutral-more-than-doubles-price-target-2009-8>.

<sup>118</sup> Gady Epstein, "China's Porn Trick," *Forbes Magazine*, February 11, 2010. Available at: <http://www.forbes.com/forbes/2010/0301/outfront-technology-internet-google-china-porn-trick.html>.

<sup>119</sup> Edward Wong, "China Disables Some Google Functions," *New York Times*, June 19, 2009. Available at: <http://www.nytimes.com/2009/06/20/world/asia/20beijing.html>.

content.” The software automatically downloads updated lists of banned sites to users’ computers. In addition to pornography, the software would also filter politically sensitive terms and collect user data.

The order by the Ministry of Industry and Information Technology required manufacturers to install Internet filtering software on all new computers sold in China by July 1, 2009. Both Chinese computer users and global computer makers protested the software. The Obama administration lodged a formal protest with the Chinese government over the plan. It was framed as a trade issue, and a possible violation of WTO rules, due to the burden on computer makers to install the software with little notice.<sup>120</sup> Leaders of 22 international business organizations delivered a letter to Prime Minister Wen Jiabao saying the software hurt China’s goal of building an information-based society. The government also had to recognize commercial realities within China as well. Computer retailers had large stocks of machines, manufactured before the regulation that would not be able to be sold before July 1<sup>st</sup>.<sup>121</sup>

The Chinese government mostly backed down from this regulation and this was hailed as a victory for Chinese Internet users. The widespread and vocal disapproval by Chinese netizens was one factor in the decision. U.S. ICT companies and computer manufacturers also publicly protested the regulation. News also surfaced that the program’s code was stolen from a U.S. software company and others demonstrated the program’s vulnerabilities. This commercial pressure was important to the regulation’s reversal.

After a Congressional hearing March 2, 2010, deputy general counsel of Google, Nicole Wong said, going to the World Trade Organization (WTO) is “well worth consideration” as

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<sup>120</sup> Saul Hansell, “U.S. Objects to China’s Web Filtering,” *New York Times*, June 24, 2009. Available at: <http://www.nytimes.com/2009/06/25/world/asia/25censor.html>.

<sup>121</sup> Michael Wines, “China Delays Order for Green Dam Web-Censoring Software,” *New York Times*, June 30, 2009. Available at: [http://www.nytimes.com/2009/07/01/technology/01china.html?\\_r=1](http://www.nytimes.com/2009/07/01/technology/01china.html?_r=1).

China is using censorship “in a manner that favors domestic Internet companies goes against basic international trade principles.” The U.S. Trade Representative (USTR)’s office is consulting with the industry about China’s Internet policies according to spokeswoman Carol Guthrie. However, U.S. Trade Representative Ron Kirk called the proposal to take a case against China to the WTO “less of a trade issue than it is a freedom of information issue.”<sup>122</sup>

As Warren Maruyama, the former general counsel of USTR, said in the same news report, “Censorship per se is not a violation of the WTO.”<sup>123</sup> In examining the question of whether existing international trade law has any application to Internet censorship, Hindley and Lee-Makiyama write that a good legal case can be made against disproportionate censorship, or censorship that disrupts commercial activities more than is necessary to achieve the censoring government’s goals.<sup>124</sup>

The founders of the WTO imagined a category of “telecommunication services” in the General Agreement on Trade in Services (GATS) with trade in telephone services and some “value-added” services like “voice-mail.” Today, however, many of the services under GATS can be offered over the Internet. They thought of the Internet as a “service sector, when, instead, it is usually a service mode.”<sup>125</sup> China agreed to open supply of “data processing series” and liberalization of “online information and database retrieval services” but search engines in 1994 when the GATS entered into force were very different than the search industry today.<sup>126</sup> In the

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<sup>122</sup> Mark Dragem, “Google Wants U.S. to Weigh Challenging China in WTO,” *Bloomberg News*, March 3, 2010. Available at: <http://www.bloomberg.com/apps/news?pid=20601103&sid=am64olotZWbw>.

<sup>123</sup> Ibid.

<sup>124</sup> Brian Hindley and Hosuk Lee-Makiyama, “Protectionism Online: Internet Censorship and International Trade Law,” ECIPE Working Paper no. 12 (2009), 2.

<sup>125</sup> Tim Wu, “The World Trade Law of Censorship and Internet Filtering,” Columbia University, (May 2006): 5.

<sup>126</sup> Wu, “The World Trade Law of Censorship and Internet Filtering,” 24-26.

case of a complete block of a foreign Internet service, either a GATS or General Agreement on Tariffs and Trade (GATT) violation seems possible but the case of filtering is less clear.<sup>127</sup>

Under Article XX of GATT and Article XIV of GATS, arbitrary and unjustifiable discrimination are restricted. However, a member is exempt from these commitments for “measures ‘necessary for protecting public morals’ (for both goods and services) and ‘maintain public order’ (only for services).” The measures necessary to maintain public order “may only be invoked where a ‘genuine and sufficiently serious threat is posed’ to a ‘fundamental interest’ of society.”<sup>128</sup> In exploring the question of when Internet filtering violates world trade rules, Wu writes that the current tendency in WTO jurisprudence is to put the burden on national governments to justify Internet censorship instead of placing the burden on companies to adapt to national legal systems.<sup>129</sup>

Under this framework, a less trade-restrictive measure should be pursued if it is available. Active filtering of search engine results is less restrictive than a permanent ban of the site and therefore appears to be allowed. Under the national treatment commitments of GATS, foreign websites should be notified to remove individual pages as domestic sites often are instead of facing complete blockage.<sup>130</sup>

This discussion shows that a case against Internet filtering can likely not be made under WTO rules. Foreign ICT companies have long been aware of the filtering restrictions and other regulations that are the cost of participating in the Chinese Internet market. Until Google’s announcement, all companies accepted them as the price to pay for doing business. U.S. search engines and other content providers cannot blatantly violate intellectual property rights

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<sup>127</sup> Ibid., 27.

<sup>128</sup> Hindley and Lee-Makiyama, “Protectionism Online,” 13.

<sup>129</sup> Wu, “The World Trade Law of Censorship and Internet Filtering,” 3.

<sup>130</sup> Hindley and Lee-Makiyama, “Protectionism Online,” 14.



protecting music and movies the way their Chinese competitors do. This has been their true commercial disadvantage regarding international trade law and fair competition in the Chinese Internet market.

Analyses of the market share of various players in the Chinese Internet market conflict. However, they demonstrate that Baidu dominates the market. A report from StatCounter estimated at the end of 2009, Google increased its share of the Chinese market to 43 percent compared to Baidu's 56 percent. In July 2009, Baidu had a 68 percent market share while Google enjoyed only 30 percent.<sup>131</sup> Even this number may be high according to some analysts of the market. As of August 2009, Comscore's data showed Google with 68.9 of the world's search engine market. At the same time, a Chinese consulting firm, iResearch, reported Baidu's market share in the Chinese search engine market at 75.7 percent and Google's market share at 19.8 percent.<sup>132</sup> Despite Google's commercial disappointment at coming in at a distant second in China, it is necessary to bear in mind vast numbers represented by a relatively small share of the Chinese market.

It appears as though Google was gaining market share in the past year. Therefore, a small market share cannot fully account for its decision to leave mainland China. The 2010 Google case demonstrates a new consideration for ICT companies—cybersecurity. Google's announcement was directly tied to a sophisticated cyber attack originating in China for information stored in its servers. Hackers are thought to have accessed trade secrets of various Silicon Valley companies as well as the Gmail accounts of human rights activists. No other

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<sup>131</sup> "Google Gained on Baidu in China's Search Market," *People's Daily*, January 19, 2010. Available at: <http://english.peopledaily.com.cn/90001/90781/90877/6873300.html>.

<sup>132</sup> "Baidu Tops Yahoo in June Search Engine Market," *China Daily*, August 6, 2009. Available at: [http://www.chinadaily.com.cn/china/2009-08/06/content\\_8535200.htm](http://www.chinadaily.com.cn/china/2009-08/06/content_8535200.htm).

companies have been willing to publicly stand with Google against the Chinese government.<sup>133</sup>

Microsoft founder Bill Gates even seemed to go out of his way to claim that Chinese censorship is “very limited,” which some interpreted as a bid to improve the chances of Microsoft’s recently launched search engine, Bing, in China.<sup>134</sup>

On January 14, 2010 McAfee Labs, a computer security provider, identified a vulnerability in the Microsoft Internet Explorer (IE) browser that was used as an entry point for a cyber attack, named Operation Aurora, to exploit Google and at least twenty other companies. Operation Aurora was a coordinated attack which included code that exploited an IE vulnerability to gain access to computer systems. Malicious software was downloaded within the systems which ultimately connected the systems to a remote server to steal company intellectual property and access to user accounts. The tactics used are considered highly sophisticated and unprecedented in an attack against a commercial industrial company.<sup>135</sup>

Computer security experts, including those from the National Security Agency (NSA), traced the attacks back computers at two Chinese educational institutions. Shanghai Jiaotong University has one of China’s top computer science programs and Lanxiang Vocational School has ties to the military. Jinan Province, the site of the vocational school, has been identified as a region with military efforts to engage in cyber attacks.<sup>136</sup> However, the nature of involvement of the computers at these schools cannot be definitively proven and deniability of the attack is assured.

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<sup>133</sup> Dexter Roberts, “Google China Hacking Brouhaha Raises Business Concerns,” *Business Week*, January 15, 2010. Available at: [http://www.businessweek.com/globalbiz/blog/eyeonasia/archives/2010/01/google\\_brouhaha.html](http://www.businessweek.com/globalbiz/blog/eyeonasia/archives/2010/01/google_brouhaha.html).

<sup>134</sup> David Morgan, “Bill Gates says Internet needs to thrive in China,” *Reuters*, January 25, 2010. Available at: <http://www.reuters.com/article/idUSN2518808220100125?type=marketsNews>.

<sup>135</sup> Kim Zetter, “Google Hack Attack was Ultra Sophisticated, New Details Show,” *Wired*, January 14, 2010. Available at: <http://www.wired.com/threatlevel/2010/01/operation-aurora/>.

<sup>136</sup> John Markoff and David Barboza, “2 China Schools Said to be Tied to Online Attacks,” *New York Times*, February 18, 2010. Available at: <http://www.nytimes.com/2010/02/19/technology/19china.html>.

In an April 2010 event at the Brookings Institution, expert James Mulvenon described the Google attack as representing a real escalation in cyber attacks. The attack went to the heart of the “American innovation economy” with the potential to “fundamentally alter the playing field for global trade.” Though cyber attacks on defense networks may be considered fair game in the world of intelligence and espionage, this significant attack on commercial entities is new.<sup>137</sup>

The commercial espionage represented by the hacking of Google’s servers appears to be the decisive element in the decision to leave mainland China. Reports also suggest that the attack may have relied on personnel in Google’s China office. The company plans to maintain its Beijing office though it remains to be seen whether that is a feasible option. Though Google’s U.S.-based servers will not necessarily be any more secure as a result of the company’s exit from the mainland, the move has drawn a great deal of attention to the problem of hacking.

China tried to curtail the political fallout of the Google announcement. However, Secretary of State Clinton’s speech about Internet freedom added fuel to the fire. She said, “Increasingly, U.S. companies are making the issue of the Internet and information freedom a greater consideration in their business decisions. I hope that their competitors and foreign governments will pay close attention to this trend.”<sup>138</sup> China responded via *People’s Daily* with an editorial advising: “Don’t become a tool of hegemony, Google!” while the Vice Foreign Minister said the Google case should not be linked to Sino-American relations.<sup>139</sup>

## Conclusion

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<sup>137</sup> James Mulvenon, "Censors and Hackers: The Role of the Internet in U.S.-China Relations," Speaker, The Brookings Institution, Washington, DC, April 19, 2010.

<sup>138</sup> Hillary Rodham Clinton, "Remarks on Internet Freedom," The Newseum, Washington, DC, January 21, 2010. Available at: <http://www.state.gov/secretary/rm/2010/01/135519.htm>.

<sup>139</sup> "Don't Become a Tool of Hegemony, Google," *People's Daily*, January 27, 2010. Available at: <http://english.peopledaily.com.cn/90001/90780/91343/6880568.html>; Vice FM: Google case should not be linked with China-US ties," *People's Daily*, January 21, 2010. Available at: <http://english.peopledaily.com.cn/90001/90776/90883/6875624.html>.

The long term effect on China remains to be seen. There is a real question whether China can become a major 21<sup>st</sup> century economic power while maintaining this kind of censorship over the Internet. The Google incident feeds into a recent narrative of the unfriendly environment for foreign companies doing business in China that may also hurt China's economic development if it becomes a serious trend. A survey released in March 2010 by the American Chamber of Commerce in China showed that 57 percent of high-tech and IT companies believe China's policy supporting indigenous innovation will have increasingly negative effects on their business. Companies are reporting they are losing sales as a result of a range of preferential indigenous innovation policies already in effect.<sup>140</sup>

The American business community has long exerted a stabilizing force on U.S.-China relations. It had a natural interest in maintaining a positive relationship in order to continue to profit from commercial opportunities in China. However, the strong "indigenous innovation" policy, meant to push the Chinese economy beyond its role as an export processing zone is leaving the American business community without the same stake in a cooperative U.S. China relationship.<sup>141</sup> There is now an impression that Chinese joint venture relationships have not been about partnering, but as a means to extract information from Western countries.<sup>142</sup> Aggressive cyber espionage against U.S. corporations feeds into this fear.

In terms of impacts in China, there are indications that Baidu's users' search experience is suffering because the search engine no longer has significant competitors.<sup>143</sup> To extrapolate, it is unclear whether Baidu can provide the necessary innovation and help facilitate the

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<sup>140</sup> "US Companies: Concern about Innovation Policy," The American Chamber of Commerce, People's Republic of China, press release, March 22, 2010.

<sup>141</sup> James Mulvenon, "Censors and Hackers: The Role of the Internet in U.S.-China Relations," Speaker, The Brookings Institution, Washington, DC, April 19, 2010.

<sup>142</sup> Ibid.

<sup>143</sup> Marc Van der Chijs, "Baidu's Search Results Turning into Pure Advertising," *Shanghai Weblog*, March 25, 2010. Available at: <http://www.marc.cn/2010/03/baidus-search-results-turning-into-pure-advertising.html>

technological advances needed to compete in the 21<sup>st</sup> century. Others suggest that Chinese barriers to foreign firms may be good for innovation and help propel indigenous companies to be competitive on the global market.<sup>144</sup>

At the China (Shenzhen) IT Leader Summit 2010, a forum of China's leading Internet entrepreneurs called for a "Special Internet Zone" of uncensored Internet to test as an innovation zone. This suggests that there is some recognition of the long-term harm represented by Google's departure. Four leading Internet entrepreneurs publicly expressed their discomfort with the current Internet control and management system. The former news director of *Southern Weekend* described the situation this way: "...The victims of excessive control are mainly domestic enterprises. Google can just walk away, but the domestic corporations can only wish for a "special zone.""<sup>145</sup>

China has successfully maintained a balance of commercial benefits with minimal political fallout. While Google's announcement in January 2010 exposed the tensions U.S. ICT companies experience in China, Google's exit demonstrates China's success in managing the impact of the Internet. In participating in censorship, U.S. companies have chosen commercial considerations over politics. Google's actions re-opened this debate. However, only a few companies have followed Google's lead in re-assessing the situation in China and their

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<sup>144</sup> Loretta Chao, "Chinese Barriers to Foreign Firms—Good for Innovation?" Wall Street Journal, China RealTime Report, April 15, 2010. Available at: <http://blogs.wsj.com/digits/2010/04/15/chinese-barriers-to-foreign-firms-good-for-innovation/>.

<sup>145</sup> "China's Top IT Entrepreneurs Call for Internet Special Zone," *China Digital Times*. Available at: <http://chinadigitaltimes.net/2010/03/chinas-top-it-enterpreneurs-call-for-internet-special-zone>.

participation in it. GoDaddy.com, a domain registration service, has announced its departure.<sup>146</sup>

However, Facebook is reportedly considering entering China.<sup>147</sup>

Google is clearly betting on a much more open future. However, if China can continue to fulfill its commercial objectives via the Internet while controlling its social dimension, the result is a win-win situation for China. Fritz describes the impact of the Internet in the near future in China as, “expanded growth, a complex interaction of balances, and a constant adaptation to evolving technologies from within pre-established ideologies.”<sup>148</sup> This 2008 assessment still appears to hold true.

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<sup>146</sup> Ellen Nakashima and Cecilia Kang, “In Response to New Rules, GoDaddy to Stop Registering Domain Names in China,” *Washington Post*, March 25, 2010. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2010/03/24/AR2010032401543.html>.

<sup>147</sup> John Letzing, “Facebook Reportedly May Enter Chinese Market,” *Market Watch*, April 7, 2010. Available at: <http://www.marketwatch.com/story/facebook-reportedly-may-enter-chinese-market-2010-04-07>.

<sup>148</sup> Fritz, “How China will use cyber warfare,” 48.

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