Evolution of the Search Engine in Developed and Emerging Markets

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ABSTRACT

The search engine has evolved into a dynamic, information and marketing channel in both developed and emerging countries because of its ability to provide relevant and useful information to the searcher. However, due to language, cultural, and government-imposed barriers, major U.S. search engines, compared to their counterparts in multinational manufacturing, encountered considerable difficulty in competing for Asian markets against indigenous firms that provided censored links to websites approved by the government. This has become critical for these high-tech firms that need to expand abroad because their markets are maturing at home. The dispute on Internet censorship between the United States and China has reached the highest diplomatic offices in both countries and this could lead to bilateral negotiations whereby U.S. search engines are permitted to establish unfettered commercial operations in China.

Keywords: Cyberspace Hacking, Emerging Markets, Initial Public Offering, Internet, Internet Censorship, Internet Freedom, Search Engine (SE), World Wide Web (WWW)

INTRODUCTION

A search engine (SE) responds to a query for information with a list of hyperlinks to websites that its algorithm anticipates will provide relevant information to the searcher. Prior to processing such requests, the SE performs three activities that enable it to respond to queries in a timely manner. The preparations include:

1. Crawls the World Wide Web (WWW) to retrieve information stored on Websites
2. Builds an index of the retrieved information
3. Responds to queries with links to websites stored in its index

Fees are not charged for this service and in order to cover operating costs, the SE places ads of related merchandise or services next to its responses. When the searcher clicks on an ad, the advertiser pays the SE a prearranged fee such as $1.00 per click. Because the per-click fee is small, the SE derives its income from the large volume of business that continues to be transacted online and the increasing traffic which grows as the WWW expands.

For the month of July 2009, 113 billion searches were conducted worldwide, representing a 41% increase over July 2008. In the United States, search engines are used 450 million times a day. Average daily revenues derived

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mainly from search ads for Google, the world’s largest SE, was $66 million. Annual revenues for Google in 2009 were $23.65 billion with resulting net income of $6.52 billion. Because of such results, marketing analysts conclude that “search advertising is the most effective form of marketing ever invented” because the query submitted by the searcher indicates to the advertiser and SE what the searcher is interested in. “The search engine can then match people with the right ads at the right moment. No other form of online or offline advertising has come close to matching the effectiveness of search ads” (Helft, 2009, p. 3).

Because of the demand for information that is often critical for educational, health care, and other public services, the SE has become indispensable in both developed and emerging markets (Almutairi, 2008; Lawrence & Giles, 1999). Its evolution in both environments will consequently be analyzed as an international case study of the three leading search engines: Google, Yahoo, and Baidu.com as ranked by marketing-research firm comScore, Inc. for July 2009. While Google leads with a 67.5% share of the global market, the competition is undergoing considerable flux among the three companies as they make strategic moves in the United States, China, and Japan. The three countries have dynamic and contrasting search markets that have given rise to indigenous search engines as described below:

- The United States, where Google and Yahoo are headquartered, has seen its economy mature since the turn of the century and falter in the Great Recession that began in December 2007. Its corporate sector is consequently looking abroad and developing high-tech products and services such as smart phones, social networks, and search engines to increase earnings. Internet startups also continue to use technological advances, financial engineering, and entrepreneurial genius to increase market share in cyberspace which remains largely unfettered by the U.S. government. The nondiscriminatory environment has prompted many foreign firms to sell their stock on Wall Street and list their shares on U.S. capital markets (Hiraoka, 2005).

- China, where Baidu.com is based, has experienced exceptional economic growth after its government adopted a more capitalistic model for economic development and planning. Increased trade and direct investments by foreign global companies transformed the country into the fastest-growing, major emerging market in the world. Government regulations of foreign exchange markets helped to shield the nation from the Great Recession that crippled mature economies of North America, Japan, and the European Union. China’s development into the world’s largest Internet user was, furthermore, accompanied by the rise of its indigenous SE Baidu.com which in 2005 had a commanding 57% of China’s search market compared to 33% for Google and 6% for Yahoo (Barboza, 2006). Baidu.com’s lead was attained with the government’s backing after it began to cooperate with the state’s attempt to block certain information sources sought by users of its SE. Google, on the other hand, had to rely on its users’ “skillful use of the Internet, as well as legally and rightfully by operating ‘near the boundary of authorized channels’” in order to stay clear of the government’s scrutiny (Yang, 2009, p. 13).

- Japan − where the domestically-managed joint venture, Yahoo Japan, is the leading SE − has increased its trade and investment flows with China and other dynamic, emerging Asian markets to bolster its economy following the decade-long recession of the 1990’s. China is now the principal destination for Japan’s exports replacing the United States as its global firms outsource their production and export heavy machinery, ships, and power plants to China (Hayashi, 2010). Output from Japanese factories in China is also used to meet the demand from the latter’s growing middle class with the government
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