

Case Study - Google, Inc.

As mentioned at the beginning of this research, the “portals” are the chosen field for this research because these companies start taking advantage of its channel function. For example, although it is a test for Google Video—one of the search giant Google’s Web portal-like service, Google Video provides 2000 free videos which are from professionals, not amateurs. Now Google Video is not only a service but also is trying to “act” like a content provider—in fact, it is still a bridge between content providers and content consumers. Therefore, it is important to understand this coming transformation of the industrial structure and so this field is the subject of this research.

In addition, according to EContent 100¹⁷⁷—the list of companies that matter most in the digital content industry, Google is on the list in the last four consecutive years. The “Google wave” is sweeping the world and now is a threat to Microsoft. Although the company reported strong results for the first quarter of 2006—sales grew by 79 percent and earnings rose 60 percent from a year ago and that shows selling ads based on specific keyword searches is Google's wealth¹⁷⁸, Google plan to expand into new markets, such as print and television advertising. Almost everyday non-stop news and reports show the impact of Google. However, none of these demonstrate how Google plan its roadmap or intellectual property but only the analyses of certain events or the stories of Google.

Therefore, this research takes Google as the example to test the hypothesis of the model which is as described previously.

1. Company Overview¹⁷⁹

¹⁷⁷ EContent (2004, December). Forth annual EContent 100 list. *EContent Magazine*, 27 (12). Retrieved September 2, 2005, from <http://www.igroup.com.cn/printpage.asp?ArticleID=340>
EContent reviews the companies’ activities over the past year and evaluate their current standing and impact on the digital content industry.

¹⁷⁸ Paul R. La Monica (2006, April 21). Google: On the road to \$500. *CNNMoney.com*. Retrieved May 6, 2006, from http://money.cnn.com/2006/04/20/technology/google_analysis/index.htm

¹⁷⁹ For more information, see, Google (2006). *2005 Annual Report*. Retrieved May 6, 2006, from <http://www.sec.gov/Archives/edgar/data/1288776/000119312506056598/d10k.htm>

Google, Inc. (Google) is a Delaware corporation with its headquarters located at Mountain View, California. Founded in 1998 by Larry Page and Sergey Brin, Google is an Internet search engine technology provider. Now Google is far more than a search website and it has grown to be a large collection of products and services.

The company name “Google” is the misspelled word of “Googol¹⁸⁰” which is the mathematical term for a 1 followed by 100 zeros¹⁸¹. Yet Google's play on the term reflects the company's mission to organize the world's information and make it universally accessible and useful. Now there are more than 1 billion search queries everyday using Google web search service.

On April 29, 2004, Google filed a registration statement for an initial public offering of securities with the U.S. Securities and Exchange Commission, which became effective on August 19, 2004. The company's common stock is registered with the U.S. Securities and Exchange Commission pursuant to Section 12(g) of the Exchange Act, and is quoted on the Nasdaq Stock Market.

1.1 Profit

“Don't be evil¹⁸²” which is the Google’s informal corporate slogan which means Google serve their users – as well they should – and establishes a baseline for decision making¹⁸³.

Google states that they generate revenue primarily by delivering relevant, cost-effective online advertising. Businesses (Advertisers) use AdWords program to promote their products and services with targeted advertising. Moreover, the thousands of third-party web sites (Web Publishers) that comprise the Google Network use AdSense program to deliver relevant ads that generate revenue and enhance the user experience¹⁸⁴. Google offers customers interfaces in 42 languages and payment options in 48 different currencies.

Google (2005). *Corporate Information*. Retrieved May 6, 2006, from <http://www.google.com/intl/en/corporate/index.html>

U.S. Securities and Exchange Commission (2005, January 13). *In the Matter of GOOGLE, INC. and DAVID C. DRUMMOND, Respondents*. Retrieved May 6, 2006, from <http://www.sec.gov/litigation/admin/33-8523.htm>

¹⁸⁰ “Googol” was invented by Milton Sirota, nephew of American mathematician Edward Kasner, and was popularized in the book, “Mathematics and the Imagination” by Kasner and James Newman.

Google (2005). *Corporate information*. Retrieved May 6, 2006, from <http://www.google.com/intl/en/corporate/index.html>

¹⁸¹ Vise, D., & Malseed, M. (2005). *The Google story*. New York: Delacorte Press, p.39.

¹⁸² “Don't be evil” is said to recognize that large and established companies can maximize short-term profits with actions that destroy their long-term brand image and competitive position.

¹⁸³ Google (2004, August 18). *Investor relations*. Retrieved May 10, 2006, from <http://investor.google.com/conduct.html>

¹⁸⁴ See Google, supra note 179, at 1.

2. The Audit of Google's Intellectual Property

According to Google's 2005 annual report, Google has taken several basic IP protection procedures, but described vaguely as follows:

- (1) Take confidentiality procedures and contractual provisions to protect its proprietary technology and its brand.
- (2) Enter into confidentiality and invention assignment agreements with its employees and consultants and confidentiality agreements with other third parties
- (3) Control access to proprietary technology.

The above information shows Google's IP management vaguely. In order to analyze the status of Google's global IP deployment, upon the available databases, this research locates its IP applications in the Delphion and (PCT)¹⁸⁵.

2.1 Search in Delphion: Google's Patents

The function of "Corporate Tree" can help to target "Google" as the only assignee, but it also limits the search to certain databases—"Original Assignee" displays normalized assignee names for use with US Granted and US Application collections. "Hierarchy" displays corporate structure for use with US & EP Granted and EP & PCT Application collections. If this research does not use the function of "Corporate Tree" and search single database each time, the search result can include data from US (Granted), US (Applications), European (Granted), European (Applications), WIPO PCT Publications, Abstracts of Japan, and INPADOC¹⁸⁶. Therefore, this research exhibits the search result which is from the search without using the function of "Corporate Tree".

¹⁸⁵ Delphion (2006). *Delphion database collection*. Retrieved June 14, 2006, from <https://www.delphion.com>

Delphion database collection covers US (Granted), US (Applications), European (Granted), European (Applications), WIPO PCT Publications, Abstracts of Japan, INPADOC

For information on Delphion Collection Coverage, see Appendix —A

Intellectual Property Digital Library (IPDL) (2006), Retrieved June 14, 2006, from <http://www.wipo.int/ipdl/en/>

The Intellectual Property Digital Library Web site provides access to intellectual property data collections hosted by the World Intellectual Property Organization. These collections include PCT (Patents), Madrid (Trademarks), Hague (Industrial Designs), Article 6ter (State Emblems, Official Hallmarks, and Emblems of Intergovernmental Organizations) and others—Health Heritage (Traditional Knowledge Test Database) and JOPAL (Journal of Patent Associated Literature).

For information on IPDL Data Collections, see Appendix — B

¹⁸⁶ Because German database is mostly in German language, this writer is not able to read in German. Thus, this search leaves out the German database.

2.1.1 Search Method (see Figure 4.1)

- (1) Go to “Boolean” search page
- (2) Type in “Google”
- (3) Select “Assignee”
- (4) Select single database (each time)
US (Granted), US (Applications), European (Granted), European (Applications),
WIPO PCT Publications, Abstracts of Japan, and INPADOC
- (5) Check sorted by “Filed”
- (6) Select “Pub. Date”, “Title”, “Filed”, “Derwent Title”, “IPC Code” and
“Assignee”
- (7) Click “Search”

Figure 4.1

Search in Delphion: Google’s Patents (Search Method)

The screenshot shows the DELPHION search interface. The search method is Boolean. The search term is "Google" entered in the Assignee field. The search is performed on the "US (Granted)" collection. The search results are sorted by "Filed". The search options include Title, Filed, Derwent Title, IPC Code, and Assignee. The search button is labeled "Search".

2.1.2 Search Result

After repeating the above search steps to search seven different databases (see Appendix—C for more details on each patent), the results are exhibited as follows. There are 321 patents in total that include 19 patents in US (Granted), 13 patents in US (Applications), 0 patents in European (Granted), 41 patents in European (Applications), 152 patents in WIPO PCT Publications, 4 patents in Abstracts of Japan,

and 92 patents in INPADOC. In addition, the top five IPC of Google's patents are: (1) G06F 17/30(139): Information retrieval; Database structures therefore; (2) G06Q 30/00(44): Commerce, e.g. marketing, shopping, billing, auctions or e-commerce; (3): G06F 17/60(22): (transferred to G06Q); (4) G06F 7/00(16): Methods or arrangements for processing data by operating upon the order or content of the data handled (logic circuits H03K 19/00); and (5) G06F 17/00(13): Digital computing or data processing equipment or methods, specially adapted for specific functions

Table 4.1

Search in Delphion: Google's Patents (Search Result)

Database	Patents**	Main IPC*	Earliest Application
US (Granted)	19	G06F 17/30 (12)	1997-09-10
US (Applications)	13	G06F 17/30 (7)	2000-12-26
European (Granted)	0	-	-
European (Applications)	41	G06F 17/30 (19)	2003-07-16
WIPO PCT Publications	152	G06F 17/30 (51)	2003-07-16
Abstracts of Japan	4	G06F 17/30(4)	2005-07-26
INPADOC	92	G06F 17/30 (46)	2003-07-16
	Total 321	(Top 5) 1. G06F 17/30(139): Information retrieval; Database structures therefore <i>G06F: ELECTRIC DIGITAL DATA PROCESSING</i> 2. G06Q 30/00(44): Commerce, e.g. marketing, shopping, billing, auctions or e-commerce 3. G06F 17/60(22): (transferred to G06Q) <i>G06Q :DATA PROCESSING SYSTEMS OR METHODS, SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES; SYSTEMS OR METHODS SPECIALLY ADAPTED FOR ADMINISTRATIVE, COMMERCIAL, FINANCIAL, MANAGERIAL, SUPERVISORY OR FORECASTING PURPOSES, NOT OTHERWISE PROVIDED FOR</i> 4. G06F 7/00(16): Methods or arrangements for	

		processing data by operating upon the order or content of the data handled (logic circuits H03K 19/00)
		5. G06F 17/00(13): Digital computing or data processing equipment or methods, specially adapted for specific functions

* For more details on IPC of the Search Result, see Table 4.2

** For details on each patent, see Appendix—C

Table 4.2

The Types of IPC from the Search Result in Delphion (Google's Patents)

IPC	US (Granted)	US (Applications)	European (Granted)	EP (Application)	WIPO PCT Publications	Abstracts of Japan	INPADOC	Total
*	-	-	X**	-	2	-	5	7
G01C	-	-	X	-	1	-	-	1
G01C 21/30	-	-	X	-	2	-	-	2
C07K 17/705	-	-	X	-	1	-	-	1
G06F	-	-	X	-	3	-	4	7
G06F 0/	-	-	X	-	4	-	-	4
G06F 1/00	-	1	X	5	4	-	1	11
G06F 7/00	-	-	X	1	12	-	3	16
G06F 11/00	-	1	X	-	-	-	-	1
G06F 15/16	-	-	X	-	2	-	-	2
G06F 17/00	-	-	X	2	9	-	2	13
G06F 17/20	-	1	X	-	-	-	-	1
G06F 17/21	-	-	X	2	1	-	4	7
G06F 17/22	-	-	X	-	2	-	-	2
G06F 17/27	-	1	X	-	4	-	-	5

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G06F 17/28	-	1	x	-	2	-	-	3
G06F 17/30	12	7	x	19	51	4	46	139
G06F 17/60	-	-	x	2	14	-	6	22
G06F 19/00	1	-	x	-	-	-	-	1
G06K 9/72	-	-	x	-	1	-	-	1
G09G 5/00	-	-	x	9	-	-	-	9
G06Q 30/00	-	-	x	-	29	-	15	44
G06Q 40/00	-	-	x	-	1	-	-	1
G06T 11/40	-	-	x	-	2	-	-	2
G09G 5/00	-	1	x	-	3	-	1	5
G10L 15/08	1	-	x	-	-	-	-	1
H02G 3/04	1	-	x	-	-	-	-	1
H04J 11/00	1	-	x	-	-	-	-	1
H04J 13/00	-	-	x	-	-	-	1	1
H04L 12/16	-	-	x	-	-	-	3	3
H04L 12/28	-	-	x	-	1	-	-	1
H04L 29/00	-	-	x	-	1	-	-	1
H04M 3/00	-	-	x	-	1	-	-	1
H05K 7/20	2	-	x	-	-	-	-	2

* “*” means no IPC for the patent

** Google has no granted European patents

2.2 Search in IPDL¹⁸⁷: Google’s Trademark (International Marks) & Designs

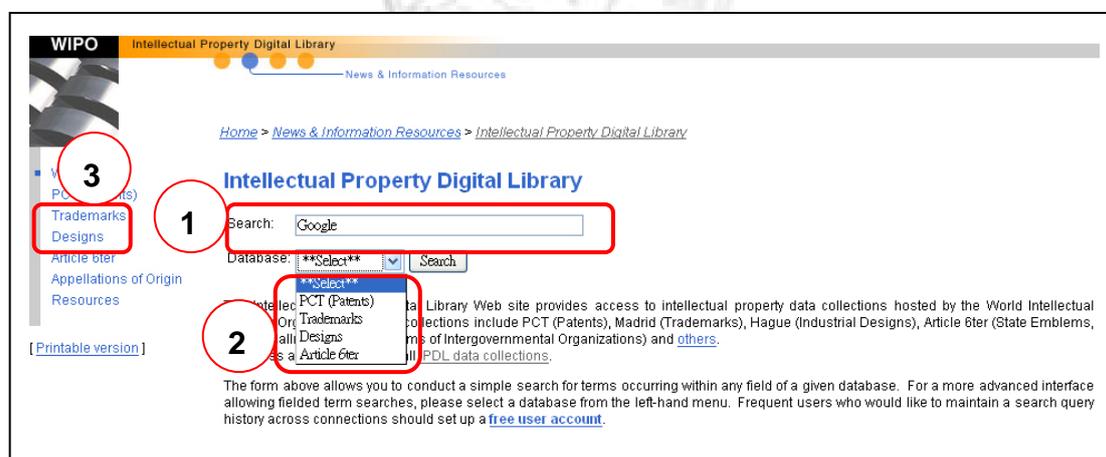
Google reveals in its 2005 annual report that Google has registered Google, AdSense, AdWords, I’m Feeling Lucky, PageRank, Blogger, orkut, Picasa and Keyhole as trademarks in the U.S., but Froogle, Gmail and Blog*Spot¹⁸⁸ are not registered. In order to know about how other IP systems that Google has utilized, this research searched its trademarks and designs in WIPO’s Intellectual Property Digital Library.

2.2.1 Search Steps (See Figure 4.2)

1. Type in “Google”
 2. Select “Trademarks” or “Designs”
- or
3. Go to “Trademarks” or “Designs” for the advance search which provides more options (text fields)

Figure 4.2

Search in IPDL: Google’s Trademark (International Marks) & Designs



2.2.1 Search in IPDL: Google’s Trademark (International Marks)

Results of searching in Madrid-Express (ALL) for Google, is shown in the following table:

¹⁸⁷ See Appendix—B IPDL data collections

Intellectual Property Digital Library (IPDL) (2006), *IPDL data collections*, Retrieved June 14, 2006, from <http://www.wipo.int/ipdl/en/>

¹⁸⁸ See Google, *supra* note 179, at 16-17.

Table 4.3

Search in IPDL: Google’s Trademark (International Marks)

No.	Verbal Elements	Image
857910	BLOGGER	_*
859851	GOOGLE	-
860242	GOOGLE	-
881006	Google	

* “-” means no image.

2.2.2 Search in IPDL: Google’s Designs (International Registration of Industrial Designs)

The result of searching in Hague for Google is 0 records. The Hague Express Database includes bibliographical data and, as far as international registrations governed exclusively or partly by the 1999 and/or by the 1960 Act(s) of the Hague Agreement are concerned¹⁸⁹.

3. The Correlation between Google’s Technology and Products

3.1 Products and Services

3.1.1 Product Development Philosophy

Google divides its product investments three ways, following a formula of “70-20-10”. Seventy percent targets its core search and advertising products, 20 percent focuses on related products, and 10 percent centers on the most experimental products¹⁹⁰. These projects would include ones where the company remains unsure if users will adopt the service or if it would make money, but such experiments are critical for the long term. Products can move among the categories as well. For examples, Google News, a service for searching news articles, and Froogle, a product search service, are both beta products that fall into the category of adjacent products

¹⁸⁹ For more information, see Appendix—B.

¹⁹⁰ John Battelle (2005, November 28). The 70 percent solution — Google CEO Eric Schmidt gives us his golden rules for managing innovation. *CNNMoney.com*. Retrieved May 10, 2006, from http://money.cnn.com/2005/11/28/news/newsmakers/schmidt_biz20_1205/index.htm

The users often see some of products' logo indicates that the product is “beta” version and this is about Google's beta policy which Google keeps products and services in beta as long as its engineers expect to continue to make major changes to them. Google's betas also are central to its identity. “Google itself was in beta for a very substantial number of years,” said Page. “Part of our brand is that we under-promise and we over-deliver, and being in beta is part of that. It's part of our branding strategy.”¹⁹¹,”

As Google provides more and more services, it can gather an increasing amount of information about users¹⁹². Therefore, users are also worried that Google tracks all of searches, and it might then easily create a personal profile of a user and sell the results to the highest bidder. Indeed, when a user visits a Google website or does a search in Google, Google servers record information about that visit, including the IP address of the visitor, the URLs, and the date and time of request¹⁹³.

3.1.2 The Classification of Products and Services

Based on available public information, Google has various product classifications for its products. For example, in 2005 annual report, Google described its products and services by categories of “Google.com”, “Web and content search”, “Communication and collaboration”, “Downloadable applications”, “Mobile”, “Labs”, “Google AdWords”, “Google AdSense”, and “Google Enterprise”. Yet on its website, categories are “Search”, “Explore and innovate”, “Communicate, show & share”, “Go mobile”, and “Make your computer work better”. In short, in order to allow the readers of this research to easily understand, this research adapts the latter classification.

Also, Google does not provide a direct-meaning link to a central page that includes all of its products, instead of the direct word “products” Google uses “more” and “About Google” (see Figure 4.3). Accordingly, users know about Google as a web search tool, but do not easily to realize there are abundant products and services that can be applied. For example, users want to check out the newest launch, a Web-based spreadsheet, Google Spreadsheets¹⁹⁴, users certainly can not find it anywhere through links on the index page of the Google's website, then if they type-in the keywords to search and try several links which may provide a trial-out opportunities finally. Yet it already costs time and makes an impression.

¹⁹¹ Matthew Hicks (2005, February 9). Google reveals its product formula. *eWEEK.com*. Retrieved May 10, 2006, from <http://www.eweek.com/article2/0,1759,1763351,00.asp>

¹⁹² Gralla, P. (2006). *Google search and tools in a snap*. Indiana: Sams Publishing, p.11-12.

¹⁹³ For more information on Google's privacy policy, see, <http://www.google.com/privacy.html>

¹⁹⁴ Elinor Mills (2006, June 5). Google Spreadsheets turns up heat on Excel. *CNET News.com*.

Retrieved June 7, 2006, from

http://news.com.com/Google+Spreadsheets+turns+up+heat+on+Excel/2100-1032_3-6080223.html

As noted above, besides web search function in the index page of the Google website, there are two ways that the Internet users can go to for more Google products, as indicated in the following figure:

Figure 4.3

The Index Page of the Google Website



3.2 The Correlation between Google's Technology and Products

Basically, Google divides its technology into three categories: Web Search Technology, Advertising Technology, and Large-Scale Systems Technology¹⁹⁵.

Table 4.4

Google's Technology

Types	Technology
Web Search Technology	
Ranking Technology	<ul style="list-style-type: none"> ● PageRank is a query-independent technique for determining the importance of web pages by looking at the link structure of the web. ● PageRank treats a link from web page A to web page B as a "vote" by page A in favor of page B. ● The PageRank of a page is the sum of the PageRank of the pages that link to it. The PageRank of a web page also depends on the importance (or PageRank) of the other web pages casting the votes. ● Votes cast by important web pages with high PageRank weigh more heavily and are more influential in deciding the PageRank of pages on the web.
Text-Matching	<ul style="list-style-type: none"> ● Google uses text-matching techniques to compare search queries with the content of web

¹⁹⁵ See Google, supra note 179, at 13-15.

Techniques	<p>pages to help determine relevance.</p> <ul style="list-style-type: none"> ● Text-based scoring techniques do far more than count the number of times a search term appears on a web page. For example, Google's technology determines the proximity of individual search terms to each other on a given web page, and prioritizes results that have the search terms near each other. Many other aspects of a page's content are factored into the equation, as is the content of pages that link to the page in question. ● By combining query independent measures such as PageRank with the text-matching techniques, Google is able to deliver search results that are relevant to what people are trying to find.
Advertising Technology	
Google AdWords Auction System	<ul style="list-style-type: none"> ● Google uses Google AdWords auction system to enable advertisers to automatically deliver relevant, targeted advertising ● Every search query Google process involves the automated execution of an auction, resulting in Google's advertising system often processing hundreds of millions of auctions per day. ● To determine whether an ad is relevant to a particular query, this system weighs an advertiser's willingness to pay for prominence in the ad listings (the cost-per-click or cost-per-impression bid) and interest from users in the ad as measured by the click-through rate and other factors. ● Google's Quality-based Bidding system also assigns minimum bids to advertiser keywords based on the Quality Scores of those keywords—the higher the Quality Score, the lower the minimum bid. The Quality Score is determined by an advertiser's keyword clickthrough rate, the relevance of the ad text, historical keyword performance, the quality of the ad's landing page and other relevancy factors. ● The above prevents advertisers with irrelevant ads from "squatting" in top positions to gain exposure, and rewards more relevant, well-targeted ads that are clicked on frequently. ● Because Google is paid only when users click on ads, the AdWords ranking system aligns Google's interests equally with those of Google's advertisers and Google's users. ● The AdWords auction system also incorporates the AdWords Discounter, which automatically lowers the amount advertisers actually pay to the minimum needed to maintain their ad position. ● The AdWords discounter saves money for advertisers by minimizing the price they pay per click, while relieving them of the need to constantly monitor and adjust their CPCs. Advertisers can also experience greater discounts through the application of Google's smart pricing technology introduced in April 2004. This technology can reduce the price of clicks for ads served across the Google Network based on the expected value of the click to the advertiser.
AdSense Contextual Advertising Technology	<ul style="list-style-type: none"> ● AdSense technology employs techniques that consider factors such as keyword analysis, word frequency, and the overall link structure of the web to analyze the content of individual web pages and to match ads to them almost instantaneously. ● With this ad targeting technology, Google can automatically serve contextually relevant ads. ● To do this, Google Network members embed a small amount of custom HTML code on web pages that generates a request to Google's AdSense service whenever a user views the web page. ● Upon receiving a request, Google's software examines the content of web pages and

	<p>performs a matching process that identifies advertisements that Google believes are relevant to the content of the specific web page.</p> <ul style="list-style-type: none"> The relevant ads are then returned to the web pages in response to the request. Google employs similar techniques for matching advertisements to other forms of textual content, such as email messages and Google Groups postings. For example, Google's technology can serve ads offering tickets to fans of a specific sports team on a news story about that team.
<p>Large-Scale Systems Technology</p>	
	<ul style="list-style-type: none"> It simplifies the storage and processing of large amounts of data, eases the deployment and operation of large-scale global products and services and automates much of the administration of large-scale clusters of computers.

Source: Google (2006). *2005 Annual Report*. Retrieved May 6, 2006, from <http://www.sec.gov/Archives/edgar/data/1288776/000119312506056598/d10k.htm>

3.2.1 Products and Services- Free¹⁹⁶

The target users of these free products and services are simply the Internet users and users of the portable mobile devices. Yet, currently users of the mobile devices only can use the products and services of "Go mobile".

Table 4.5

Products and Services- Free

Product	Descriptions
<p>Categories (Functional Purpose):</p>	
<p>Search</p>	
<i>Google Alerts</i>	<ul style="list-style-type: none"> Get email updates on the topics of users' choice Google Alerts are emails automatically sent to users (subscribers) on the topics of users' choice such as a developing news story when there are new Google results for users' search terms Google Alerts currently offers four types of alerts: "News", "Web", "News & Web," and "Groups."
<i>Google Blog Search</i>	<ul style="list-style-type: none"> Find blogs on the users' favorite topics
<i>Google Book Search</i>	<ul style="list-style-type: none"> Search for the text of books Google Book Search links bring users to pages containing bibliographic information and several sentences of the search term in context, sample book pages, or full text, depending on author and publisher permissions and book copyright status. On Google Book Search pages, there are links to book sellers that may offer the full versions of these publications for sale, and show content-targeted ads that are served

¹⁹⁶ See Google, supra note 179, at 5-13.

Google(2006). *More Google products*. Retrieved May 6, 2006, from <http://www.google.com/intl/en/options/>

	through the Google AdSense program.
<i>Google Catalogs</i>	<ul style="list-style-type: none"> ● Search and browse mail-order catalogs
<i>Google Desktop</i>	<ul style="list-style-type: none"> ● Search and personalize users' computer ● Users can perform a full text search on the contents of their own computer, including email, files, instant messenger chats, and web browser history without manual organization.
<i>Google Web Directory</i>	<ul style="list-style-type: none"> ● Users can search through web sites that have been organized into categories ● Directory combines Google's search technology with the categorization developed by the Open Directory Project, a third-party human edited directory of the Internet, and has content in over 70 languages.
<i>Google Earth</i>	<ul style="list-style-type: none"> ● Users can see a specific location and learn about that area through detailed satellite and aerial images, 3D topography, street maps and millions of data points describing the location of businesses, schools, parks, and other points of interest around the globe. ● Google Earth also provides access to Local search from the Google web index in a highly-interactive 3D environment.
<i>Google Finance</i>	<ul style="list-style-type: none"> ● Search business information, news, and interactive charts
<i>Froogle</i>	<ul style="list-style-type: none"> ● Froogle is Google's shopping search engine. Shoppers find the items to buy online and at local stores. ● Users can sort results by price or store location, see product and merchant reviews, specify a desired price range, and view photos. ● Froogle accepts data feeds directly from merchants to ensure that product information is up-to-date and accurate. ● Google do not charge merchants for inclusion in Froogle, users can browse categories or conduct searches with confidence that the results Googleprovide are relevant and unbiased.
<i>Google Image Search</i>	<ul style="list-style-type: none"> ● Search for images on the web ● Offer advanced features, such as searching by image size, format and coloration and restricting searches to specific web sites or domains.
<i>Google Local</i>	<ul style="list-style-type: none"> ● Find local businesses and get directions ● Google Local, which merged with Google Maps in 2005, enables users to find driving directions and relevant local businesses near a city, postal code, or specific address. This service combines telephone directory listings with information found on web pages, and plots their locations on interactive user-friendly maps.
<i>Google Maps</i>	<ul style="list-style-type: none"> ● View maps and get directions
<i>Google News</i>	<ul style="list-style-type: none"> ● Search thousands of news stories ● The leading stories are presented as headlines on the user-customizable Google News home page. These headlines are selected for display entirely by a computer algorithm, without regard to political viewpoint or ideology. ● Google News uses an automated process to pull together related headlines, which enables people to see many different viewpoints on the same story.

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	<ul style="list-style-type: none"> ● Google News service now is in 11 languages, tailored to 34 international audiences. ● Google News is also available on mobile devices through Google News for Mobile.
<i>Google Scholar</i>	<ul style="list-style-type: none"> ● Search scholarly papers ● Search relevant scholarly literature including peer-reviewed papers, theses, books, abstracts, and articles. ● Content in Google Scholar is taken from academic publishers, professional societies, preprint repositories, universities, and other scholarly organizations.
<i>Google Specialized Searches</i>	<ul style="list-style-type: none"> ● Search within specific topics
<i>Google Toolbar</i>	<ul style="list-style-type: none"> ● Add a search box to users' browser ● The Google Toolbar also offers several features: Pop-up Blocker, PageRank Indicator, AutoFill, Word Find, AutoLink, and WordTranslator***.
<i>Google Video</i>	<ul style="list-style-type: none"> ● Search TV programs and videos ● Google Video allows the exchange of video content between consumers and producers. Any user can upload a video to our service, and consumers can buy, rent or download
<i>Google WebSearch</i>	<ul style="list-style-type: none"> ● Provide users the access to billions of web pages ● Integrate special features such as Spell Checker or Cached Links* into Google WebSearch to help users find exactly what they are looking for on the web.
<i>Google WebSearch Features</i>	<ul style="list-style-type: none"> ● In addition to providing the access to web pages, Google has many special features to help to find exactly what you're looking for such as file type, movies and currency conversion.
Categories (Functional Purpose):	
Explore and innovate	
<i>Google Code</i>	<ul style="list-style-type: none"> ● Download APIs and open source code
<i>Google Co-up</i>	<ul style="list-style-type: none"> ● Users contribute their expertise to help improve Google search ● This is a platform which enables users contribute their expertise to help other users find information.
<i>Google Labs</i>	<ul style="list-style-type: none"> ● Explore Google's technology playground ● Google Labs is Google test bed for their engineers and for adventurous Google users. ● On Google Labs, Google post product prototypes and solicit feedback on how the technology could be used or improved such as Froogle Wireless and Google Ridefinder****.
Categories (Functional Purpose):	
Communicate, show & share	
<i>Blogger</i>	<ul style="list-style-type: none"> ● Share the users' life online with a blog ● Blogger is a web-based publishing tool that gives users the ability to publish to the web instantly using weblogs, or "blogs." ● Blogs are web pages usually made up of short, informal, frequently updated posts that are arranged chronologically. ● Blogs can facilitate communications among small groups or to a worldwide audience in a way that is simpler and easier to follow than traditional email or discussion forums.

	<ul style="list-style-type: none"> ● Blogger now features improved spam protection and is available in nine languages.
<i>Google Calendar</i>	<ul style="list-style-type: none"> ● Users can organize schedule and share events with friends
<i>Gmail</i>	<ul style="list-style-type: none"> ● Gmail is a free email service that offers over 2GB of free storage and incorporates Google search technology to help users find their email messages. ● Gmail contains no pop-up ads or untargeted banners, but rather contains only relevant text ads and links.
<i>Google Groups</i>	<ul style="list-style-type: none"> ● The original Google Groups enabled easy participation in Internet discussion groups by providing users with tools to search, read and browse these groups and to post messages of their own. ● Google Groups now contains more than 1 billion messages from Usenet** Internet discussion groups dating back to 1981.
<i>orkut</i>	<ul style="list-style-type: none"> ● orkut enables users to search and connect to other users through networks of trusted friends. Users can create, join, or manage online communities, personal mailboxes, photos, and a profile.
<i>Picasa</i>	<ul style="list-style-type: none"> ● Users can find, edit and share photos ● Picasa is a downloadable client application that helps users find, edit and share all the pictures on their computers. ● Picasa's "hello" service also lets users share pictures with others and chat about them in real-time, or post them to blogs.
<i>SketchUp</i>	<ul style="list-style-type: none"> ● Create 3D models for Google Earth
<i>Google Talk</i>	<ul style="list-style-type: none"> ● Users can IM and call friends through self computer
<i>Translate</i>	<ul style="list-style-type: none"> ● View web pages in other languages
Categories (Functional Purpose):	
Go mobile	
<i>Maps for mobile</i>	<ul style="list-style-type: none"> ● View maps and get directions on users' phone ● Combining directions, maps, and satellite imagery, Google Maps for Mobile is a free download that lets users find local hangouts and businesses across town or across the country right from the phone.
<i>Google Local for Mobile</i>	<ul style="list-style-type: none"> ● Google Local for Mobile is a downloadable Java client application that enables users to view maps and satellite imagery, find local businesses and obtain driving directions on mobile devices. Local for Mobile offers many of the same functions as Google Local—such as draggable maps combined with satellite imagery—for free, and is supported on over 40 mobile devices, including the BlackBerry.
<i>Google Mobile</i>	<ul style="list-style-type: none"> ● Use Google on the users' mobile phone ● Google Mobile offers people the ability to search and view both the "mobile web," consisting of pages created specifically for wireless devices, and the entire Google index, including popular products like Image Search and Froogle. ● Google Mobile works on a wide range of devices that support WML, XHTML, WAP, WAP 2.0, i-mode or j-sky mobile Internet protocols. ● Google Mobile is available through many wireless and mobile phone services worldwide, including the BlackBerry.
<i>Google SMS</i>	<ul style="list-style-type: none"> ● Use text messaging for quick info

	<ul style="list-style-type: none"> • Users can access a variety of information using Google SMS by typing a query to the Google shortcode, and check their email using Gmail Mobile.
Categories (Functional Purpose): Make your personal computer work better	
<i>Google Pack</i>	<ul style="list-style-type: none"> • A free collection of essential software • Google Pack is a free collection of software from Google and other companies. It includes the Google Updater, a tool that intelligently downloads, installs, and maintains all the software in the Google Pack.
<i>Google Web Accelerator</i>	<ul style="list-style-type: none"> • Speed up the web • A downloadable client application that uses Google's global computer network to enhance user web experience by enabling faster loading of web pages.

* Cached Links provides snapshots of web pages taken when the pages were indexed, enabling the users to view web pages that are no longer available.

** The word of "Usenet" comes from "User Network" and is a world-wide the Internet distributed discussion system. Users read and post email-like messages (called "articles") to a number of distributed newsgroups, categories that are classified hierarchically by subject. The medium is distributed among a large number of servers, which store and forward messages to one another. Individual users download and post messages to a single server and the servers exchange the messages between each other¹⁹⁷.

*** Pop-up Blocker blocks pop-up advertising while people use the web. PageRank Indicator displays Google's ranking of any page on the web. AutoFill completes web forms with information saved securely on a user's own computer. Highlight highlights search terms where they appear on a web page, with each term marked in a different color. Word Find finds search terms wherever they appear on a web page. AutoLink turns street addresses into links to online maps. WordTranslator translates English words into other languages.

**** Froogle Wireless gives people the ability to search for product information from their mobile phones and other wireless devices. Google Ridefinder enables users to find a taxi, limousine or shuttle using real time position of vehicles.

3.2.2 Products and Services- Profit

Google sells ads in an auction-based model through its AdWords program. Advertisers pay based on clicks to their sponsored links through another program called AdSense. Also, beyond a more global push, Google wants to expand the diversity of advertisers who are using its AdWords program. When it has advertisers of various sizes and from many industries, its typical advertiser is a medium-sized company. In short, the target users of Google AdWords are advertisers, and target users of Google AdSense are web publishers, which are shown in the following table:

¹⁹⁷ Moraes, M. (1999, December 28). *What is Usenet?* Retrieved May 6, 2006, from <http://www.faqs.org/faqs/usenet/what-is/part1/>

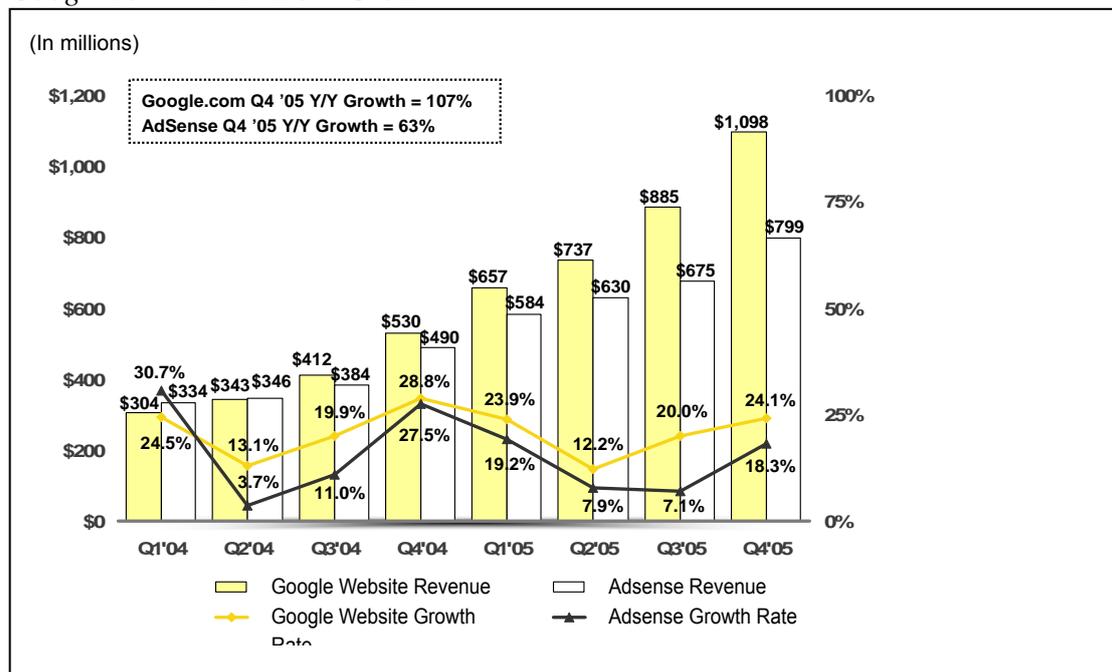
Table 4.6*Products and Services- Profit*

Product	Descriptions
Categories (Functional Purpose): Advertising Programs	
<i>Google AdWords</i>	<p>Target Users: Advertisers</p> <ul style="list-style-type: none"> Reach people when they are actively looking for information about an advertiser's products and services online, and send targeted visitors directly to what the advertiser is offering. With AdWords cost-per-click pricing, it's easy to control costs—and the advertiser only pay when people click on the advertiser's ad. Payment options: Google accepts payment by credit card, debit cards, direct debit, and bank transfer payment methods. <p>Tax EU VAT (Value Added Tax) applies to Google AdWords*</p>
<i>Google AdSense</i>	<p>Target Users: Web Publishers</p> <ul style="list-style-type: none"> Earn more revenue from a Web Publisher's website, while providing visitors with a more rewarding online experience. Google AdSense™ automatically delivers text and image ads that are precisely targeted to the Web Publisher's site and the Web Publisher's site content—ads so well-matched, in fact, that this Website's readers will actually find them useful. When a Web Publisher adds Google WebSearch to his/her Web site, AdSense delivers targeted ads to the Web Publisher's search results pages too.

* As of July 1, 2003, all AdWords accounts with European Union (EU) business addresses became subject to Value Added Tax (VAT) charges. In addition, as of January 22, 2004, all EU advertisers moved from being an advertiser with Google Inc. (United States headquarters) to being serviced and billed by Google Ireland Ltd (EU).

Figure 4.4

Google.com and Network Growth



(Google, 2006)

3.2.3 The Correlation between Google's Technology and Products

In practice, it is difficult to analyze how many patents are in a specific product and such information is confidential in a company. Therefore, according to available public information and Google's annual report, knowing that the company roughly classifies its products and services based on the three types of technology which is revealed in its annual report.

Table 4.7

The Correlation between Google's Technology and Products

Types of Technology	Products
Web Search Technology Ranking Technology Text-Matching Techniques	Google Alerts, Google Blog Search, Google Book Search, Google Catalogs, Google Desktop, Google Web Directory, Google Finance, Froogle, Google Image Search, Google Local, Google Maps, Google News, Google Scholar, Google Specialized Searches, Google Toolbar, Google Video, Google WebSearch, Google WebSearch Features
Advertising Technology	
Google AdWords Auction System	Google AdWords

AdSense Contextual Advertising Technology	Google AdSense
Large-Scale Systems Technology	-

4. A Google Product, PLC, & the 4C Structure

Google has provided abundant products services, despite of its search function and frequent news announcements; really few of them take outstanding positions in the market. In order to understand the “better” possibility for its products, this research takes Google Video as the example and analyzes it by the principles of the PLC and the 4C structure, especially, based on the current facts, the development of Google Video is in between stages—introduction stage and growth stage. Therefore, here provides a perspective which may help to distinguish what kind of concerns should be checked when Google Video enters into the rising profit stage (growth stage).

4.1 The Development of Google Video

According to the definition of each stage in the product life cycle and Google’s beta policy¹⁹⁸ which both mentioned previously, it is difficult to separate product development stage from introduction stage in the development of Google Video. Especially, as same as the other Google’s service, Google Video is in public beta testing, not tested within the company.

In June this year, Google started to display video ads only for a week on Google Video which was to test for new ad revenues. Yet, after the test, Google has continued to revise and refine how it plans to display graphical and video ads on Google Video¹⁹⁹.

Therefore, the development of Google Video has not reached the growth stage. Also, interestingly, Google's core business is linking the Internet users to other Web sites, but Google Video data is stored on its servers. Basically, with Google Video, the company allows the content owner to control it, post it, describe it, and charge a price.

The brief introduction on Google Video is as follows:

Product name: Google Video

The description of service: Video hosting and search

Price: Free

Rivals: YouTube, AOL, Blinkx, Truveo, and MSN

¹⁹⁸ See Matthew Hicks, *supra* note 191.

¹⁹⁹ Juan Carlos Perez (2006, June 22). Google to test display ads on Google Video. *IDG News Service*. Retrieved July 6, 2006, from <http://www.pcworld.com/news/article/0,aid,126217,00.asp>

Potential: Google may charge for ads, subscription or pay-per-view

4.1.1 The Product Development Stage and Introduction Stage of Google Video

The year of 2005

Because more and more video content got on the Web, there was a need for indexing such content which interested the Internet users to search for. A prototype of Google Video, launched in 2005, January²⁰⁰, brought television content to users via this video search engine, but only let users search the text of TV shows which were from content providers including the Public Broadcasting Service (PBS), the National Basketball Association (NBA), Fox News Networks (Fox News), and C-SPAN. This service had predicted a heated race with rivals Yahoo and Microsoft to be the practical service for finding information wherever it is.

However, two issues came up: the complexity of rights behind such digital content service makes securing rights over broadband very tricky; and it was subtle to deal with existing business models. For examples, the former issue was when Google hosted and played video on its Web sites, Google should clear those digital rights that belonged to broadcasters. Also broadcasters should clear about their responsibility which should secure the Internet rights with actors, producers and musicians, and clear spectrum signal rights with affiliates. The latter issue was when various content providers went for different business models, Google needed to deal such “conflict” that might influence the success of this service—at that moment, CBS News offered video for free online, but ABC News offered subscription and paid video services. Obviously, CBS wanted to boost traffic in order to sell advertising, but ABC wanted to promote its subscription services via video search²⁰¹. More important, Google should develop a business model that make sense for broadcasters, advertisers, and relevant operations. Also, one important action might ease content providers' concerns—digital rights management (DRM) technology which can protect their intellectual property.

At that time, users couldn't watch those videos directly from Google's site, but could search on a term to find the TV shows in which it was mentioned, a still image of the video and closed-captioned text of that specific segment of the TV program. Yet, Google had set a plan to eventually let users search, play back, and purchase videos stored in Google Video after dealing with the complexities of broadcasting rights and

²⁰⁰ Agam Shah (2005, January 25). Google launches TV search engine. *IDG News Service*. Retrieved July 6, 2006, from <http://www.pcworld.com/news/article/0,aid,119421,00.asp>

²⁰¹ Stefanie Olsen (2005, January 24). Google rolls out TV search prototype. *CNET News.com*. Retrieved July 6, 2006, from http://news.com.com/Google+rolls+out+TV+search+prototype/2100-1032_3-5548834.html

business models with various content providers.

In April of 2005, Google Video started taking video submissions from anyone who was interested in making their digital videos available to a broad audience and needed to grant copyrights to the company. This upload program was available to all types of video content owners, from individuals to corporations. Larry Page, the co-founder of Google, called this move as an “experiment in video blogging”. This move certainly had shaken the video world because the free infrastructure for video producers who weren't able to host and stream their own content and distribute videos and playback. Even though Google was accepting videos, it was not making them searchable yet²⁰².

Meanwhile, the approach Google took to indexing video was different from its approach to indexing text and still images on Web pages. Google actively gathered text and images, but Google Video was relying on video content owners to send in their video files²⁰³. This approach let Google get an idea for the types of digital video content out there, and modify its search capabilities upon these findings, and then it could create the relevant taxonomy. After creating the index, Google could think over what it should do with the content.

Google had worked on Google Video and short afterwards it was ready for playback in June. This service allowed people to view content from the company's indexed database of video from CNET Networks, Greenpeace, Unicef and others that had uploaded material since April. The new content marked by a triangle icon. However, in order to use the service, users must download Google Video Viewer. Then, users could watch an entire video piece or start viewing at the section that included their search keywords²⁰⁴. As for the policy of protecting intellectual property, Google avoided mining the Internet for video clips and used video clips that only were submitted by the producers. In other words, Google restricted the Video Viewer, which was based on the open-source VLC player, to only play back files that were stored on its servers. Yet, Google Video was only available in English, and the video viewer worked only with Internet Explorer versions 5 and higher and Firefox for Windows. These limitations had lowered the trial-out wish of many Internet users.

Furthermore, in this month, Google also allied with former Vice President Al Gore to provide search functions for his interactive television project, Current.tv—a 24-hour network with viewer-contributed broadcasts that range in length from 15

²⁰² BBC NEWS (2005, April 5). Google to start “video blogging”. *BBC NEWS*. Retrieved July 6, 2006, from <http://news.bbc.co.uk/1/hi/technology/4412125.stm>

²⁰³ Juan Carlos Perez (2005, April 14). Google lets you upload your own videos. *IDG News Service*. Retrieved July 6, 2006, from <http://www.pcworld.com/news/article/0,aid,120434,00.asp>

²⁰⁴ Elinor Mills (2005, June 27). Google Video search ready for playback. *CNET News.com*. Retrieved July 6, 2006, from http://news.com.com/Google+Video+search+ready+for+playback/2100-1025_3-5764997.html

seconds to 5 minutes. In addition, this project was similar to Google Video's upload program, but it's for television.

Two months later, Google Video provided one more capability which let users watch about 10 seconds of Web video clips for free before shuttling the user to the video's host site.

In October, Google Video offered access to archival footage from the Academy of Television Arts and Sciences Foundation. In addition to actors, interview subjects include directors, producers, writers and executives. 284 historic interviews—totaling about 240 viewing hours were included in this offering. This was the first time users could watch and search these full, uncut interviews online.

The end of 2005, surprisingly Google invested \$1 billion for a 5 percent holding in Time Warner's America Online that expanded their existing search engine deal to include collaboration on advertising, instant messaging and video. Google users could see small graphical ads on its home and search pages, and banner ads on its video and image search pages.

The year of 2006

Google did not slow down in the development of Google Video. In January, Google partnered with Video technology company DivX to make Google Video accessible on a variety of consumer electronics devices.

In the same month, Google also announced entering video-on-demand business. Let users rent or buy downloadable videos online, including classic and contemporary CBS television shows and NBA basketball games, such as users could pay \$1.99 to download and view, for an unlimited time, episodes from last season's "Survivor" series, or for \$1.99, users might rent, for 24 hours, recent episodes of popular TV series from CBS like "CSI: Crime Scene Investigation"²⁰⁵.

In addition, Google Video Store users could make payments with a credit card through Google's account system, as they did with the Google AdWords advertising system and other Google services. This was also the first time content providers could distribute to a broad audience online. Moreover, in order to prevent intellectual property issues that might influence video-on-demand service, Google had developed a monetization model and methods that protect copyrights and prevent piracy. The video store was accessible at the top of the main Google Video page with four rotating featured videos and a drop-down menu let people browse selections of NBA basketball games, movies and music videos. The content providers were responsible for choosing the thumbnail images and if they didn't supply one, Google would

²⁰⁵ Google (2006, January 6). Google to launch video marketplace. *Google Press Center*. Retrieved July 6, 2006, from http://www.google.com/press/pressrel/video_marketplace.html

display the first frame as the image. However, Google did not enhance images received from content partners, so if the quality of an image was poor, that's the way Google got it. Short afterwards, there were many users complained about the lack of selection and high prices of Google Video store.

February of this year, Google had started to put the National Archives' 114,000 film reels and 37,000 videos online from the U.S. National Archives and Records Administration. This nonexclusive deal with the National Archives would provide essential materials for history buffs, educators and filmmakers.

There was an important copyright issue in March; American Airlines demanded Google and video-sharing site YouTube to reveal the name of the person who posted a portion of one of the airline's training videos on their Web sites. Although at that time Google had informed American Airlines that it needed time to investigate the matter before giving up the name, this incident made users become worried what the Google's stand ground would be for relevant issues.

As mentioned previously, users needed to use Google Video Viewer watching video clips and this had stirred up some complaints. Finally, in May of 2006, users who wanted to post their video clips could do so through a Web-based system without having to use special software. Users also could view the clips instantly. In addition, users could send the Web address where the video is posted directly to friends for immediate viewing, but it would not be searchable through Google Video's search page until editors review it.

As the same as last year, the month of June was the busiest month this year for the development of Google Video, but this year it has more with “troubles”, than in the development.

The first problem was two new services, Peekvid and Keepvid, might change the online-video picture. Basically, Peekvid enabled users to find copyrighted clips easily that might be illegally posted to YouTube, and Keepvid let users get illegal clips from YouTube, Google Video and other similar Web sites. Because Peekvid and Keepvid did not actually host the content, it is unknown whether these services are illegal. However, Google Video allowed its users to download content, YouTube did not. Then, the other issue came up, the New York State Consumer Protection Board issued a statement about how simple it was for kids to find and watch racy videos on Google Video.

Near the end of June, Google ran a pilot program to test ad-supported videos for premium content on Google Video²⁰⁶. This was a limited test only and the ads will be

²⁰⁶ Elinor Mills (2006, June 22). Google testing ads on for-pay video. *CNET News.com*. Retrieved July 6, 2006, from http://news.com.com/Google+testing+ads+on+for-pay+video/2100-1024_3-6087157.html

attached to about 2,000 videos from about eight video content providers. User-generated video content would continue to be free of charge and ad-free. Though the ad showed only after the video had played, an ad banner would display above the video during the time the video is streaming. This change had turned Google into an on-demand TV network with traditional, TV-style ads. Moreover, last month, Google had a small promotion with Sundance Movies Festival that allowed users to rent or own any of 18 Sundance movies through Google Video download service.

After all, due to the weak acceptance to Google video sales, and in the face of a challenging environment for digital rights management and device compatibility, Google has been gradually take a break for developing other areas of digital entertainment.

4.1.2 A Perspective through the 4C Structure

Video search has become a highly competitive field for many Internet companies because it seems to be a valuable new market for online advertising. Many advertisers are now looking for the viral form of advertising. Short-form video is the big thing right now. Because of the longevity of content on the Internet, a clip has a better chance of reaching a larger audience, although there is not yet a reliable way to make money off a popular clip.

Google gets nearly all its revenue from advertising, either keyword-based search advertising or contextual display ads on partner Web sites. Google makes nearly all its revenue--more than \$6 billion in 2005--by selling ads that appear on search results pages and on partner Web sites. Video is becoming more popular on the Internet as the success of YouTube demonstrates. However, Google must work through many business issues before making money from this project, for example, securing licensing rights to broadcast full video on their Web sites is one major problem.

Because Internet distribution is a primeval market for most broadcasters and securing rights over broadband could be tricky, Google certainly has driven Google Video carefully.

The following table demonstrates the level of each cost that is occurred upon Google' actions on the development of Google Video:

Table 4.8

The Analysis of Google Video upon the Rules of the 4C structure and the PLC

4C PLC	Explicit Unit-Utility Cost	Implicit Exchange Cost		
	Cost/Utility	Information Search Cost	Moral Hazard Cost	Holdup Cost
Product Development & Introduction	○	◎	●	○
	<p>Facts on Google Video:</p> <ul style="list-style-type: none"> ● 2005, January- <ol style="list-style-type: none"> 1. Let users search the text of TV shows. 2. The search results offer matching program transcripts and still TV images. 3. Based on the transcript search results, users can view further information which includes episodic, channel information, and future airings in the local area. 4. Google Video has the ability to search for specific keywords within a program 5. Searchable TV shows come from PBS, Fox News, C-SPAN, ABC, and the NBA 6. No ads show in the videos or on the video Web pages. <p>Analysis*: increase the product utility—understand the users' real needs</p> <ul style="list-style-type: none"> ● 2005, January- <ol style="list-style-type: none"> 1. Google Video can't yet allow users to watch those videos directly from Google's site. 2. Google Video doesn't provide the function of searching Internet-only video clips. <p>Analysis: increase the Explicit Unit-Utility Cost</p> <ul style="list-style-type: none"> ● 2005, April- <ol style="list-style-type: none"> 1. Start taking video submissions from the Internet users. 2. The upload program is available to all types of video content owners, from individuals to corporations. <p>Analysis: increase the product utility</p> <ul style="list-style-type: none"> ● 2005, April- <p>Although Google Video accepts videos from anyone, it is not making them searchable yet.</p> <p>Analysis: increase the Explicit Unit-Utility Cost</p>	<p>Facts on Google Video:</p> <ul style="list-style-type: none"> ● 2005, January- <p>Google Video is the first video-search service.</p> <p>Analysis: make a comparable creative product</p>	<p>Facts on Google Video:</p> <ul style="list-style-type: none"> ● 2005, January- <p>The complexity of rights behind Google Video service, so Google shows only still images. Users certainly do not want to involve in legal issues while using the service</p> <p>Analysis: lower Moral Hazard Cost—take customer's benefit as the most important consideration</p> <ul style="list-style-type: none"> ● 2005, January- <p>Partnering with major TV content providers, PBS, Fox News, C-SPAN, ABC, and the NBA</p> <p>Analysis: lower Moral Hazard Cost—cooperate with companies whose image has good spillover influence</p> <ul style="list-style-type: none"> ● 2005, April- <p>Google set a plan to eventually let users search, play back, and purchase videos stored in Google Video. Owners will have the option of giving their videos away for free or charging for them.</p> <p>Analysis: lower Moral Hazard Cost—develop a solid product master plan</p> <ul style="list-style-type: none"> ● 2005, June- <ol style="list-style-type: none"> 1. Google targeted content providers which are on A-list video producers such as Sony Pictures. 2. Google had an 	<p>Facts on Google Video:</p> <ul style="list-style-type: none"> ● 2005, January- <p>Google Video adopts the Google philosophy of less-is-more but lacks any slick design elements.</p> <p>Analysis: Holdup asset—intangible asset</p> <ul style="list-style-type: none"> ● 2005, June- <p>Users need to download Google Video Viewer in order to watch playback</p> <p>Analysis: Holdup asset—unique software or service</p> <ul style="list-style-type: none"> ● 2006, January- <ol style="list-style-type: none"> 1. Google Video Store, users make payments with a credit card through Google's account system, as they do with other Google services. 2. Video technology company DivX is partnering with Google to make Google Video accessible on a variety of consumer electronics devices <p>Analysis: Holdup asset—distinctive use</p>

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<ul style="list-style-type: none"> ● 2005, May- Google Video include more TV content providers, the Discovery Channel and CNN. <p>Analysis: increase the product utility</p> <ul style="list-style-type: none"> ● 2005, June- Let users watch roughly 10 seconds of Web video clips for free before shuttling visitors to the video's host site. <p>Analysis: increase the product utility</p> <ul style="list-style-type: none"> ● 2005, June- 1. Users need to download Google Video Viewer in order to watch playback 2. Google Video is only available in English, and the video viewer works only with Internet Explorer versions 5 and higher and Firefox for Windows. <p>Analysis: increase the Explicit Unit-Utility Cost</p> <ul style="list-style-type: none"> ● 2005, October- Google adds TV interviews from the Academy of Television Arts and Sciences Foundation to video service. This is the first time users can watch and search these full, uncut interviews online. <p>Analysis: increase the product utility</p> <ul style="list-style-type: none"> ● 2005, December- 1. Google invest \$1 billion for a 5 percent stake in Time Warner's America Online unit 2. Google Video is expected to showcase AOL's premium video service and users may see prominent links on Google Video to AOL video content <p>Analysis: increase the product utility</p> <ul style="list-style-type: none"> ● 2006, January- 1. Google Video Store, which let people rent or buy downloadable videos online, including classic and contemporary CBS TV shows and NBA basketball games. 2. Video technology company DivX is partnering with Google to make Google Video accessible on a variety of consumer electronics devices <p>Analysis: increase the product utility</p>		<ul style="list-style-type: none"> ● alliance with former Vice President Al Gore to provide search features for his interactive television project <p>Analysis: lower Moral Hazard Cost—establish representative cases</p> <ul style="list-style-type: none"> ● 2005, October- Google adds TV interviews from the Academy of Television Arts and Sciences Foundation to video service. <p>Analysis: lower Moral Hazard Cost—care for users' needs</p> <ul style="list-style-type: none"> ● 2005, December- 1. Google invest \$1 billion for a 5 percent stake in Time Warner's America Online unit 2. Google become the only shareholder in AOL other than Time Warner. <p>Analysis: lower Moral Hazard Cost—cooperate with companies whose image has good spillover influence</p> <ul style="list-style-type: none"> ● 2006, March- American Airlines subpoenas Google <p>Analysis: increase Moral Hazard Cost</p> <ul style="list-style-type: none"> ● 2006, July- Consumers is able to rent or own any of 18 Sundance movies through Google Video download service. <p>Analysis: lower Moral Hazard Cost—establish representative cases</p>	<p>knowledge, and unique physical equipment, software or service</p>
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	<ul style="list-style-type: none"> ● 2006, January- Google did not enhance images received from content partners, so if the quality was poor, the image quality showed poor Analysis: decrease the product utility ● 2006, February- Google puts National Archives' 114,000 film reels and 37,000 video online Analysis: increase the product utility ● 2006, May- Users who want to post their video clips can do so without having to use the Google Video Uploader program. Analysis: increase the product utility ● 2006, June- Google runs a pilot program to test ad-supported videos for premium content on Google Video Analysis: increase the Explicit Unit-Utility Cost 			
Growth				
Maturity				
Decline				

Note “○” indicates this cost of Google Video at this stage is **low**, “●” shows this cost of Google Video at this stage is **high**, and “◎” means in between.

* See Chapter 2—“A Total Cost Analysis Structure” and *Table 2.8 The Exclusive Summary of Marketing Theory*.

Not only the development of Google Video and actions within Google, but also competitors’ move would affect the analysis of Google Video’s 4C. The influences of rivals’ actions are described as follows:

(1) 2005, January-

Yahoo began promoting its video search engine and teamed with TVeyes. That partnership added to Yahoo's core capability of searching Internet-only video clips which Google Video had not provided such search function at that time.

The above actions influenced Google Video’s Explicit Unit-Utility Cost,

Information Search Cost, Moral Hazard Cost, and Holdup Cost.

(2) 2005, April-

Microsoft worked on its search and video offerings. It got a search advertising service in the works, and launched MSN Video Downloads, billed as providing daily TV programming from MSNBC.com, Food Network, Fox Sports and iFilm. This service cost \$19.95 a year and let MSN members put video clips on portable media players.

The above action affected Google Video's Explicit Unit-Utility Cost.

(3) 2005, May-

Yahoo released a finalized version of its video search engine, after five months of testing. Also, the company announced alliances with CBS News, MTV, Reuters and others to include their video clips within its searchable database.

Yahoo also allowed video creators to send links of their content via Really Simple Syndication for inclusion in its database.

The above actions influenced Google Video's Explicit Unit-Utility Cost, Information Search Cost, and Holdup Cost.

(4) 2005, June-

America Online launched a new video-on-demand search service, called AOL Video, allowed users to view more than 15,000 licensed and originally produced video assets from Time Warner and movies trailers from Warner Brothers, television programs, music videos and news clips from CNN, MSNBC, whose assets gave AOL an advantage over rivals Google and Yahoo.

The above actions influenced Google Video's Explicit Unit-Utility Cost, Information Search Cost, Moral Hazard Cost, and Holdup Cost.

(5) 2005, August-

Yahoo signed deals with CNN and ABC News to expand the content it offers.

The above action affected Google Video's Explicit Unit-Utility Cost.

(6) 2006, May-

Yahoo launched a new video Web site to cash in on the popularity of viral video. The redesigned Yahoo Video page included a search box at the top and editorially chosen feature videos that are topical, interesting or popular among viewers. Yahoo Video page competed with YouTube, AOL, Microsoft, Blinkx and Google Video.

The above actions influenced Google Video's Explicit Unit-Utility Cost, Information Search Cost, and Holdup Cost.

Except the competitors, there certainly were other influences in the development of Google Video:

(1) 2006, February-

Based on the research result from the network infrastructure company CacheLogic, more than 60 percent of Internet traffic had taken up by peer-to-peer swaps, and about 60 percent of those swaps involved video content. The scale of consumers' demand for video had begun to emerge. The important ISPs such as AT&T already argued that they should be able to charge companies such as Google or Yahoo for an extra tier of service.

The above potential action would influence Google Video's Explicit Unit-Utility Cost.

(2) 2006, June-

A. Two new services, Peekvid and Keepvid, surprised the online-video world. Basically, Peekvid enabled users to find copyrighted clips easily that might be illegally posted to YouTube, and Keepvid let users get illegal clips from YouTube, Google Video and other similar Web sites. Because Peekvid and Keepvid did not actually host the content, it is unknown whether these services are illegal.

The above situation influenced Google Video's Explicit Unit-Utility Cost, Information Search Cost, and Holdup Cost.

B. The New York State Consumer Protection Board issued a statement about how simple it was for kids to find and watch racy videos on Google Video. The above action influenced Google Video's Moral Hazard Cost, and Holdup Cost.

After all, according to the Explicit Unit-Utility Cost's formula as presented previously, after the peak of the utility is reached and then gets to the certain level, it shows no differences to the users, in other words, no matter how low Explicit Unit-Utility Cost is, this product can not attract more users. Therefore, such as the actions of increasing Google Video functions are not necessary. Also, compared to Information Search Cost, Moral Hazard Cost and Holdup Cost are the key factors that affect whether Google Video may enter growth stage successfully, due to the following reasons:

Moral Hazard Cost

(1) Google must solve the complexity of rights behind such digital content service makes securing rights over broadband very tricky

Such as Sony Pictures, working with Google Video could be tricky. Studios must get permission from actors and various guilds to show clips of films for

promotional purposes. Even then, the amount of material shown is restricted²⁰⁷. Google Video's competitor, YouTube, presents a good example of the fine line video-sharing companies which protect copyright materials with the aggressive attitude. For examples, YouTube provides a software tool that helps locate video clips and is designed to assist copyright holders in monitoring the site. YouTube does not allow its users to download content, but Google Video does. In addition, Google has a screening system for its photo site, hasn't installed one for Google Video.

Holdup Cost

(2) Google needs to establish unique Holdup asset with users

Among various video-sharing sites, Google Video does adopt the Google philosophy of less-is-more but lacks any slick design elements. Also, it hosts thousands of titles, most of them free, which are viewable online on Windows or Macintosh PCs, most free videos can be downloaded in video iPod- or PSP-compatible formats, and feature some decent commercial content, including PBS, Fox News, C-SPAN, ABC, and the NBA programs²⁰⁸. However, compared to the competitors, these features have no special means that can keep users with Google Video.

In conclusion, if Google deals with Moral Hazard Cost and Holdup Asset seriously, the chance of taking up the market is still there for Google Video.

²⁰⁷ Stefanie Olsen (2005, June 13). Google readying Web-only video search. *CNET News.com*. Retrieved July 6, 2006, from http://news.com.com/Google+readying+Web-only+video+search/2100-1024_3-5745038.html?tag=st.num

²⁰⁸ Elinor Mills (2006, January 10). Google Video goes live. *CNET News.com*. Retrieved July 6, 2006, from http://news.com.com/Google+Video+Store+goes+live/2100-1025_3-6025614.html

