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An Internet-Connected World: Google's Platform Strategies to Network Industry

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Abstract. In this Internet-connected world across the globe surrounded by mobile phones, social media, cloud computing and contents, these information resources are owned by the five big technology fiefs – Apple, Amazon, Facebook, Google, and Microsoft. In this study, we focus on Google's platform strategies on how to manage and utilize its platform to deliver information from core business to partners of its ecosystem (Government / Companies, Innovators, Advertisers / Consumers, Software / Application Developers, Media Companies / Individuals), based on the concepts of platform dominance, dynamic capabilities, cross-platform integration and coopetition. We aim to generate unique strategies to extend Google's business models and its mission "*to organize the world's information and make it universally accessible and useful*" for future Internet-connected world.

Keywords. Internet-connected, platform dominance, dynamic capability, cross-platform integration and coopetition

1. Internet Connected World

More recently, Internet-dominance has been the center of conversation at International CES (Consumer Electronics Show). In 2010, a Skype-enabled TV made a big impression on Samsung's Smart Life devices. In 2012, connected devices continued to be the central theme at CES; there were more than half of the devices from display, smart home appliances to medical devices. In the latest CES 2013, the new "killer apps" are that connect nudge households into a lifestyle of effortless interactivity of devices by Internet of electricity. The main change is that most connected devices are part of a limited ecosystem with only one or two devices and all will communicate back to a server in the cloud. The unity of standard for connectivity, software, and even the clouds where data might be stored or processed forms this ecosystem. For the coming 2014 CES[1], the topics still focus on the network of content delivery, always-on connections and social sharing. As every person and device gets connected across the globe further, every industry and country will be altered. When networked world is changing by mobile, social, cloud, content, and devices converged by above new services, how an enterprise offers sustainable business models and the social, cultural, technological innovation for the future of consumer services become the key issue.

As Google's chief executive for a decade until 2011, Eric E. Schmidt oversaw Google's ascent from a small California startup focused on helping computer users search the Internet to a global technology giant. On December 12, 2011, he delivered a

[1] Refer to 2014 International CES, Super Sessions. http://www.cesweb.org/Conference-Program/SuperSessions.aspx

speech at The Economic Club, "Boundless horizons for an Internet-connected world"[2]. He said, "*Technology is at a point now where we're seeing the emergence of a number of global-scale platforms that are impressive in their reach and the ability for them to change the world"*. As web search frontier, Google expands its role from information platform to Internet service provider. It has released a lot of new services that live inside other applications, without having a standalone interface to facilitate the adoption of new service. Google now has offices in more than 40 countries, including all three of North Korea's neighbors, Russia, South Korea and China, another country criticized for systematic Internet censorship. After being accused of complying with China's strict Internet regulations, Google pulled its search business from the world's largest Internet market in 2010 by redirecting traffic from mainland China to Hong Kong. After his unofficial visit to North Korea and told to the reporters at Beijing Capital International Airport on January 10, 2013, *"As the world becomes increasingly connected, their decision to be virtually isolated is very much going to affect their physical world, their economic growth and so forth, and it will make it harder for them to catch up economically"*[3]. It is to encourage the end of North Korea's self-imposed isolation and allow its citizens to use the internet, and complete the Google's popular satellite imagery product, Google Map, in the coming future. Especially, the major competitor Apple iOS6 Maps actually shows a few major cities in North Korea, whereas Google Maps does not.

In April, 2013, Schmidt and Jared Cohen, the director of Google Ideas and a former adviser to both secretaries of state Condoleezza Rice and Hillary Clinton, published their book "The New Digital Age"[4], which explores how the ubiquity of the Internet will change society. Inspired by the book, the paper here is to analyze where our internet-connected world is headed and what it means for people, states, nations, and businesses by Google's strategies in the future.

2. Google's Ecosystem

Google began in January 1996 as a research project by Larry Page and Sergey Brin when they were both PhD students at Stanford University in California. The name "Google", was originated from a misspelling of the word "googol", the large number 10^{100} , which was picked to signify their search engine "BackRub", which takes *"to organize the world's information and make it universally accessible and useful."* as their mission. Originally, Google was settled under the Stanford University with the domain names 'google.stanford.edu' and 'z.stanford.edu', registered on September 15, 1997 till company incorporated on September 4, 1998, and its initial public offering followed on August 19, 2004.

Rapid growth since incorporation was triggered a flurry of products, acquisitions, and partnerships that expanded its domain beyond the core web search engine. These included Gmail, Google Maps, Google Books, Google Finance, Google Docs, Google Calendar, Google Checkout, Google Apps, Google News, Google Wallet, and in late June 2011, Google soft-launched a social networking service called Google+. With

[2] Refer to The Economic Club, Speech 2011-2012. http://www.economicclub.org/page.cfm/go/videos.

[3] Refer to The New York Times, "Visit by Google Chairman May Benefit North Korea" http://www.nytimes.com/2013/01/11/world/asia/eric-schmidt-bill-richardson-north-korea.html?pagewanted=all

[4] The New Digital Age: Reshaping the Future of People, Nations and Business, Released on April 23, 2013, $15.85 on Amazon.

these initiatives and acquisition of YouTube and Double Click, in May 2011, Google sites became the 1st web property to surpass 1 billion monthly unique visitors; in the contrast, Microsoft was the 2nd as 0.9 billion, followed by Facebook with 0.7 billion.[5] Today, the size of the World Wide Web of Google's index is estimated average 46 billion pages[6] and Google enjoys 83.85% market share (January 9, 2013) worldwide[7].

Based on above product portfolio, Google extends and enhances broad mission and collection of innovations since its search-based advertising is a fantastically profitable product to cover for many unprofitable ones. To meet company's mission, Google has spent billions of dollars creating its internet-based operating platform and developing proprietary technology. A freeware web browser Google Chrome was released in December 11, 2008, and reaches worldwide top 1 browser (29.4%) in December, 2012[8]. Android, a Linux-based operating system for mobile operating system, released on September 23, 2008, got impressive 75% market share at Q3 2012 according to analyst firm IDC. On November 19, 2009, Google released Chrome OS as a competitor both directly to Microsoft Windows and indirectly the company's word processing and spreadsheet applications on cloud computing. Google's successive introduction of the popular Android and Google Chrome OS for client-based operating system for different markets, mobile and personal computing has been to support its internet-based strategies.

Besides, the investment in infrastructure allows the continuously improving specified service levels and response times, rapidly develop and roll out new services devising. The proprietary technology provides the design and evolution for infrastructure and strategy of platform integration. The open and customizable nature of Android operating system is currently used on laptops, netbooks, smartbooks, and smart TVs (Google TV). In addition, developing projects of smart glasses, wristwatches, headphones, car CD and DVD players, mirrors, portable media players and landlines are on-going. An upcoming videogames console Ouya is running on Android slated for release in March 2013. It appears that cross-platform compatibility under same OS creates the trend for Google. In 2011, new concept of "Android@Home" for home automation technology, a system for tying together home devices via Google-authored protocols and APIs, was demonstrated. The network is similar to ZigBee, a low-power wireless network used for short-range home automation. However, the network will be designed to allow for enough bandwidth to transfer video, an external security camera, and for further cloud services provider to bring Google products into customers' homes.

In this Internet-connected world, refer to Bala Iyer and Thomas H. Davenport (2008), Google's ecosystem can be cataloged into four key players shown below:

(1) Content Provider: it refers to an organization or individual that creates information, educational or entertainment content for the Internet, CD-ROMs or other software-based products. A content provider may or may not provide the software used to access the material.
(2) Consumer: 'Unique visitors' is a count of how many different people access a Web site. For example, if a user leaves and comes back to the site five times during the

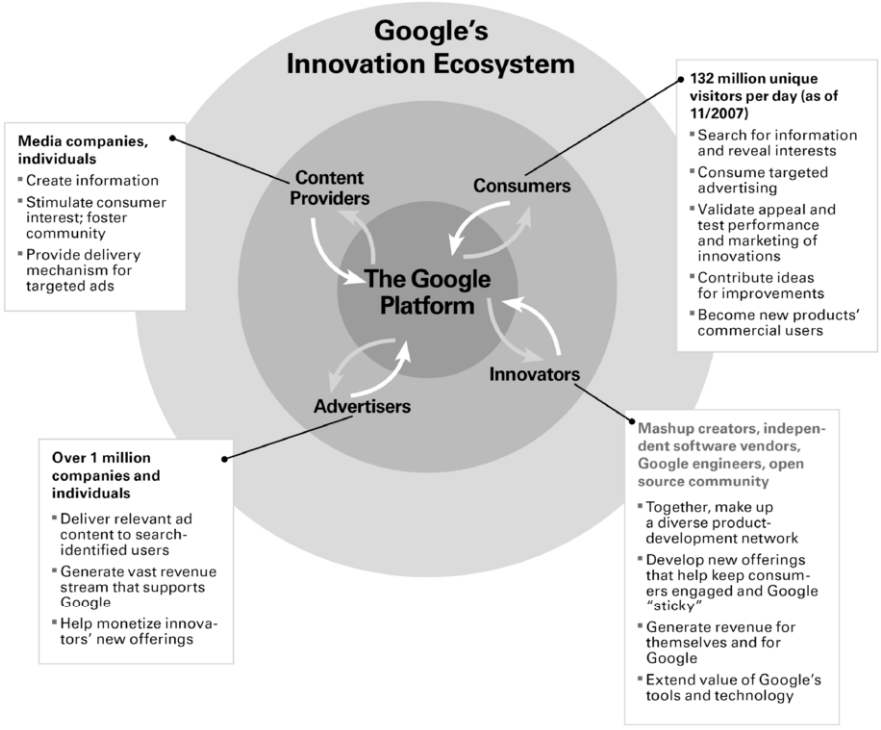
[5] Refer to comScore Data Mine, Google Reaches 1 Billion Global Visitors, June 22,2011. http://www.comscoredatamine.com/2011/06/google-reaches-1-billion-global-visitors/
[6] Refer to website The size of the World Wide Web (The Internet), http://www.worldwidewebsize.com/
[7] Refer to website Net market share, http://www.netmarketshare.com/search-engine-market-share.aspx?qprid=4
[8] Refer to website W3Counter. http://www.w3counter.com/trends

measurement period, that person is counted as one unique visitor, but would count as five "user sessions". Unique visitors are determined by the number of unique IP addresses on incoming requests that a site receives, but this can never be 100% accurate. Depending on configuration issues and type of ISP service, in some cases, one IP address can represent many users; in other cases, several IP addresses can be from the same user.

(3) Advertiser: Online advertising, also known as online advertisement, internet marketing, online marketing or e-marketing, is the marketing and promotion of products or services over the Internet. Examples of online advertising include contextual ads on search engine results pages, banner ads, blogs, rich media ads, social network advertising, interstitial ads, online classified advertising, advertising networks, dynamic banner ads, cross-platform ads and e-mail marketing, including e-mail spam. Many of these types of ads are delivered by an ad server.

(4) Innovator: Various web applications that is innovated and accessed by users over a network such as the Internet or an intranet. Web applications are popular due to the ubiquity of web browsers, and the convenience of using a web browser as a client, sometimes called a thin client. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity, as is the inherent support for cross-platform compatibility.

Figure 1. Google's Innovation Ecosystem (adapted from Iyer and Davenport 2008)

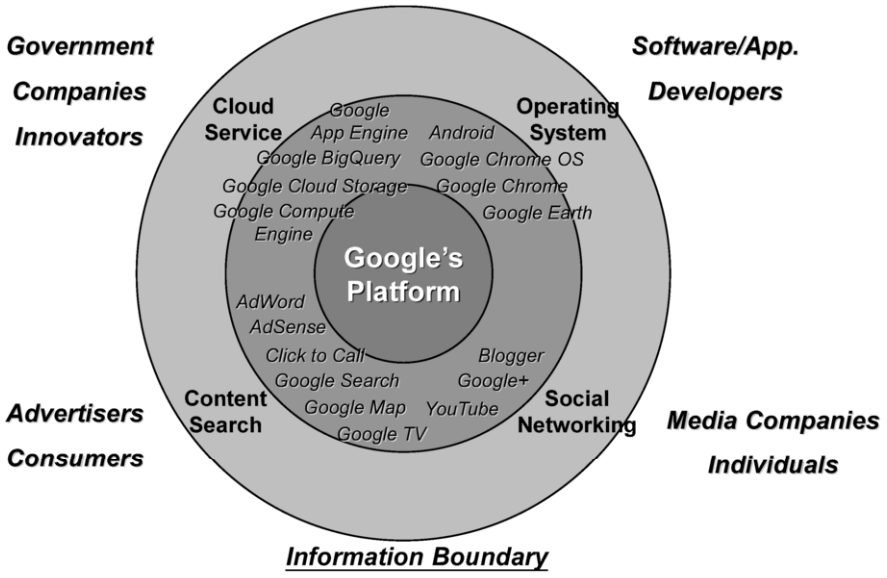


How does Google serve its community on the platform? Refer to 2013 Form 10-K, core businesses are in four areas:

(1) Search Engine: A web search engine is software code that is designed to search for information on the World Wide Web. Some search engines also mine data available in databases or open directories, maintain real-time information by running an algorithm on a web crawler. Key providers are Google, Yahoo!, Bing, Baidu, Ask, AOL, etc.
(2) Social Networking: a platform to build social networks or social relations among people who, for example, share interests, activities, backgrounds, or real-life connections. Online community services are sometimes considered as a social network service in a broader sense. Social networking sites allow users to share ideas, pictures, posts, activities, events, and interests with people in their network. Key providers are Facebook, YouTube, LinkedIn, Twitter, Google+, and MySpace.
(3) On-Line Shopping: allows consumers to directly buy goods or services from a seller over the Internet using a web browser. Online goods and services such as streaming media, electronic books, software via B2B, B2C, and C2C channels. Key providers are Amazon, eBay, Taobao, etc.
(4) On-Line Advertising: a form of promotion that uses the Internet for delivering marketing messages to attract customers. Online ads are delivered by an ad server, include contextual ads that appear on search engine results pages, banner ads, in text ads, Rich Media Ads, Social network advertising, online classified advertising, advertising networks and e-mail marketing, e-mail spam. Key Providers are Google, DoubleClick (Google), Yahoo!, MSN (Microsoft), AOL, Adbrite.

Here we summarize Figure 1 and Google's core business into a new model to explain how Google organizes the world's information and make it universally accessible and useful shown as Figure 2.

Figure 2. Google's Platform of information boundary



In this information ecosystem, even Google plays the role of a keystone—control components of dominance from its unique search technology, internet-based operating platform is working on multi-sided business by 4 actors, Content providers, consumers, advertisers, and innovators.

3. Literature Review

3.1. Platform Industry

Gawer and Cusumano (2008) described under the right circumstances, companies of any size can grow to become platform leaders. And particular business and technology decisions can help platform-leader wannabes achieve their goals. In the case study which pointed out that Google really won the platform leadership battle for Internet search on the business side by solving fundamental problems. An industry platform is a foundation technology or service that is essential for a broader, interdependent ecosystem of businesses. Eisenmann (2008) defined four types of firm strategies based on one/many platform provider and one/many platform sponsor, Proprietary, Licensing, Joint Venture, and Shared platforms. The firm strategies should be selected for different platform design.

Many mature networked markets are served by a single platform. Winner-take-all (WTA) dynamics are likely to prevail at the platform level when three conditions all hold:

(1) Network Effects are Strong. Users will want access to all potential transaction partners. A sub-scale platform will be of little interest to them unless it provides the only way to reach certain partners.
(2) Multi-Homing Costs are High. Users need a good reason to affiliate with multiple platforms.
(3) Demand for Differentiated Features is Limited. If special features are limited, then users will converge on one platform. By contrast, if segments have unique needs that are intrinsically difficult or expensive to serve through a single platform, then rival platforms can survive.

3.2. Dynamic Capability

Eisenhardt and Martin (2000) concluded that dynamic capabilities are a set of specific and identifiable processes such as product development, strategic decision making, and alliancing. Google generates revenue primarily by delivering relevant, cost-effective online advertising. Businesses use AdWords & AdSense to promote their products and services with targeted advertising and enhance the user experience. Platform Dominance

Srinivasan and Venkatraman (2010) analyzed the network positions of platform complementors to explain the platform dominance. The impact of degree of links with complementors representing the number of complements is significant that platform dominance is positively influenced by support from a greater breadth of titles by complementors and lesser degree of overlap with other platforms. In this model, degree of linkage, variety of linkage, degree of overlap with other platforms and complementor dominance would all positively affect the target platform dominance.

Gawer (2007) studies Intel's strategy with complements and found Intel's entry decisions are shaped by no capabilities to enter all possible markets, and thus that it must encourage widespread entry despite the fact that potential entrants for the understanding of the dynamics of competition in complements form in shaping competition. Arya and Lin (2007) extend the resource-based view in a collaboration network by investigating how NPO collaboration outcomes, reflected through a joint consideration of monetary and nonmonetary dimensions, may be affected by

organizational characteristics, partner attributes, and network structures. For Google's social networking, a platform to build social networks or social relations by online community services to allow users to share ideas, pictures, posts, activities, events, and interests with people in their network. Key providers are Facebook, YouTube, LinkedIn, Twitter, Google+, and MySpace. They would be measured for this topic.

3.3. Cross-platform Integration and Coopetition

In Google's business model, cross-platform competition and operation exists in different industries.

Competition from different platforms: Google search engine service is not only challenged by Bing and Yahoo!, but broader than general as we normally think of them, Apple, Amazon, and Facebook are also used often.

(1) Product Search:

Google lacks market power in a critical segment of product search, Amazon in product search for comparison-shopping as a search engine competitor to Google.

(2) Service Search: Apple's Siri provides new voice search linked to answer. More than 25 billion apps can be downloaded from its App Store by the users from iPhone, iPad, and iPod touch devices worldwide for services.

(3) Place Search: search engines are evolving into places where users go for answers, and that Facebook is uniquely positioned to compete in that market: "when you think about it from that perspective, Facebook is pretty uniquely positioned to answer a lot of the questions that people have."

Cooperation from different platforms:

Google and Apple have a history of cooperation and rivalry. Apple iPhone's technological sophistication comes from a large amount of inputs by Apple's engineers and designers. The success is in part because of its utilization of Google's information technology, Google internet search, Google Maps, and YouTube installed. However, in August of 2005 when Google acquired Android Inc. and formed the Open Handset Alliance and concurrently announced Android as a mobile software platform in November of 2007, it directly threatened Apple's market. In 2012, Apple has made one final move to end support for Google Maps in their iOS platform. Application developers who worked with Google Maps' API must shift to Apple's Map Kit API when creating applications for the new iOS 6.

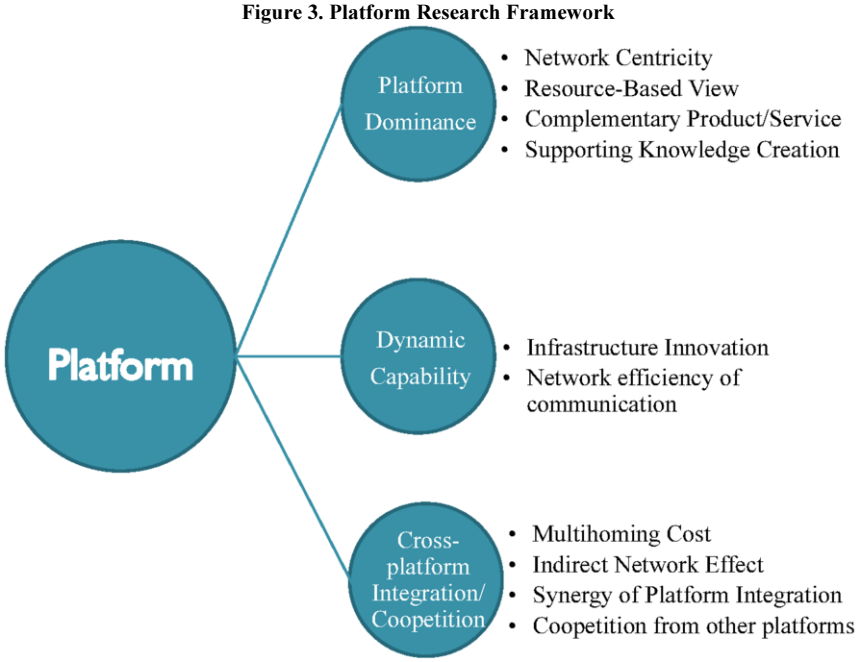
Google and Intel share the value of cooperation in the smartphone field. Intel announced new cooperation with Google in December 2011 to accelerate the Intel Corporation in the smartphone aspects of the business. Google Inc. said it will focus on the Atom chip for future versions of the Android operating system which is optimized with the appearance of a smart phone reference design. But for analysts, Intel's chips in the computer field are invincible, but smartphone makers use more of the ARM chip architecture. Although in recent years, Intel has repeatedly said that Atom for smartphone will go on sale, but ultimately anticlimactic.

4. A Framework for Platform Research

4.1. Platform Framework

We propose a framework for platform research shown as Figure 3 to examine the characteristics of network industry. In network industry, platform dominance, dynamic capability, and cross-platform integration/coopetition are three dominants.

Figure 3. Platform Research Framework



4.2. Analytical framework

By referring to "Catalyst Code", we try to analyze Google's business and integrated into the framework above.

Platform Dominance

(1) Network Centricity

To support Google's core business of the different groups (user/developer, customer/advertiser) to interact, three major mediators for network centricity are :

- Brower : W3Counter indicated that Chrome became the leading browser globally in March 2013 with 30.3% market share. User could link to Chrome Web Store for web applications for Google Chrome or Google Apps.
- Chrome OS (for PC market) : A Linux-based operating system released on November, 2009, Chrome OS is viewed as a competitor to Microsoft Windows directly and office suit (word processing and spreadsheet applications) indirectly , the latter through Chrome OS's reliance on cloud computing.
- Android OS (for mobile market) : A Linux-based operating system designed primarily for touchscreen mobile devices such as smartphones and tablet computers. According to StatCounter on March 2013, Andriod(37.23%) is

topping than iOS (27.14%) and Windows Phone(1.19%). The operating system's success has made it a target for patent litigation as part of the so-called "smartphone wars" between technology companies.

(2) Resourced-Based View

- To exchange resources of tangible goods and intangible information, on Social Networking, the $1.65 billion acquisition of YouTube (2006), put Google in the role of content host—storing materials on Google-owned servers, reaching 136 million videos in September 2012. Besides , Google provides Google+ the second largest social networking site in the world on November 2011, having passed Twitter in January 2013.
- On E-Marketplace : Google Play, the digital application distribution platform for Android and an online electronics store developed and maintained by Google. The service allows users to browse and download music, magazines, books, movies, television programs, and applications published through Google.

(3) Complementary Product/Service

In “2012 Corporate Highlights”, new potential product is on developing, such as,

- Google Play—an entirely cloud-based, digital entertainment destination with more than 700,000 apps and games plus music, movies and books that users can find, enjoy and share on the web and on their Android phone or tablet.
- Google Now—a predictive search feature that gets right information at the right time, such as to tell user the day’s weather before starting the day, how traffic to expect before leaving, or favorite team’s score while they’re playing – all automatically appearing throughout the day at the moment you need them.

(4) Supporting Knowledge Creation

- Knowledge Graph—introduced in 2012, enables the user to search for things, people or places that Google knows about – landmarks, celebrities, cities, sports teams, buildings, geographical features, movies, works of arts and more – and enhances Google Search by understanding the ambiguities in language and by better understanding a user’s query. In Linda A. Hill & Emily A. Stecher (2010) research, the continual innovation of Google’s infrastructure is imperative. R&D expense of total revenue occupies 13.5% of 2012 to make significant investments.
- Google lowered the online price from US $4 per 1,000 map loads to 50cent per 1,000 map loads, and Maps API remains free for the vast majority of sites. Google eliminates the previous distinction between Styled Maps and regular unstyled maps. The same usage limits and pricing now apply to applications using Styled Maps and the default Google Maps style.

Dynamic Capabilities

(1) Infrastructure Innovation

- Around 2000, Google's search engine rose to prominence. The company achieved better results for many searches with an innovation called PageRank. This iterative algorithm ranks web pages based on the number and PageRank of other web sites and pages that link there, on the premise that good or desirable pages are linked to more than others.
- To support Google’s search engine service, the AdWords program is generating revenue by dynamic pricing tools : cost-per-click (CPC) advertising and cost-per-mille (CPM) advertising, and site-targeted advertising for text, banner, and rich-media ads. Pricing mechanism includes : Max CPC Bid (maximum cost-per-click bid); Quality Score : The ad's past performance Click-through rate (CTR), and Ad Rank = Max CPC bid $\times$ Quality Score.

(2) Network efficiency of communication

- Google subsidizes user side permanently, pricing platform goods and services free to attract more users but charge to advertiser's side. From 2012 Form 10-K Financial Tables of As % of Google Revenues, 37.3% of Google revenues, includes 25.1% traffic acquisition costs of advertising revenues related to AdSense arrangements program, distribution fee paid, and some content displayed on YouTube by penetration pricing practices.

Cross-Platform Integration/Cooperation

(1) Multi-homing Cost

- To compete with Microsoft by minimizing transaction cost, browser(Chrome) and Linux-based OS(Chrome OS and Android) is free source code to developer by licensing, takes no transaction cost on Chrome Store or Google Play for applications.
- Pay customers to belong, in 2009, Google paid $82 million to Apple iOS for the privilege. Over the years, Apple has gotten more revenue from Google as Microsoft has been pushing very hard and bidding to make Bing the default search engine. As Samsung is now the dominant manufacturer, the Apple-Google deal could peak soon. Google will watch closely how market shares change and could end the deal or lower its terms at the first opportunity.

(2) Indirect Network Effect

- Content provider : Google's YouTube introduces paid content subscriptions that some content producers will offer channels which consumers are willing to pay for — this subscription service helps anyone learn software, creative, and business skills to achieve their personal and professional goals. For Google Book announced in December 2004, American publishers and Google have come to terms over the company's ambitious book-digitizing project, these lawsuits let Google acknowledges the rights and interests of copyright-holders.
- Advertiser : The AdWords allows advertisers the option of enabling their ads to show on Google's partner networks. The "search network" includes AOL search, Ask.com, and Netscape show AdWords ads in response to user searches. AdSense allows publishers in the Google Network of content sites to serve automatic text, image, video, and rich media adverts that are targeted to site content and audience. Traffic acquisition costs related to AdSense and distribution arrangements of 2012 is $10.96 billion, pays 25.1% revenue to Google Network Members and distribution partners.
- Innovator : Such as system manufacturers (Samsung, Acer,HTC, etc.) are willing to use free licensing fee Android and Chrome OS to enhance their product competitiveness. Individual developers invent and sell their paid product, music, software on Google store or Google Play without transaction fee. In Cloud Computing, Google is building ecosystem with technical partners.

(3) Synergy of Platform Integration

- Google's search technologies deliver relevant and useful search results in response to user queries, integrated with innovative Product Listing Ads, which include richer product information, such as product image, price, and merchant information, without requiring additional keywords or ad text.
- For social networking, the released of Google+ in 2011 with integration between Google+ and other Google properties, such as Gmail and YouTube. A user performs a signed-in search on Google, the user's results page may include Google+ content from people that the user is close to (or might be interested in

following). Relevant Google+ profiles and Google+ pages related to a specific topic or area of interest may also appear on a user's results page.

- In Near Field Communication (NFC) service, Google Wallet is a mobile payment system developed by Google on May 2011, that allows its users to store debit cards, credit cards, loyalty cards, and gift cards among other things, as well as redeeming sales promotions on their mobile phone. In Wireless Charging Technology (WCT), the advocacy group Power Matters Alliance (PMA) on April announced that it has recruited Samsung, HTC and LG to support its cause. The group has a long list of members, including AT&T, Google, Starbucks, Blackberry, NEC, Texas Instruments and ZTE.

(4) Cooperation from other Platforms

In the Federal Trade Commission (FTC) investigation in the final stage for monopolist of search market, they found the competitive ground may be Bing and Yahoo! at beginning. But the market is almost certainly broader than general search engines as we normally think of them, the major competitors include Apple, Amazon, and Facebook. Survey data from two consultancies that should give the antitrust authority pause:

- Forrester Research found that 1/3 online users started their product searches on Amazon compared to 13% who started their search from a traditional search site.
- comScore found that product searches on Amazon have grown 73% over the last year while shopping searches on Google have been flat.

It may not be natural to associate Amazon (an online retailer), Apple (a device maker), and Facebook (a social media site) with search, but in the technology industry, Google next competitive threat can come from anywhere. Monopoly and the kind of robust platform competition between Apple, Amazon, Google, and Facebook are mutually exclusive portraits of reality.

Differ from high market share of search engine service , Google's cloud service is also facing fierce competition from Amazon, IBM, Engine Yard, Heroku, Force.com, Microsoft Skytap, VMware, Rackspace, GoGrid, Enlight, HP etc, to attract more user/developer to its cloud platform, all free for trial/basic service but discrimination pricing for advance service. If any potential cooperation from other platforms ?

Alliance between Google and Apple : An history of cooperation and rivalry

On Macworld 2007, the iPhone was successful due in large part to Apple's engineers and designers, and utilization of Google's information technology : Google internet search, Google Maps, and YouTube installed. In many ways, Google was the first company to develop a second-party app for the iPhone; all of the other applications on the phone were developed internally by Apple. Given Apple's impressive hardware and Google's information architecture, a return to cooperation can provide users with more cutting-edge experiences such as the original Google Maps on the iPhone; it may seem commonplace now, but directly accessing a dynamic map on your smartphone was truly unique five years ago. However, significant headway needs to be made for such cooperation to ever again be possible.

Alliance between Google and Intel : the value of cooperation in the smartphone field

Intel announced new cooperation with Google on December 2011 to accelerate the Intel in the smart phone aspects. Google said it will focus on the Atom chip for future versions of the Android OS is optimized, the appearance of a smart phone reference design. Android joined on the Intel X86 architecture support is particularly important for Google TV product. For Google, Intel's most valuable is t software innovator,

thousands of software engineers engaged in the OS including Windows, including better able to run on its chips work to better compete with Microsoft and Apple.

5. Conclusion

Below are some suggestions for Google from platform perspectives for future intenet-connected world:

5.1. Short-term focus

- Enlarging the OS market share of phone、TV、Pad、PC (Andriod and Chrome OS) , competing OS monopoly of Microsoft .
- Cooperation with strategic 3C hardware manufacturers (e.g. Acer, Samsung, Motorola, HTC), controlling development software Know-How.

5.2. Middle-term focus

- The application and popularization of cloud services, complementary application software development
- Cooperation with the telecommunication systems providers to develop prototype of experimental products (Cloud Products) for B2C
- Based on competitive advantage of Google Map for Augmented Reality application of "Navigation HUD system" or "Street View Advertizing"

5.3. Long-term focus

- 4th Industrial Revolution: Services of technology, especially for Experience Economy.
- Alliance of B2B and B2C industry in Cloud Computing with company vision. Cooperation alliance with such as Intel, Samsung, and maybe Apple.
- Persuade for unique Monopoly of information (e.g. Google Book), eliminate cross-platform completion from Amazon, Facebook, and regional content providers.

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