Network Capitalism: Tracing Chinese Business Linkages through Web Site Analysis

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Abstract

This paper focuses on the prominence of ethnic Chinese business success all over the world, and in particular in Southeast Asian economies where the Chinese contributed significantly to the emergence and growth of the Tiger economies. It is argued that this success has to be explained in terms of the networking strategies of the ethnic Chinese, in particular the maintenance of close-knit and, at the same time, far-flung network relations within the worldwide ethnic Chinese 'community'. While the argument about the Chinese networking virtuosity has come to be widely accepted, it has never empirically been tested. In this research, the aim is to establish this empirical evidence by mapping Chinese network relations through linkages between ethnic Chinese business Web pages and Web page content, indicating network relationships between ethnic Chinese businesses. While the expected outcome is a network picture of Chinese businesses, this paper describes the technical challenges of establishing evidence of such networks on the Web.

Keywords

business networks, ethnic chinese, website analysis

ACM Classification Keywords

H.1.2 User/Machine Systems - Human factors

Introduction

This contribution provides an account of research which examines and compares real world business networks and networking strategies with the web-based footprint of such activities. In the social sciences, it is argued that the business success of the ethnic Chinese in Southeast Asia has to be explained in terms of their networking strategies. This refers in particular to the maintenance of close-knit and, at the same time, far-flung network relations within the worldwide ethnic Chinese 'community'. While the argument about the Chinese networking virtuosity has come to be widely accepted, it has never been empirically tested. In this young research project[1], the aim is to establish this empirical evidence by mapping Chinese network relations through linkages between ethnic Chinese business Web pages and Web page content indicating network relationships between ethnic Chinese businesses.

In this contribution, we first explain the background to our research, followed by a description of our data collection efforts and a preliminary analysis of a selection of Web sites from business directories, as well as our strategies for further research using social networking platforms such as LinkedIn, Facebook and Twitter. We conclude with a discussion of our first findings and an outlook for the future.

Background

In this research, the aim is to figure out whether we can trace Chinese business networks on the Internet. According to Hine, the Internet can be approached both as a cultural context and as a cultural artefact which is shaped by social and cultural processes [9]. Thus, it would be natural to assume that there are similarities between the online and "real" life social networks. But, as Hine points out, access to the Internet and the knowledge how to use the Internet in-

fluences how the social networks are formed and maintained on the Internet [9, p. 29]. Thus, there is a possibility of over interpretation of online networks. To avoid this pitfall, in this research, cultural knowledge will guide our focus and, in cooperation with computer science, we will be able to find connections that otherwise would go undetected.

When combining cultural and social perspectives with computer science, it is important to define the cultural approach in such a way that both parties can benefit and can enhance the actual research process. When looking for social networks, the principle of homophily argues that social contacts occur more often among homogeneous groups than heterogeneous groups [11, p. 416]. Thus, homophily suggests that the ethnic Chinese businesspeople seek for connectedness with each other because of their shared ethnicity. But this explanation does not shed light on why certain connections emerge and others do not. To understand the logic of network formation, we have to take a closer look at the Chinese networking strategies and how people rely on their cultural and social recourse when creating these networks.

Inspired by Max Weber's work on Confucianism, efforts have been made to interpret ethnic Chinese economic accomplishments in terms of 'Confucian capitalism' or 'Chinese capitalism' [13]. Chinese capitalism has often been described in terms of a communal form of capitalism in contrast with the liberal capitalism based on individual achievements that emerged in the West. Chinese capitalism is believed to be rooted in colonial times when - due to population pressure and poverty - many Chinese left their home in the coastal provinces of southern China to make a living in other parts of Southeast Asia. As in such a situation livelihood is easily jeopardized, the reliance on family and shared ethnicity for labor, capital, information and transactions may be the only viable option for minority immigrants [5, 10, 13, 15]. This 'cul-

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[1]Started in January 2012

turalist' approach constructs the ethnic Chinese as an 'imagined' community arguing that Chinese familism facilitated the growth of their enterprises and the emergence of ethnic business networks – extending across the globe and providing the glue of what has come to be denoted as the transnational Chinese community (cf. [1, 2, 6, 12, 13, 14, 16, 18, 17].

It has, however, been questioned whether many ethnic Chinese businesspeople share a bond based on a common ethnic identity in general, and with the Chinese in China in particular. This skepticism towards culture as the organizing principle of transnational Chinese entrepreneurship finds resonance in institutional literature where the focus shifts away from community towards network-based benefits [17, 3, 4]. Ethnic Chinese businesspeople accumulate social capital by maintaining membership in a number of partly overlapping networks which enables ethnic Chinese businesspeople to evade failing vertical linkages, such as uncooperative bureaucrats. Such networks may comprehend ties with officials in institutional environments conducive to Chinese business, but they may also exclude such linkages and enable ethnic Chinese businesspeople to operate despite bureaucratic obstacles [18].

As ethnic Chinese businesses are embedded in Chinese networks, in our research, we are going to explore whether traces of such network relations can be found in the Web pages of the ethnic Chinese businesses. The ethnic Chinese in Southeast Asia provide a strong case in point. The starting point of our inquiries is Malaysia, as the Malaysian economy is rather dependent upon, but also prospering, because of ethnic Chinese business zest. In Malaysia, the ethnic Chinese came to establish a substantial minority of 26 million people (24 per cent of the population) and represent a major force in the Malaysian economy [7, p. 172]. We will exclude non-Chinese businesses from the inquiry, and examine whether the Malaysian ethnic Chinese businesses refer or maintain links on their Web pages to

- other ethnic Chinese businesses (this network showing an extremely high density);

- other ethnic Chinese businesses in Southeast Asia (this network showing a high density);

- mainland Chinese in China, in particular south-eastern China where most of the Malaysian Chinese originate (dense network)

- ethnic Chinese businesses across the world (often concentrated in Chinese transnational communities) where large agglomerations of ethnic Chinese business communities are located (far-flung network)

The envisioned outcome is the establishment of network pictures [8] that would enable the visualization of the connections traced among Chinese businesses at different levels of aggregation.

Data Collection

In this section, we detail our data collection experiments. We describe the difficulties in automatically crawling business directory listings and searching for traces of ethnic Chinese businesses on LinkedIn, Facebook and Twitter.

Links from Business Directories

Companies are often proud to show how they do business with other firms. For example, many Web design companies list the Web sites they have built for other companies. The assumption that ethnic Chinese businesses may also list the companies they have worked with or for on their Web site, and that these may be companies to which they have some community relationship underlies this first part of our approach.

In order to find Chinese business relations and to see whether an extremely high density network relationship can be built,

we considered as a starting point a number of governmental and commercial business directories in Malaysia. By analyzing these directories, we wanted to collect information about the existing companies and how they relate to one another and to other foreign firms worldwide. We collected information about the Web site links that exist between companies, starting from an initial list of directories. This initial web site list was found by accessing Web sites of organizations that provide business services in Malaysia, together with the governmental associations that support them. Among the selection criteria for the initial commercial directory websites were: website traffic (daily unique visitors, daily page views), website ranking, website worth (based on advertisement revenue), hosting data (number of servers, website bandwidth), together with an indicative number of the external links they provide. All these commencing website indicators were obtained by using online website analysis tools, such as Website Shadow[2] and helped us in making the initial selection of websites.

The initial list of websites contains seven commercial directories and three main government-sponsored websites. We analyzed these Web sites and collected all publicly available links in an automated manner, by means of a Web crawler. We analyzed all the Web sites in this list and extracted all internal and external links we could find. For each page, a list with all the links found on that page were extracted, together with some metadata: the name of the link, the title of the page to which the link belongs to and page keywords. For each Web site we varied the search depth level of both internal and external links to see if the amount and relevancy of links is proportional with the computation time, as this grows exponentially once the external links depth level increases.

We found that an internal depth level exploration of 10 combined with an external depth level of 2 can provide sufficient information for an initial analysis. As some websites had a version in English and one in Chinese, these versions were crawled separately. Once a link was found to be relevant for building the Chinese network connections (if it connects two Chinese firms, for example), the page link is analyzed in more detail.

Links from LinkedIn, Facebook and Twitter

For many companies, profiling themselves only through their own Web sites is not enough. As we have seen from our initial exploration of the business directories, findability can be an issue. Therefore, many companies also choose to profile themselves through social networking platforms such as LinkedIn[3], Facebook[4], and Twitter[5]. These platforms provide a more standardized interface that is easily queryable through various APIs, which should thus eliminate some of the difficulties we encountered in the business directory analysis. Another reason to explore these platforms is that they are also very accessible to users and have a strong social component. The social component of these platforms will give us insights in the types of users who 'follow' (on LinkedIn and Twitter) or 'Like' (on Facebook) particular companies or who talks about particular companies (Twitter). From LinkedIn we can also get statistics on employees of particular companies, and to what other companies they may have moved. Together with the company websites, these should provide a multifaceted picture of the online businesses which may lead to the answer to our research question.

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[2] www.websiteshadow.com
[3] http://www.linkedin.com
[4] http://www.facebook.com
[5] http://www.twitter.com

Discussion

After using online web analysis tools for the initial website selection, the information about business directories in Malaysia did not prove to be very promising: most traffic measurements were low (a number between 5-50 unique daily visitors), all had low rankings, while the launch date of most commercial websites was very recent (last 4-5 years). The only exception were government websites which were found to have an older launch date[6]. So, the selection threshold criteria in terms of website size and popularity were much lower than we expected. This can be accounted for by cultural facts such as the flexibility and volatility of Chinese businesses that rely mostly on personal connections and traditional and personal business approaches, rather than using Internet as a way to promote their businesses.

From our analysis of Web links derived from the business directories, it appears that it is difficult to establish connections between Chinese businesses. Factors that influence our approach include the fact that only big businesses, such as those in the information technology section tend to actually have their own Web page. Moreover, after a brief manual analysis of the gathered links, we noticed that even if there are companies that mention on their Web sites other companies, these links are not the type of business links we are looking for. Often we will find links to major software vendors whose software they use, although they are listed under headings such as 'Who we work with'. We therefore propose to pair the analysis of the business Web sites, with an analysis of ethnic Chinese business presence on social networks. The notion of using a social platform fits within the theory that ethnic Chinese do business within their already existing network, which they may have mirrored online. In addition, it appears that Asian cultural background has a big influence on website layout and contents, ranging from different, non-homogeneous website design and organization, to minor spelling mistakes of business links and keywords used for an entire website, not just a page. This makes it very difficult to base any assumptions and draw conclusions from the extracted links in an automated manner, even if a high relevancy of page keywords existed. Our further research will therefore focus on deeper analysis and integration of these different sources to obtain a more complete picture of the network of Chinese business relationships.

Acknowledgements

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[6]e.g., 1999 for www.micci.com - the umbrella platform comprising of five principal Malaysian private sector organizations concerned with commerce and industry

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