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A Study on Platform's New Strategy in Media 2.0 Era - Based on "Keystone" concept & Google case -

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Abstract

The purpose of this paper is to suggest a new strategy of the platform in Media 2.0 era. This goal is approached by firstly examining conceptual change of the platform strategy from mass media world (Media 1.0) to micro media world (Media 2.0). Then, it will discuss "Keystone" strategy by Iansiti & Levien (2004) who introduced four different types of platform and will give an example, Google. The data shows, how Google's keystone strategy could be successfully accomplished with three sources for value creation, revelation, aggregation and plasticity, and how healthy it is in terms of productivity, robustness, and niche creation. Finally, an applicable framework to Media 2.0 will be constructed on the basis sources for value creation and "Keystone" capabilities of ecosystem management. Three main parts of the keystone strategy are the openness, synchronization, and mass customization focus.

Keywords: Media platform, Keystone, ecosystem

1. Introduction

The development of the media has been based on huge phenomenon, 'digital convergence.' It refers to the evolution of previously distinguishable digitalized information formats, services, applications, networks, and business models in ways that blend the distinctions. This is really driven by the rapid development of digital technology. This now can be a stimulus within the information ecosystem for creativity, improved productivity, continuous technological innovation, economic growth, societal benefit and greater inclusion. It can facilitate the use of communication technologies across business, government and individuals. It enables the content creation, collaboration, coordination and the interoperability among people, services and applications through enterprise systems and digital networks.

Convergence over the last ten years has referred mainly to the promise of new functionality in ITs that was afforded by the ability to bridge the networks, computing and devices. Its continued evolution has built upon that foundation of network convergence, is connecting people and speeding information flows, and constituting a crucial development in the evolution of enterprises and increasing the potential for enhanced societal interaction.

The convergence can present a huge opportunity for all stakeholders to improve economic efficiency and productivity, leading to innovation, new business opportunities, increased choice and lower prices that benefit all users. It can provide whole world an unprecedented opportunity to participate in the digital economy. Digital information flows have already

increased market access and competitiveness by creating greater efficiency and global scope of sales and service. But this has not only expanded, but also complicated relations among companies, leading to increased managerial risk, and eventually requiring a fundamentally new understanding of the business conditions for survival.

Except the primary factors like digitalization, other factors such as cost reductions, increased availability and take-up of broadband and high speed networks, and advances in software development tools have facilitated today's media interaction and creative collaboration. This paper concerns with new strategy of media platform¹ for those. In this regards, it will firstly examine conceptual change of the platform strategy from mass media world (Media 1.0) to micro media world (Media 2.0). Then, it will discuss "Keystone" strategy by Iansiti & Levien (2004) who introduced four different types of platform and will give an example, Google. Finally, an applicable framework to Media 2.0 will be constructed on the basis of sources for value creation and "Keystone" capabilities of ecosystem management.

2. Conceptual Change of Media Platform Strategy

2.1 Platform Strategy in Media 1.0

Most old media markets are two-sided. They coordinate consumption by advertisers and audiences. The attention is how we refer to this coordination process. Because of high entry barriers such as regulation, spectrum allocation, conventional media players have gained strong first-mover advantages. Supply has remained limited on the both side of the two-sided market. For advertisers, price rises, then it is used to subsidize audience growth.

According to Haque (2005: 4), the supply coordinates the demand on the both sides of a two sided market and sets equilibrium prices. Unlike in other markets, the attention is a critical part of the value chain, because it is demanded by advertisers (media platform) and supplied by consumers. On the other side of the two-sided market, production is demanded by consumers (platform) and supplied (funded) by advertisers.

The traditional mass media industry's first law used to be that attention is scarce. But in fact, it has been relatively abundant² for many years in comparison to recent multi-platform situation. In mass media world, downstream resources such as distribution (transport, inventory, broadcasting cost), retail (spectrum, limited shelf or screen space), and production (infrastructure and human capital cost) part are scarce. On the other hand, upstream resources like attention are relatively abundant.

Therefore, the attention scarcity has not been a driver of value creation in the mass media world, because barriers to media consumption have been high and limited supply of cinemas, radio stations, newspapers, TV channels, etc. It is implied that the quality does not efficiently

¹ Platform is generally understood as the common components like hardware, software, service and also the common rules such as standard, protocol and contracts, employed by network users in most of their interactions. Platform providers are mediating the interaction between the sellers and users by offering the platform.

² Attention is unobservable. But the industry's actions reveal abundant attention. In the US, following deregulation, network TV ad time per hour increased exponentially from 6:48 in 1982 to 12:04 in 2001. Similar figures for radio, newspapers and magazines. While production investment has increased linearly, increasing ad time is equivalent to investing in attention. Because ad time is simply a marketing cost borne by players on the other side of the 2-sided market (Haque 2005).

drive the popularity, for the attention has been relatively cheaper than costly production, distribution, ideas, editing, finishing, etc.

The value capture of the mass media is a function of distribution scarcity. That means, whoever controls the distribution channel could exert market power along the value chain, increase market share, and control how value is captured. Retailers and marketers achieve control via consolidation: Acquisitions, partnerships, and alliances which realize economies of scale and scope in marketing. Examples are vertically integrated global media groups like News Corp., Time Warner, Vivendi, Comcast, etc.

Haque indicated that the problem in Media 1.0 is platform marketers' little motivation to invest in quality, since production costs don't realize scale and scope economies, but marketing and retail costs do. The quality drives popularity inefficiently. In fact, production costs have grown in output because of the risk acceleration. Films & records have gone over budget. For them, the profit-maximizing strategy is the investment in attention such as the viewing rate of TV, not the investment in production.

As a matter of face, real marketing expenditure has quadrupled in the US, while real production expenditure has only doubled between 1981 and 2004. That means that the firms have cumulatively invested twice as much in attention as production in the US. Since this strategy has persisted for last 25 years, investing in attention must realize superior returns to investing in production. This strategy has been dominant in a mass media world, because the producers have realized marketing economies of scale and scope, and production diseconomies of scale and scope (Haque, 2005:13).

In Media 1.0, the dominant strategy is to reuse the same expensive content across as many media as it can be distributed. The film release windows are the good example: Cinema, DVD, video, TV, advertising, and so on. The promotions can be connected with other industries like food, books, posters, t-shirts. Blockbusters are a strategy to maximize returns on content. By reusing it, marketing economies has been realized, for downstream resources are scarce, upstream resources relatively abundant. This strategy emerges in all mass media.

In a non-networked media world, retail & marketing can capture the most value. Producers and program distributors remain fragmented, because production returns don't scale. They don't realize significant economies of scale or scope by consolidating. On the other hand, marketing and retail returns do scale by consolidating. Blockbuster strategies are possible due to the natural economics of mass media. The production is costlier than attention, so the dominant strategy is to invest in attention, and economize on production. The result is a smaller and smaller number of concentrated players, who are forced to invest more and more heavily in marketing. When production, distribution, and retail are scarce, media players achieve an efficient allocation of scarce production resources, by supplying media valued the most highly to the greatest number of consumers within each retail channel. This is Media 1.0.

2.2 Platform Strategy in Media 2.0

As the competition among platforms and the broken windows of the film release are main trends, buying attention & marketing economies hit diminishing returns. Each segment is less and less valuable and saturated faster than yet. Facing with marketing wars between

blockbuster marketers, each of whom thinks attention would be still cheap. It shows a “Prisoner’s dilemma”³: Each is better off marketing less. Quality erodes. Hollywood marketing cost explosion, major label sales declines, magazine subscription erosion are the common phenomena everywhere.

The problem of the current media industry is scarcer attention and a zero-sum marketing game among platforms, because media has grown quantitatively and qualitatively thanks to the technological innovation and deregulation trend, but the attention hasn’t. This environment requires a new relationship of the media players and a new strategy of the media platform.

That “attention would be relatively scarce in the convergence” leads to require new core competence and business strategies. As competition explodes for attention, marketing costs begin to increase. On the other hand, production becomes more abundant and less costly. Thanks to the Internet, there is no clear distinction between professional & amateur media content because personalized media content can be reshaped, remixed, aggregated, filtered, distributed, almost anyway, to any time, at any place consumer prefer (Haque, 2005).

This atomized media disrupts the mass media landscape and downstream resources become more abundant. Value capture in Media 2.0 is a function of attention scarcity rather than retail and distribution scarcity, because barriers to media consumption are low: Unlimited supply of TV channels, newspapers, radio stations, everything over IP, etc. Hyper-targeted, micro-differentiated content is valuable.

Haque (2005: 36) named it a ‘micro media explosion’. As micro media explodes supply relative to demand, equilibrium prices fall. Production, distribution, and retail become relatively abundant and attention becomes relatively scarce. Consumers can afford to consume greater quantities of smaller micro media, chunks of media. Average returns fall: Falling advertising revenues across mass media, falling circulation in newspapers, etc. The value is appropriated by consumers, who can consume more media more cheaply.

As the attention becomes scarcer, it becomes more costly and the economies of scale and scope in marketing erode because returns fall. On the other hand, as the production becomes more abundant and less costly, it can realize greater returns. Value is shifting. The dominant strategies in Media 2.0 are based on economies of scale and scope in production, distribution, and search.

There are three sources for value creation in Media 2.0: ① revelation, ② aggregation, and ③ plasticity (Haque 2005: 97). The revelation refers to discovering which content is valuable. It is like finding the new stuff. As a result of the expansion of Internet use, ‘more choice’ but ‘less time’ requires the user’s attention. Media user would like to crave more trusted brands such as Google, to filter the glut of choices, but it is also easy for them to rapidly leave brand loyalty, if their needs are not met, or just to try the next more attractive digital media.

³ The prisoner's dilemma is a fundamental problem in game theory that demonstrates why two people might not cooperate even if it is in both their best interests to do so. It was originally framed by Merrill Flood and Melvin Dresher working at RAND in 1950. Albert W. Tucker formalized the game with prison sentence payoffs and gave it the "prisoner's dilemma" name (Poundstone, 1992; cited in Wikipedia).

The aggregation means centralizing the huge amounts of micro-content. It covers the any time and any device distribution.

The plasticity is to create value by modularizing, standardizing, or extending content. The so called prosumers (producer + consumers) can remix, tweak, cut, merge, split it or cheaply produce complementary goods. It is a matter of the infrastructure through technologies like mash-up capability.

The scarce attention is the basis of Media 2.0 value and those three mechanisms can allocate this attention efficiently. The Media 2.0 users are experiencing online platforms and flexible viewing schedules with affordable devices and applications. In the interactive environment, 'my stuff' is anywhere and users can be also producers of their own programming or authors of their own content. They need digital skills and redefine the amount of time they spend media passively. Thanks to those sources, they can skip the conventional advertising.

In order to focus on connected customers, content companies should open up the way they create content. They should open new ways to manage, store, catalog and break down content into product units⁴. The distribution companies also should open up the distribution, delivery, packaging, and availability of the content⁵. The device companies could create open, reciprocal relationships with content suppliers and customers.

Successful platform companies will interact with companies that produce content, as well as with users who are able to control, manipulate and configure content on large and small screens and technology will support this interactivity and responsiveness to ever-smaller niches. The future's higher production capacities at more reasonable price will enable smaller businesses to produce content that can be gathered to serve more niches. Skilled editors/content managers can deploy digital multimedia devices to serve such niche markets. As a result, "content will be able to flow more easily upward from the grass roots as well as downward from the media elites, opening doors to fresh creative approaches" (IBM 2004: 17).

3. Platform Types and Google case

3.1 Platform Types

According to Iansiti & Levien (2004b: 148), "a platform is a set of solutions to problems that is made available to the members of the ecosystem through a set of access points or interfaces. (...) Platforms serve as an embodiment of the functionality that forms the foundation of the ecosystem, packed and presented to members of the ecosystem through a common set of interfaces. Ecosystem members then leverage these interfaces as a kind of toolkit for building their own products and think of them as the starting point for their own value creation. The platform is the 'package' through which keystones share value with their ecosystems."

Iansiti & Levien introduced four types of platform (2004b, pp.68-78, see *table 1*): *Keystones*, *dominators*, *hub landlords* and *niche players*. A company's choice of ecosystem strategy is

⁴ In March 2008, it is announced that Warner Music Group has joined EMI and Universal in agreeing to drop DRM on MP3 files it sells through Amazon.com except Sony BMG who is still holding out for DRM (Sayer 2008: 24).

⁵ Comcast's free site, Fancast has streams of full episodes of current and old TV shows from Bravo, CBS, Fox, NBC, and other networks. It has blogs about TV, movies, and celebrities, and it has marketing for first-run movies, DVDs and downloads (Albro, Edward N "Beta Watch," www.pcworld.com, Mar. 2008. P24).

governed primarily by the kind of company it is or aims to be. But the choice also can be affected by the business context in which it operates: the general level of turbulence and the complexity of its relationships with others in the ecosystem.

If the business is at the center of a complex network of asset-sharing relationships and operates in a turbulent environment, a keystone strategy may be the most effective. By carefully managing the widely distributed assets the company relies on, in part by sharing with its business partners the wealth generated by those assets, it can capitalize on the entire ecosystem's ability to generate, because of its diversity, innovative responses to disruptions in the environment.

Keystones are the kind of companies that serve as enablers and have a great impact on whole system. Firms that follow keystone-like behavior are important in business domains that are characterized by frequent external disruptions. An example is IBM-Microsoft-Intel ecosystem against Apple. For many years, Apple refused to license its operation system and produced a highly integrated product and it failed in the face of MS, IBM and Intel which acted as effective keystones. Because those can preside over significant turnover, and because diversity and responsiveness to change preserve the ecosystem, they improve the survival chances by either directly or indirectly encouraging change. In that sense, keystone strategy cultivates vitality of the ecosystem by sharing assets with partners.

Dominators and hub landlords are the kind of companies that attract resources from the system, but do not function reciprocally. They are different. If the business relies on a complex network of external assets but operates in a mature industry, the company may choose a dominator strategy. Because the environment is relatively stable and the innovation that comes with diversity isn't a high priority, it can move to directly control the needed assets, by taking over partner's functions. A dominator ultimately becomes its own ecosystem, absorbing the complex network of interdependencies that existed between distinct organizations, and is able to extract maximum short-term value from the assets it controls. When it reaches this end point, an ecosystem strategy is no longer relevant. If the business chooses to extract maximum value from a network of assets that the company doesn't control, it may end up starving and ultimately destroying the ecosystem. This makes the approach a fundamentally flawed strategy.

Apple was one of Dominators against IBM-Microsoft-Intel's Keystone strategy. Sony used to be another example of dominators during the rise of the VHS and Sony's Beta acted to integrate vertically or horizontally to directly control and own a large proportion of a network. Both of them sought to directly control large parts of what could have been a thriving ecosystem of numerous firms by providing a single integrated product. But, the hub landlord is different. It eschews control of the network and instead pursues control of value extraction alone. By taking too much value out of its network, a hub can turn itself to a landlord.

If the business faces rapid change and, by leveraging the assets of other firms, can focus on a narrowly and clearly defined business segment, a niche strategy may be most appropriate. Niche players can act to develop their own specialized capabilities that differentiate it from other firms in the network, leveraging resources from the network while occupying only a narrow part of the network itself. Effective leveraging by them serves to enhance the

ecosystem health. By avoiding duplication of effort, they implement a more efficient division of labor. Because of its simple focus, it can foster the unique capabilities and expertise it needs to weather the turbulence of the environment. This aspect is very important to keystones which must encourage niche players to leverage whenever they can and dissuade them from duplicating effort in areas of functionality.

Iansiti & Levien recommend *a keystone strategy*, if a firm’s business is at the center of a complex network of asset-sharing relationships and operates in a turbulent environment, not a stable environment. They also recommend *a niche strategy*, if a firm’s business faces rapid and constant change and, by leveraging the assets of other firms, can focus on a narrowly and clearly defined business segment.

Table 1. Companies’ ecosystem strategies categorized by Iansiti & Levien

Strategy	Definition	Value Creation	Value Capture	Focus/Challenge
Key-stone	Improving the ecosystem and benefits performance of the firm.	Leaving vast majority of value creation to network. Sharing widely.	Sharing value thru network; balancing this with capture in areas	Focusing on creating platforms & sharing solutions throughout network. Challenge is to sustain value creation while balancing value sharing.
Domi-Nator	Integrating vertically or horizontally to control its network	Responsible for most value creation itself	Captures most value for itself	Focusing on control and ownership – defining, owning, and directing most of what the network does
Hub Land-lord	Extracting as much value as possible from its network without controlling it	Creating little if value; relies on the rest of the network for value creation	Capturing most value for itself	Even if they refuse to control their networks, they extract so much value from those networks that they put their existence at risk.
Niche player	Developing specialized capabilities that differentiate it from other firms	Collectively creating much of the value in the ecosystem	Capture much of the value they create	Focusing on specializing in areas where they can develop capabilities, while leveraging the services provided by the keystones in their ecosystem.

Source: Iansiti & Levien, 2004b, p.75

Effective keystone strategy has two parts: Creating & sharing value. The first is to create value within the ecosystem. Unless a keystone finds a way of creating value efficiently, it will fail to attract or retain members. The keystone that fails to share value will find itself perhaps temporarily enriched but ultimately abandoned.

Keystone’s value creation is generally related to the company’s revenue increase and market expansion. Keystones can create value for their ecosystems in numerous ways, but the first requirement usually involves the creation of a platform, an asset in the form of services, tools, or technologies that offers solutions to others in the ecosystem. The platform can be a physical asset, like Wal-Mart’s retail chain of CD/DVD or an intellectual asset, like the Windows software platform, Linux standard, Google’s innovative information search engine, or financial asset like Navision acquisition of Microsoft (Iansiti & Levien, 2004b: 91-97). Keystones leave the vast majority of value creation to others in the ecosystem, but what they do create is crucial to the community's survival.

The second requirement for keystones' success is that they share throughout the ecosystem much of the value they have created, balancing their generosity with the need to keep some of that value for themselves. Achieving this balance may not be as easy as it seems. Keystones must make sure that the value of their platforms, divided by the cost of creating, maintaining, and sharing them, increases rapidly with the number of ecosystem members that use them. This allows keystones to share the surplus with their communities. During the Internet boom, many businesses failed because, although the theoretical value of a keystone platform was increasing with the number of customers, the operating cost was rising, as well. Many B2B marketplaces, for example, continued to increase revenue despite decreasing and ultimately disappearing margins, which led to the collapse of their business models.

Effective keystone can couple value creation with sharing it. Some assets can not only create high-value, but also be sharable assets, or leverage direct customer connections, or support uniformed information standards like APIs (Application Program Interfaces), purchase histories, and demographics. Other assets can establish and maintain performance standards like Google.⁶ Carefully crafted platform architectures like APIs not only embody the value created by the firms, but also package, distribute, and provide access to it. The cost of sharing value with each partner must be low. It means, estimations of operating leverage include the cost of creating the assets as well as sharing them. Windows of MS⁷ & Google's AdWords⁸ are good examples.

Whereas companies used to be towards dominator like Apple in PC (Personal Computer), Sony⁹ in VCR (Video Cassette Recorder), or even the hub landlord such as AOL, Yahoo in portal, the value enabler, keystone, Google will be more likely to survive and its business strategy will be the best option to be for most of the platforms.

3.2 Google's Keystone Strategy and its outcome

Google was born in 1998, in the midst of the Asian financial crisis. It introduced disruptive technologies in Internet search and has thrived, while other competitors have fallen by the wayside. One reason is because it complemented the wider IT ecosystem, rather than cannibalizing it. Another reason is because it had relatively low start-up and running costs and has been able to take advantage of the falling prices in computer processing power and in bandwidth respectively (ITU 2009).

In regards to the value creation and sharing it, the three sources for it, **revelation**, **aggregation** and **plasticity** can be observed in Google's case. Firstly, Google tried to discover which content is valuable in terms of the **revelation** and by 1997 Larry Page, founder of Google developed a "PageRank" system that determined the relevance of a webpage using this methodology and, in partnership with Brin, had incorporated the system

⁶ It will be explained in Google case.

⁷ Windows was open for PC application developers so that MS supplied extensive information & tools for creating applications to anyone who wanted and didn't charge any royalties in exchange. As a result, in 1998 ca. 450,000 developers took part in various MS training programs and over 10,000 applications were available for Windows (Hagiu, 2007a: 450).

⁸ It will be explained in Google case.

⁹ During the rise of the VHS and Beta acts, Sony integrated its business vertically and Apple now owns a large proportion of an iTunes/iPod platform/network. The both seek to directly control large parts of what could have been a thriving ecosystem of numerous firms by providing a single integrated product (Iansiti & Levien, 2004b: 91-97).

into a search engine, BackRub. To better reflect its ability to help people organize vast amounts of data, BackRub was soon renamed “Google” (a play on the word “googol,” the mathematical term for a 1 followed by 100 zeros) (Moon, 2007: 283-284).

Based on the stable position within the window, Google introduced its AdWords in October 2000, the search engine based advertising network, works different from its competitor, Overture for Yahoo. It allowed anyone with a credit card to purchase space on Google’s search result pages by bidding on specific search keywords and phrases, without going through a Google sales representative. Google supports its economy of clicks and links with ads. Those ads appear as small as blogs and as mighty as NYtimes.com. Anyone can join ad network. Google put its ads anywhere.

Google doesn’t charge on advertising-rate based scarcity, but charge on performance. Placing higher or lower in Google’s system depends on how much the advertiser is willing to pay for the search keyword, as well as its quality score. It is a measure of how successfully the advertisement is able to attract clicks. Consequently, the advertisement that is more popular among users tended to receive more elevated placement on Google engine. The more Google sends traffic to sites with its ads, the more money it makes. The more money these sites can make, the more content they can create for Google to organize. Google also helps those sites by giving them content and functionality like maps, widgets, search pages, and videos. Google feeds the network to make the network grow.

Google occupies richly connected platform that provides the foundation for creating many niches, creates network among advertising participants, and works to increase diversity and productivity. It provides a stable and predictable keystone on which niche players such as advertisement and content providers can depend.

Platforms need to change fundamental structure with Internet. The greatest transformative power of the Internet is not the technology or business. It is about people and making new platform among them. The link changes everything and it is all about relationship. It is possible to invite participants to provide support, to let them use the company just as a platform to build their own companies. Google manages abundance, does not control scarcity. According to J. Jarvis, Google is the only company that truly understands how to succeed in the Internet age. Google devalues the content. Link gives value added.

Jarvis said “Big is still big. But small is new big.” It’s the post-scarcity economy. Google is teaching people to manage abundance. He said the gift economy, by urging “join the open-source” The shift from the mass market economy was in Chris Anderson’s 2006 book titled in “The Long Tail.” Business model is free and Google doesn’t want to own the content it searches, but it wants knowledge to be free online so it can organize more of it.

In terms of **aggregation**, Google’s platform rule is: “Think distributed.” This concept concerns with “the more connections, the greater the value¹⁰.” Google centralizes and stores the huge amounts of content and sees itself as a means. Jeff said, “Once upon a time, all roads led to Rome. Today, all roads lead from Google. Everybody needs Google juice.” Google’s motto, “Don’t be evil,” a mantra reflected not only Google’s commitment to unbiased search

¹⁰ Jeff Jarvis, in his book “*What would Google Do?*”(2009), emphasized “Link Economy” instead of “Content Economy.” The link economy refers to “The more connections, the greater the value.”

results, but its commitment to function in the world as a thoughtful caretaker of information. In 2006, Google has acquired YouTube for \$1.65 billion in an all stock transaction. Google's platform combined with YouTube's "innovative technology" is a perfect match to store huge amount of micro content.

The third source for creating value is the **plasticity** and Google shares the value by modularizing, standardizing, or extending content. Google's unchanging performance standards are homepage's "simple aesthetic-clean, uncluttered, and easy-to-use" and the motto, "Don't be evil". The keystone can reduce uncertainty by centralizing and coordinating communication, or decrease complexity by providing powerful platform.

First example of standardizing and extending content is Google's advertising model. Two programs, AdWords and AdSense are designed with its belief that effective advertisements should be precisely targeted, useful to consumers, and easy-to-use. AdWords introduced in mid-2000 works different from its competitor, Overture placing ads for Yahoo & MSN. According to Moon (2007: 287-288), Overture, along with Google's competitors, relied on auction-based, CPC (Cost Per Click) models to sell advertising. Whereas in Overture systems, the highest bidder for a particular search keyword is deemed the "winner", and its ad is at the top of the ads list, placing higher or lower in Google's system depends on how much the advertiser is willing to pay for the search keyword, as well as its quality score, which is a measure of how successfully the ad is able to attract clicks. Consequently, advertisement that is more popular among users tended to receive more elevated placement.

After AdWords, in early 2003, Google launched a sister advertising program, AdSense. It was the flip side to AdWords and gave content providers a mechanism via which they could add advertising space to their websites. By subscribing to it, web publishers could hire Google to manage the placement of relevant ads on their webpages. It enabled content providers to take advantage of Google's ability to deliver targeted ads that matched the type of content they were providing. AdSense used the same kind of technology that AdWords used to deliver ads. However, the AdSense system can the websites of its affiliates to generate ads related to each affiliate's content. Anyone with a website can attempt to generate revenue by becoming an AdSense affiliate (Moon, 2007: 290).

Google is expanding the number of advertisements it delivers to other devices like mobile. In 2007, it has begun showing eligible ads on Google Mobile Search pages – making it easier for visitors to reach additional qualified customers. After which, users can get charged for the ads running on Mobile Search on a cost-per-click basis. By doing it, Google focused its first expansion efforts on adding popular features like Google Maps and Google Earth to its search tool and brought out the hosted Google Apps cloud computing suite and the Android mobile operating system. Recently, it has disclosed that it is developing a Linux-based online operating system and a browser that will challenge Microsoft's Windows and Internet Explorer. The Nexus One targets popular devices like Apple's iPhone and RIM (Research In Motion)'s BlackBerry.

If those three sources really would make Google to create value and share it with partners, it is needed to be verified whether this keystone strategy makes Google's business ecosystem healthy or not. Iansiti & Levien (2004b: 82) insist, *keystone strategy* as one of the operating

strategies could improve the overall health of the ecosystem by providing a stable and predictable set of common assets. Keystone’s capabilities in ecosystem management consist of productivity, robustness and niche creation (or innovation). Keystone can increase *productivity* by simplifying the complex task of connecting network participants to one another or by making the creation of new products by third parties more efficient.

In ecosystems, keystone exercises a system wide role despite being only a small part of their ecosystems' mass. Despite Google's pervasive impact, for example, it remains only a small part of the IT ecosystem. Google reported revenues of US\$ 5.7 billion for Quarter ended 31 December 2008, up +18% compared to Q4 2007, and up +3% compared to Q3 2008 (ITU, 2009). Its market capitalization represents a larger portion of the ecosystem, typical for a keystone because of its powerful position.

Improvements in productivity show that an ecosystem is able to produce more with the same or less input. In the long run, real earnings in a business ecosystem are tied to productivity gains. Output per hour of all persons or labor productivity¹¹ is the most commonly used productivity measure. Labor productivity and productivity growth is an important measure of the health of the ecosystem, since it provides an indication of the real earnings growth accruing to the ecosystem. Among the top 15 IT platforms, Google’ profit per employee is the highest and it is about seven times than Yahoo’s figure (See *Figure 1*).

Figure 1. Profit per employee of IT platforms ('08, US\$)

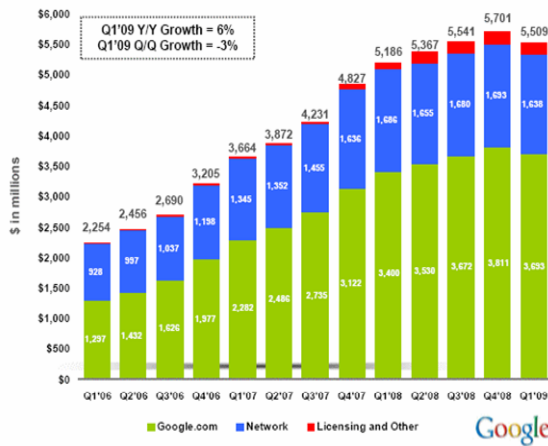


Source: Google Finance, 2009

Keystone can enhance *robustness* by consistently incorporating technological innovations and by providing a reliable point of reference that helps participants respond to new and uncertain conditions. A healthy business ecosystem should be robust to disruptions. One way to assess this robustness is to analyze the sustainability of value in the ecosystem. The persistence in the value of the constituent firms after a major disruption can be used as an indicator of the ecosystem’s robustness. Another approach to robustness is a measure of the financial data and firm survival rates.

¹¹ Labor productivity is the ratio of the output of goods and services in dollars to the labor hours devoted to the production of that output (Iansiti & Richards, 2005: 11).

Figure 2. Quarterly Revenue of Google (Q1'06-'09, US\$)



Source: Google Finance, 2009

Figure 3. Google's stock price trend in 2009



Source: Google Finance, 2009

Google announced the financial results for the quarter and the fiscal year that ended on December 31, 2009. Google reported a 17% over year revenue growth, with reported revenues of \$6.67 billion. Given that the global economy is still in the early days of recovery, Google's performance in 2009 was relative good. Among the fourth quarter financial highlights are \$4.42 billion in Google Sites revenues, \$2.04 billion in Google Network revenues, and an increase of 13% over the fourth quarter of 2008 and increased approximately 9% over the third quarter of 2009¹². Most of Google revenue comes from the Web sites (See Figure 2).

Google has made virtually all of its money so far by displaying text-based advertising links alongside search results and other Web content that includes topics related to the commercial message. However, during the past year, Google has introduced new online advertising channels featuring video, graphics and other more compelling features while also extending its marketing machine into television, radio and print. Now, Google appears intent on shaking up the telecommunications industry by introducing inexpensive cell phones that will make it easier for people to use Google's search engine, maps, e-mail and other applications even when they don't have access to a personal computer. Google's recent stock price has hit a record high and it is expected that it will become even more profitable when it introduces this Google phone, a disruptive product. The latest rise came after Google confirmed its plans to become a bigger player in the Internet's social networking scene (See Figure 3).

Productivity and robustness don't perfectly capture the overall health of a business ecosystem. It is important that systems also exhibit diversity that they support many different types of organizations, because the keystone should share the value with others. Niche creation or innovation is the critical mechanism by which business ecosystems increase diversity over time. Keystone is expected to encourage *niche creation* by offering innovative

¹² More at: [Google reports fourth quarter financial results http://www.thaindian.com/newsportal/business/google-reports-fourth-quarter-financial-results_100307745.html#ixzz0dJmtgPZY](http://www.thaindian.com/newsportal/business/google-reports-fourth-quarter-financial-results_100307745.html#ixzz0dJmtgPZY)

technologies to a variety of third-party organizations. The diversity results in new alternatives and choices for the users and participants that depend on a business ecosystem.

In Google case, it can be reviewed whether Google’s rapid innovation in products and business models have resulted in significant growth and changes in the ecosystems. The ROI (return on investment) and service expansion are good measures of the effectiveness in innovation and niche creation. The return on investment in search engine sectors has improved from the year 2008 in Google case, in comparison to other competitors like Bing and Yahoo Search (See *Figure 4*).

Figure 4. Return on Investment of Google Search, Bing, and Yahoo Search (Q2’09-‘09, %)



In terms of service diversity, Google began with a simple value position, to provide relevant Web search results in 1999. Its success in this has led to become one of the most popular Web search engines. To capitalize on its central position, it developed a diversified service offerings. The first extended one has been the success of its search-based advertising system, as mentioned above. This performance-based aspect is a substantial improvement over impression-based methodologies like Overture where advertisers pay a fee based on the number of times their advertisement is viewed by a customer regardless of whether the customer clicks on the advertisement. Google is in the process of expanding its performance-based advertising service to other search areas (See *Figure 6*).

Figure 5. Service expansion history of Google (1999 ~ 2007)

	1999	2000	2001	2002	2003	2004	2005	2006	2007		
WEB	Search	Web Search		Image Search Catalogs Search	News Search Voice Local Search		Groups, SMS, Print	Base, Blog Search Book Search Music Trend, Video	Checkout, Patent Search University Search U.S. Government, Search Customs Search engine Scholar	Alert, Code Search Finance, Product Search Product Search Web history, Video	
	Communication & Publishing				Froogle	Bloggers	Gmail			Apps, DotGeball Joga BonRo, Page Creator	
	Advertising		AdWords			AdSense				Audio Ads, Click to Call TV Ads, Grant	
	Development									Code, Related Links	
	Aggregation									Gadgets, iGoogle	
	Statistics			Zeitgeist					Trends, Measure Map Analytics	Gapimider	
	Mapping						Map	Moon, Mars, Transit			
	DESKTOP	Standalone applications					Desktop, Picasa	Earth, Gmail Notifier Talk, Web Accelerator	Pack Video Player		SketchUp
		Desktop extensions		Toolbar			Toolbar 2.0				
		MOBILE	Online mobile products						Mobile search	Gmail News	Blogger Mobile Personalized home Reader
Downloadable mobile products								Gmail mobile Map Mobile	Mobile Search Map Mobile		

Source: Lee, Y.H., 2007: 40~41; Iansiti & Richards, 2005: 28~30

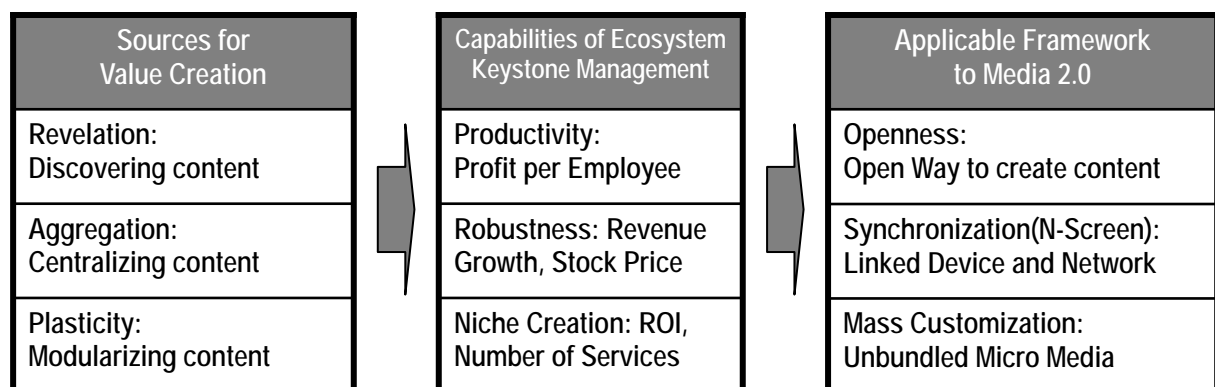
The launch of Google Maps in 2005 allowed it to extend performance-based advertising to local businesses and travel related business. Google Maps provides it with a way to tap into the multi-billion dollar yellow pages market. To enhance the attractiveness of Google Maps, it has added satellite views and opened the software as a service to modifications and enhancements by individuals and partners. In other parts of its service portfolio, the rapid growth of personal publishing through Weblogs led Google to acquire Blogger in 2003, a leader in Weblog hosting. According to Iansiti & Richards (2005: 29), as of April 2005, there were 14.2 million Weblogs with a growth rate of 80,000 a day. To capture value from the growth of Weblogs, Google has extended its performance-based advertising system to Blogger users and Webloggers in general. Weblog owners can post Google ads on their Weblogs for a share of the advertising revenue generated.

4. Applicable Framework to Media 2.0

Confronting Media 2.0 era, leading companies should understand how “relatively scarce” attention shapes industry dynamics. Media platform 2.0 can give ways for consumer to broadcast the media economically and effectively. It can exploit anywhere network, peer production, and coordination economies.

The Media 2.0 strategies would be taking place in both parts of production and distribution. Media platform can leverage relatively abundant production resources to cheaply produce micro differentiated and hyper targeted content and also leverage relatively abundant distribution resources to cheaply and intelligently distribute micro differentiated content to niches.

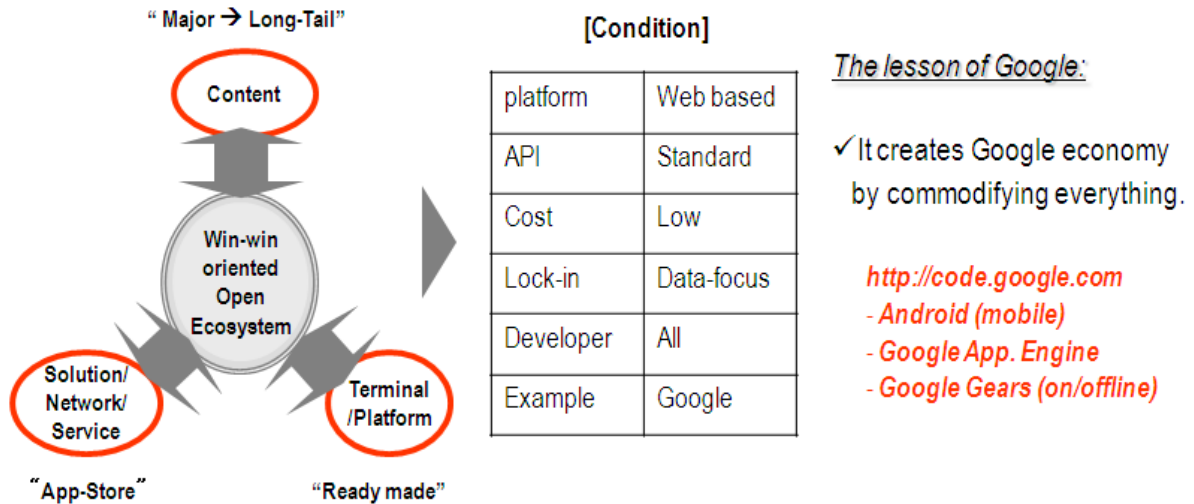
Figure 6. Applicable Framework to Media 2.0



The Figure 6 shows an application framework to Media 2.0 of keystone strategy and management. Three sources for value creation of keystone - revelation, aggregation and plasticity - can be applicable directly to the keystone strategy framework of Media 2.0 and keystone can improve the ecosystem by applying the three sources for value creation to the

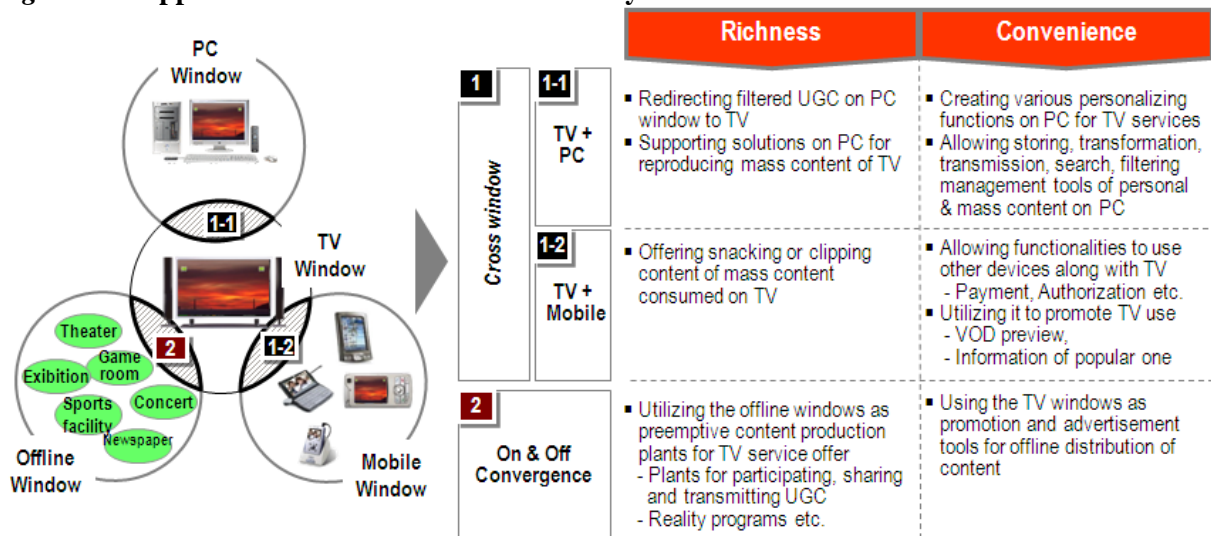
three parts of the strategy framework - openness, synchronization, and mass customization - in order to sustain its business ecosystem healthy.

Figure 7. Applicable Framework to Media 2.0: Openness



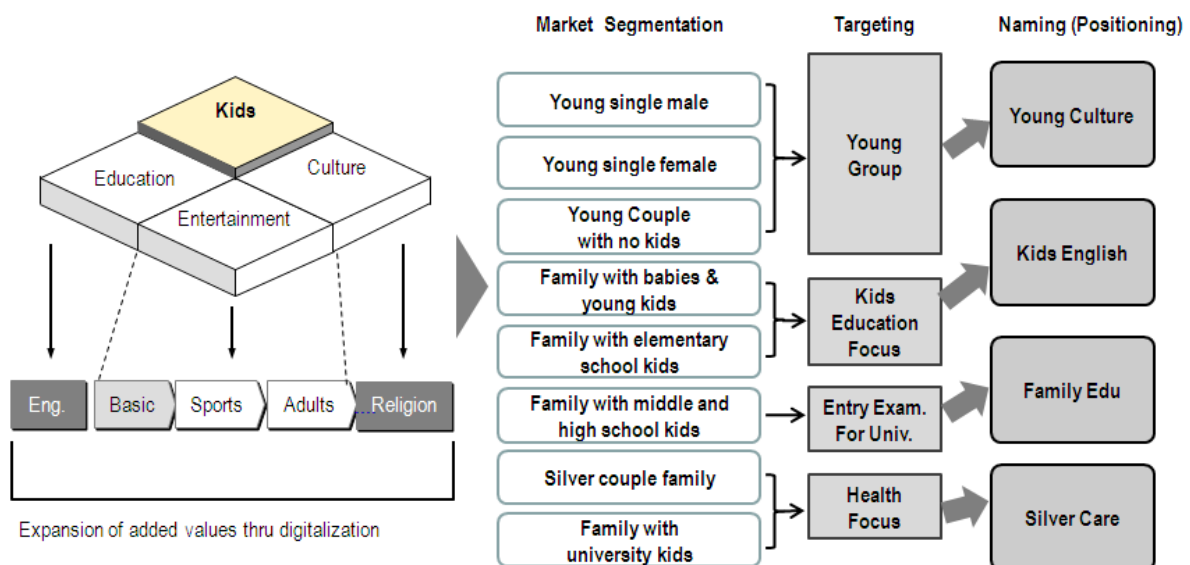
As far as the first Media 2.0 strategy, the openness concerned, the user needs the connected consumption through niches, not blockbusters. Therefore, it is important to open up the way they create content rather than offering closed APIs. For instance, Warner Music Group has finally joined EMI & Universal in agreeing to drop DRM on MP3 files. Technology such as the open source supports the interactivity. First running innovators for the openness are Google, Amazon, Craigslist, etc. They know upstream resources become scarce. Jeff Jarvis (2009) said, small is the new big. Long live the mass of niches, same as the Long tail theory of Chris Anderson in 2004 (See Figure 7).

Figure 8. Applicable Framework to Media 2.0: Synchronization



In terms of synchronization, the user wants to use media aggregated and reconstructed in hyper-efficient ways. It is related to give value with network and device link rather than content itself. J. Jarvis in his book about Google prefers link economy to content economy as mentioned above. It is important in fields of telephone, video and audio where streams of sampled data are manipulated. It is used for the transfer of content from a computer to an MP3 player connected to it. For instance, Hulu offers streaming video of TV shows & movies from NBC & Fox, and BBC launched VOD, iPlayer (Web API) (See *Figure 8*).

Figure 9. Applicable Framework to Media 2.0: Mass Customization



In regards to the mass customization, the user wants to consume media in unbundled micro-media. It is about managing abundance rather than controlling content. More flexible viewing schedules with affordable devices & applications make mass market dead. Users can be highly targeted and redefine the amount of time they spend media. According J. Jarvis (2009), some people are producing services for more targeted interests, locals and communities: Mobile weather, local sports talk show and local job fairs, parents' guides, health care for senior age, etc. (See *Figure 9*).

5. Conclusion

This paper discussed the strategic change of media platform in transition from Media 1.0 to Media 2.0 and insisted the necessity of the keystone strategy introduced by Iansiti & Levien in 2004 for building the healthy business ecosystem. Based on the "Keystone" concept and the strategy of the role model, Google, it constructed an application framework of keystone strategy to Media 2.0 platforms. Three main parts of the keystone strategy are openness, synchronization, and mass customization focus.

Whereas in the past, corporate performance of the media platforms depended heavily on industry attractiveness and organizational competence, a more flexible interdependence and a favorable relationship within the media industry will determine the future media business success. Leading global media companies including Google, eBay and Microsoft as keystone

have already often utilized the strategic concept of the ecosystem for their business strategies and coping with environmental uncertainties.

In complexity of the convergence media trends, people in media sector know with the wisdom of media history, traditional media content owners or suppliers like TV broadcasting and networks won't shrink and rather exploit more diversified distribution platforms (or channels) and doing so, they could create more value and share it. As IT evolution has built upon that foundation of network convergence and is reducing the importance of distance, connecting people and speeding information or content flows and processes, this phenomenon presents a huge opportunity to improve media-economic efficiency, leading to innovation, new business opportunities, increased media choice and lower price that benefits all media content suppliers and users.

Virtually every service and application delivered over the IP based network incorporates digital media of some kind. This disrupts conventional media-focused dominant players and has pushed the entire value chain to develop innovative solutions that encompass media in some form. Google focuses on harvesting media content, combining the content with its robust search capabilities and communities to broaden its advertising revenue.

In order to be a keystone platform in Media 2.0 to promote the interaction among media customers and partners, media platform should focus on the new framework of openness, synchronization, and mass customization focus. In order to create more value and share it, the media platform should give up some control of assets. Then, collaborators can remix, add to, and distribute content. According J. Jarvis, collaboration is co-creation. In synchronization support, it aims to make same content, transactional services and applications available across all windows simultaneously, wherever practical and commercially viable, and with a common look and feel. For supporting mass customization, customer segmentation is not just a demographic profile. It will be characterized through needs-based segmentation and put at the center of all businesses and service development.

With cooperation challenge, content providers don't need contract partner for revenue share in the one way value chain, but they need partners to help them extend their economies of scale & scope in the global media world. It means that they want the media platforms also to be their helpers, enablers, keystones, rather than dominators. From this standpoint, in the mid and long term, the keystone approach is more of importance for both, traditional and new media platforms, in whatever stages they are. They must aggressively integrate sophisticated media search, management, integration and personalization capabilities, user-generated and premium content, communications and transaction capabilities that rival those offered by other content & solution suppliers and platforms.

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