

# The Analysis of Innovation Management in Google

Hyeonjoo Kim1

<sup>1</sup> Coventry University, UK

Correspondence: Hyeonjoo Kim, Coventry University, UK.

Received: October 9, 2020; Accepted: November 19, 2020; Published: November 20, 2020

## Abstract

Google has search engine, android operating system and so on. Its products innovation is remarkable as known as PageRank and world most used smart phone, Android. Not only management strategy, but also everyday life is interconnected with IT evolution. Google's search engine lured more than half of traffic among other competitors and its Android OS for portable devices dominated major smart device market. Google Inc's innovation for both of products and management sections are constantly getting upgraded and it shows that this organization have never stopped for adapting to current customer's needs and innovation for its organization to get well shaped. This research is understanding of how current cutting-edge technology can be presented and major perspective to estimate future business trend with idea that is well established academical approach to Google's innovation for both of technology and organizational transformation.

Keyword: innovation management, Innovation 4P, innovation organization, cultural management

## 1. Introduction

Google was founded by Larry Page and Sergey Brin in 1995. Actual company was established in 1998 and incorporated in September 4, 1998. The firm was list on NASDAQ as GOOG in August 19, 2004 (Google.com, 2017). As Founder's letter 2004 implies Google Inc's mother company is Alphabet Inc from 2005 to present (abc.xyz, 2017). Stock price of Google (Alphabet Inc) is 975.40 (Oct,26,2017) and its revenue is \$338.5B which show it is tremendously powerful company. The firm has approximately 72,050 employees (cnn.com, 2017). Google started as search engine provider at first. When the firm introduced in the market, the firm was late comer into the market and well known companies such as Yahoo, Microsoft and so on were already taking major proportion of market share in the US. As well as, the company had difficulty in the nations as well with the competitors in non-English speaking nations such as Baidu, Naver, Yahoo.jp and so on (Datamonitor, 2008). Nevertheless, difficulty in entering competitive market, the firm entered the new market successfully.

Google's search engine, PageRank constantly modified and innovated to retain no.1 valued website. Besides, the firm pursued for approximately one hundred significant upgrades to the its search engine within each quarter of years. Its search engine carried and conducted more than sixty percent of all online searches and its mobile carried and conducted over ninety percent of mobile internet search. Google's start-up business search engine confirmed as no.1 online search engine globally which derived from constant innovation and grade in its technological development (MaketLine, 2012). The firm reached all over the world and offers 158 other international domains, such as google.dk, google.co.uk, google.nr, google.co.jp and etc and the search engine provides in more than 100 languages (MarketWatch, 2008). After iPhone introduced, there was no significant competitor for its dominance. There used be some trials for coin up of new operating system to follow Apple Inc's App store. Nowadays, some companies have their own platform for App store style system such as Amazon's store, Barns and Noble, Microsoft's store, Linux's store and Google's Android. For profitable revenue, Apple's App store is still ranked first in the market, however for most users account, Google's Android acquired first place. Android system is open to other IT manufacturing companies, so HTC, Motorola, Sony and other manufactures could produce massive quantities of Android based smart phone. Android system confirmed as leading platform in fourth quarter of 2010 and It has kept growing and growing tremendously. Unlikely Apple's strategy, Android has lowercost strategy for majority (MarketLine, 2012). Google has reached world top position for one of most valued firm with significant brand value overtaking Microsoft, General Electric Co., Coca Cola, Wal Mart Store and IBM. According with BusinessWeek, its value took 24th place in world top 100 global companies (MarketWatch, 2008).

# 1.1 Research Objectives

Critically analyze components of innovation organization and process by research for Google's innovation management.

- To critically analyse the key elements of innovation organization.
- To critically discuss the components of process.
- To provide recommendation for further development.

# 2. Internal Analysis of Google

Google has significant market position which is top ranked brand. This brand image has enabler to the firm launching numerous new products. Google has key strength in searching engine technology and technological infrastructure. Google's search engine is based on proprietary PageRank and ranks web pages that shows the ones which is most precise information for search query (Datamonitor, 2008).

Android's success is one most important aspect of Google's innovation component. The Android based mobile OS is most used around the world and second most profitable next to Apple's app store. As mobile users are growing, this platform is one of most significant strength of Google (MarketLine, 2012). Google's weakness is that is lack of integration. Google's products are numerous and only valued and popular products are mostly used. Such a platform Google hangout is the way behind Facebook but in service for support Google. As well as, it is somewhat difficult to recognized all of Google's products at once. Only few of those products are well known and used in daily based life and work (MarketWatch, 2008).

Android's success is one most important aspect of Google's innovation component. The Android based mobile OS is most used around the world and second most profitable next to Apple's app store. As mobile users are growing, this platform is one of most significant strength of Google (MarketLine, 2012). Google's weakness is that is lack of integration. Google's products are numerous and only valued and popular products are mostly used. Such a platform Google hangout is the way behind Facebook but in service for support Google. As well as, it is somewhat difficult to recognized all of Google's products at once. Only few of those products are well known and used in daily based life and work (MarketWatch, 2008).

# 3. External Analysis of Google

Growing internet usage and users are the way to maintain and innovate Google both incrementally and radically. This factor conveys that more people are having their more time with IT devices. Google's search engine is one of most visited website in the world and this will be the opportunities for Google (MarketWatch, 2008). As a consequence of growing number of smartphone users, most products of Google has huge opportunities in market place. Such a Google's product, Youtube that offers online video sharing and live streaming of visualize contents is tremendously growing (MarketWatch, 2008). There are competitors such as Yahoo, Microsoft, Duckduckgo and so on in this environment. In some regions, Google's search engine is not the most visited website (MarketWatch, 2008). Google is subject to some lawsuits as there are many lawsuits in IT industry. This can tackle firm's innovation process and financial statues (Market Line, 2012).

#### 4. Innovation Organization

4.1 Business Model (Canvas)

Key Partnership	Key Activities	Value Proposition	Customer Relationship	Customer Segmentation
Distribution partners Mobile communication Software and OS development	OS system developer Online platform service	User friendly platforms Service integration Brand recognition Constant	User Communities Dedication and Trust Building	Geographically by nations, Mobile and Computer Users
Tech distribution	Key Resources	innovation	Channels	
Cost structure	R&D		Online service Revenue Streams	
R&D Datacenter operations S&M Costs		Ads Apps and Services Software Sales Google media share service Google library integration services		

Figure 1. Business model canvas of Google (Kim, 2020)

## 4.2 Shared Vision and Leadership

Leadership of Google is coming from Sergey Brin and Larry Page who are founders of Google. Especially Larry Page is now CEO of Alphabet which is mother company of Google and other sub-companies. As Larry Page highlights shared vision for Google is getting more ambitious achievements done, taking the long-term view, empowering great entrepreneurs and companies to flourish, investing at the scale of the opportunities and resources we see, improving the transparency and oversight of what we're doing, making Google even better through greater focus, and hopefully... as a result of all this, improving the lives of as many people as we can (Alphabet, 2017). What Google's managers do is a good coach, empowers the team and does not micromanage, expresses interest in and concern for team members' success and personal well-being, is productive and result oriented, is a good communicator-listens and shares information, helps with career development, has a clear vision and strategy for the team. Activities of manager is that does not micromanage, balances giving freedom with being available for advice, makes it clear he or she trusts us and advocates for team with others outside team (David A. Garvin, 2013).

Google's successful management formula is doing the basics well. The company has implemented trove of management process. The firm created many free tools for users and management tools maybe different. Google's management is focused on work in people analytics (Raffaella Sadun, 2017).

## 4.3 Appropriate Organizational Structure

Larry Page used to be CEO of Google however, this structure was inefficient for giant organization as Google. There are many other companies to command such as Youtube, Android, Chrome and so on. Larry Page now can control the organization with significantly improved structure which is valued management. Alphabet was established to shed all of Google's companies and CEO of Alphabet is Larry Page. All of Google's related companies are under controlled by Alphabet (Alphabet, 2017). One crucial aspect of Google is the company has Chief Culture Officer as HR department. According to (Robert N. Lussier, 2010), culture has significant role in the organization. This can impact on knowledge management which has been study of modern organizations especially for IT industry. Google's knowledge management has crucial role for organization learning and this process delivers gradual innovation process for Google's management system and learning organization. Culture in the organization has been highlighted for potential organizational structure (Robert N. Lussier, 2010).

#### 4.4 Key Individuals

Laszlo Bock on hiring, Google's world-wide presence culture and the future of HR states that there are two different aspirations what sets Google's hiring strategy apart from strategies of other firms'. No managers' decision on hiring and test and develop Google's processes using academic quality. Laszlo Bock as Google's HR team has unique approach to compensation, encouraging risk-taking (John Scorza, 2015). Apparently, Google's CEO is not its Founders, however Larry Page's governs from parent company as Alphabet. Larry Page was PhD student at Stanford when he established Google years ago. Larry Bock as key individual, he is still involved with top management of this corporates which most significant key role inside the company (Alphabet, 2017).

#### 4.5 Innovation of Search Engine

The quintessential law office management innovation of Google is that improvement of queries and its result. The key of search engine deciphers the intention of the inquiry. Google queries is the key of searching information and designed to show high-quality (CHARLES F. HUXSAW, 2009).

This is brand asset management system. The search engine is the perfect mechanics to convey the results for real world. In order to excel the brand asset management, performance, relevancy and ease-of-use is required (Johanna Shalhoub et al, 2007). Google search engine is one of most visited website in the world. The search engine handles 80% of internet searches on the planet. It is prime business for Google. Thus, search engine's innovation is tremendously important (ELLEN MCGIRT, 2017).

#### 4.6 Sub Conclusion

Innovation organization of Google has innovation paradigm which CEO, Larry Page of Google shifted to CEO of Alphabet that is parent company of Google. This innovation management has tremendously effective for Google's potential management to control all of Google owned companies such as Youtube, Android, Google news, Google financial and so on. Google was search engine provider however, the company's innovation positioning has expanded to mobile market as introducing android OS to mobile market and Google is most used website around the world. Search engine's innovation is innovation product and this innovation is process innovation for search engine (MarketLine, 2012). As well as, Google organization's approach to internal management with cultural

aspects support for knowledge management which influence with learning organization. Eventually this innovation of organization will achieve a learning organization (Robert N. Lussier, 2010).

#### 5. Innovation Driver

#### 5.1 Push

The result of scientific research is One of the sources that can be used for innovation (Tidd & Bessant, 2013). In Google continuously using a lot of "knowledge push", for instance, idea sharing, working with others starts up companies to "push" the innovation in Google. Google also has collaboration with scientific society which is really a very crucial part of the "pushing" process in Google.

## 5.2 "Pull" & "Users as Innovators"

In order to create a pull/demand there is a "chain" is required at the other ends in the innovation process (Tidd & Bessant, 2013). Google is working in various ways with this "pull" factor; as google is following open innovation process so pull is coming from outside the organization especially from customers, suppliers and other stakeholders. A wide range of the search for innovation process is therefore very closely related with these groups science innovators in the innovation process – also called "user-led innovation" (Tidd & Bessant, 2013).

#### 5.3 "Watching Others"

To see others is also an efficient approach for creating innovation (Tidd & Bessant, 2013, p. 258). systematically measuring data also By watching others created in doing so; Google is creating innovation both through the organization by engaging all employes and the outside (monitoring national/international trends), and along with sampling, monitoring, and collecting the data in the innovation process based on collecting and gathering more innovative idea "searching for innovation".

## 5.4 "Forecasting towards Future"

By Looking at "what's the future can bring" is an approach which makes sense for guiding the innovations for the future (Tidd & Bessant, 2013, p. 262). Google is randomly observing on many things and areas in trying to predict the future for its market and product. Google is continuously monitoring on the future trends as well as currents issues more specifically by focusing on user and what user looking for near future; and therefore trying to predict what will happen at a certain point in future. Continuous exploration of creating new products and services for its users made Google one of the most innovative organizations in this universe.

## 5.5 "Accidents"

According to (Tidd & Bessant, 2013) When accidents or other unexpected events happen, it is always force to look at what can be changed so a similar accident will not happen in the future. It is Google nature to poke in almost incidents which are happening around us by observing these Google is trying to make new products and services for its users, for example Google car, the main motto behind Google car is to reduce traffic accidents. By watching out for safety and how to avoid accidents by learning from former accidents through this way they are trying for launching future innovative products and services.

#### 5.6 "Using network"

To create innovation is generally not a solo act done by only a single individual, but it is actually a multiplayer game (Tidd & Bessant, 2013), participants have an important role in the innovation process. Google has deeper understanding on this; to manage these innovation network as open innovation "networks on the inside" and "networks on the outside" (Tidd & Bessant, 2013). By using this inbound and outbound network with its user, supplier and stakeholders Google can create innovative ideas easily than its competitors who are maintaining close innovation and Google also knows where to search for it (Robert F. Brands, 2017).

#### 6. Innovation Process

Innovation 4Ps indicates that innovation has 4 sectors such as process, positioning, paradigm and products and among all the sectors, innovation process has 4 steps such as search, select, implement and capture. In this process, problem will be considered then be chosen to be correct the organization or production process (Kim, 2020).

According to Bala Iyer and Tom Davenport, innovation machine as Google is not just a long-term outlook. But all investment goes for setting up the infrastructure which technical and managerial innovation's possibility (Walter Frick, 2014).



Figure 2. Innovation 4ps of Google (Kim, 2020)

#### 6.1 Search

The first step for the innovation group would be to generate new ideas and define innovation targets based on findings which drive from the environment that surrounds APMT, their general knowledge and experiences from this market, future consideration e.g. The structure of this "brainstorming" is built around the '4P's of innovation space' (Tidd et al,2015).

According to, former executive Marissa Mayer in 2008, Innovation comes from anywhere. At Google, this principle emphasizes that innovation is in nobody's job title, but is everyone's responsibility. Moreover, ideas can come from anyone in the organization, regardless if they are top management, employees who play in roles or departments not typically associated with innovation, or employees on the "bottom" of the company's totem pole. For example, at Google it was their Google Health product manager who suggested that the company optimize information on suicide prevention hotlines whenever a related search was conducted. As a result of this innovative suggestion, Google's search information results will automatically give a suggestion of where to call for help (i.e., the National Suicide Prevention Lifeline and its free, 24/7 phone hotline) when a user makes a Google search seemingly focused on suicide.

Popular innovation myth is that innovation only happens within a company's engineering and R&D departments. To the contrary, it is often the employees on the front lines who come up with the most innovative ideas. Professional expertise alone doesn't lead to innovation and new product development; life experiences are just as valuable, if not more valuable to the innovation process. For example, AT&T's exceptionally popular Drive Mode app (a mobile app that can be set-up to automatically send a customizable reply to incoming messages when the vehicle starts moving at 25 mph, in order to reduce a driver's temptation to look away from the road at his or her incoming text messages) was the innovative brainchild of an AT&T call center employee who had been personally affected by the dangers of texting while-driving.

Focus on the user: A long-standing Google principle is that the company encourages its employees to build products with the user, not profits, in mind. By doing this, Gopi Kallayil, Google's Chief Evangelist for Brand Marketing, said "revenue issues take care of themselves."

Think 10x, not 10 percent : This Google principle is about striving to improve something by a tenfold difference rather than just improving it by 10 percent. In other words, making a revolutionary change rather than an evolutionary change. This innovation driver comes from Google cofounder Larry Page's preference for radical innovation over incremental innovation. At Google, this 10x principle is what drove revolutionary projects such as Project Loon, where Google used high-altitude balloons to bring Wi-Fi connections to remote areas.

### 6.2 Select

The following key questions in the selected from (Tidd et al., 2015).

- 1. Possible technological and market opportunities what could we do?
- 2. Distinctive competencies can we build on our knowledgebase?
- 3. Do we want to do it fit with overall business strategy?

Bet on technical insights : Every organization has its unique insights and betting on these unique insights can lead to major innovation. It was Google 'not the automotive industry' that came up with the idea of the self-driving car. Google was able to make this major innovation because they already had the unique insights and building blocks in place to engineer a self-driving car. Google was able to tie its various information assets (data gleaned from its existing Google Maps, Google Earth, and Street View cars programs) to create the all new product entity of the self-driving car. At your business, think about whether your business has any unique insights or information assets that can be used and combined to innovate something new.

At business, think about whether it has any unique insights or information assets those can be used and combined to innovate organization.

#### 6.3 Implement

- 1. Can we acquire the knowledge?
- 2. Can we execute the project?
- 3. Can we launch and sustain the innovation?

Ship and iterate: This innovation principle is the updated version of former Google executive Marissa Mayer's 2008 "innovation, not instant perfection" innovation principle. "Ship and iterate" means to ship your products out to market early and often rather than waiting until they are absolutely perfect to take them to market. Your product's users will help you "iterate" it by providing you with feedback to make the product better. Google first launched its Internet browser Chrome in 2008 and then every six weeks, launched improved versions of Chrome based on user feedback. "Today, using that approach, Chrome is the Number One browser in many countries," said Gopi Kallayil, Google's Chief Evangelist for Brand Marketing, "You may not have perfection in your product, but trust that your users will get back to you."

This "ship and iterate" principle directly ties in with the "analysis paralysis" principle discussed in the innovation book Robert's Rules of Innovation II: The Art of Implementation and in this previously published blog on this site. While careful analysis, reasoning, research, and due diligence are important parts of innovation in business and running a successful company, you must not let these actions turn into a crutch and ultimately an innovation assassin. In a quest for perfectionism, business leaders often stubbornly insist on revisiting over and over again things that have already been determined. This perfectionism makes it difficult for business leaders to actually "hatch the eggs" and ultimately can lead to missing out on significant market opportunities. To avoid analysis paralysis, you must create a culture of innovation in your business where there is freedom to fail and a lack of cultural self-consciousness surrounding failure.

Twenty percent time: The phrase refers to Google's long standing principle where employees are encouraged to spend 20 percent of their work time pursuing projects they are passionate about, even if these projects are outside the scope of their job description or the company's core mission. If you give your employees this twenty percent time, Kallayil promises that "They will delight you with their creative thinking.".

At Google, the results of their "20 percent time" program include Google News, Google Alerts, and off-road Google Maps Street View. According to corporate folklore, a Google mechanical engineer was planning a trip to Spain but became frustrated when he couldn't view a close-up view of his hotel in Spain on Google Maps Street View because the hotel was located on a road that was too narrow for the Google Street View car to enter. This prompted the engineer to innovate product improvements to Google Street View that helped widen its scope of coverage: he adapted the Street View camera to fit on specially-made Google bicycles, tricycles, and backpacks that would be able to enter places too narrow for the Google Street View car or enter tourist locations that ban cars from approaching the premises.

While organization may not be able to offer its employees Google's "20 percent time", it should be considered to offer employees more freedom to choose projects that interest them and do what they love as well as more autonomy to experiment and make decisions.



#### 6.4 Capture

To create a wonderful product; sometimes it does not ensure success in the marketplace, though it is a necessary first step. For the next steps, whose goal is to capture maximum value from the new product, are crucial (Tietz & Parker, 2010).

An organization must maintain and secure the knowledge of innovation and its elements in the innovation process through patent which will prevent or resist competitors' to imitate and duplicate (Tidd & Bessant, 2009).

**Default to Open:** It was Marissa Mayer's original goal to enhance innovation at Google by sharing information on Google's intranet and facilitate collaboration among Google employees. Now, the updated version of this principle incorporates Google pulling ideas from the general public. As Kallayil said, "There are seven billion people. The smartest people will always be outside Google. By defaulting to open, we're tapping into the creativity outside of Google."

Examples of Google "defaulting to open" include the company encouraging non-Google developers to create apps for its Android platform. After all, when Google created its Android platform, they did so with the knowledge that it would be impossible to hire all the best developers in the world and therefore would have to "default to open" to get the best apps developed for their platform.

**Fail Well:** the company opniates there should be no negativity or stigma attached with failing. According to Kallayil, failure at Google is a "badge of honor." Moreover, Kallayil said, "There is a belief in the company that if you don't fail often enough, you're not trying hard enough. Once we realize a product is not working out, we kill it, but the thing with products is they morph—we take all the best ideas and redeploy them." For example, Google Plus—which is Google's social networking platform—incorporates elements of failed Google products such as Google Buzz, Wave, Orkut, and OpenSocial.

**Have a Mission that Matters:** this new principle for Google is, according to Kallayil, "the most important one." Kallayil says, "Everybody at Google has a very strong sense of mission and purpose. We seriously believe that the work we do has a huge impact on millions of people in a positive way."

What is your company's mission? Is everyone on the same page? Do your employees care about the mission? For more information about how to promote and implement innovation at your company, check out the innovation books Robert's Rules of Innovation: A 10-Step Program for Corporate Survival and the recently published Robert's Rules of Innovation II: The Art of Implementation.

#### 7. Innovation 4Ps Model

#### 7.1 Product Innovation

Product innovation model is the main part of task for innovative firms. (Tidd at el, 2005) defines that the product innovation introduce the product or goods that is very new which has significant developed characteristics. Google is very good in computing resources with algorithm intelligence creating popular product and services like Google search engine, Google Maps, Gmail and Youtube. Google offers a different product to the customers by taking risk in to the market whether it can be huge hit in the market or it can be fail. They introduce the product by considering

the market needs to the product development in the future. The main part of product innovation is Google produce the product by understanding the customer needs and improving the product.

Improvement of the product and creating new types of products, Google is mostly based on the incremental innovation. Google develops the products by researching and investigating the market of the customer needs whether it can be win or loss.

Facts implies the incremental innovation move towards its product (Kim, 2020).

## 7.2 Process Innovation

Process Innovation is the implementation of new or significantly enhanced product method. It states that the change in the process of delivering service and the product (Tidd et el, 2005). Process innovation mainly occurs when an organization solves existing problems and performs an existing business process in a radically different way that generates highly qualified to those who performs the process and those who rely on the process or both .It generates the value of internal customers including employees or the organization itself and generate the value to external customers including business partners or actual customers (Kim et al., 2018).

## 7.3 Position Innovation Models

Position innovation focused on the framed and communicated with the product or the services. Position Innovation relate the targeting and making changes in the context which the product and service are used (Tidd et el, 2005). The company has strong marketing position in the market. From innovation of new product or world class services, they create a value for every person who are related in the market. Google is producing new products to the customers in very short period of time and they are one of the leading company in the world and generating the billions of revenue year by year.

There has been increment change towards the position of Google (Kim et al., 2005).

#### 7.4 Paradigm Innovation

The fourth innovation model in the 4ps model is the paradigm. It can bring the radical changed in the way that the company is performing. In other way it could be the way that reaching the customers and making the money. When we change the paradigm, it means the change in the way of change in thinking about something. This radical does not mean only change in the way but change in the way that could be more efficient than the earlier state and could be profitable (Kim et el, 2018).

The demand of the internet had been skyrocketing and it is increasing in the tremendous way that customers of almost all business want to find the information over internet. To lead market change, google has introduced their google search engine that hit the market

IBM invests in research, Apple fuses technology with design and Facebook moves fast and maintains the stable infrastructure. Each of the companies are superior but Google has wide range of tasks those as it does not rely on only 1 or 2 strategy but fuses dozens of innovative idea to intricate but powerful ecosystem. (Go inside google brain, Greg satel, June 2016).

It is very important to know that all of them have their identical purpose such as introducing better products, highly efficient and at last more profitable.

#### 8. Conclusion

#### 8.1 Dimension of Innovation Process Perspective

Scope of Google's dimension of innovation process is somewhat wider than that of other IT companies. Because of Google as Alphabet's all sub companies rely on IT and knowledge based business which representing that innovation process would be more radical approach than incremental. However, Google is also dealing with hardware in the market place which is Nexus smartphone. From live stream service as ICT revolution, and files downloading service to hardware seller, Google has been under wide scope of dimension of innovation process. Innovation strategy of Google follows that doing what we do better, new to the enterprise and new to the world (Joe Tidd et al., 2005).

Level of dimension of innovation process is more system level than component level. However, Youtube's contents service can be component level. Google covers component level of dimension of innovation to system level of innovation process (Joe Tidd et al., 2005).

## 8.2 Innovation Organization Perspective

For more effective governing by top management, Google and its own other companies are under parent company Alphabet. CEO of Google, Larry Page is now CEO of Alphabet and this factor leads that more effective way to manage all other companies (Alphabet, 2017). Google also has unique position as Chief Culture Office which is effective way to push firm's organizational learning. As one of IT company, knowledge management and organizational learning has crucial role for the organization.

#### 8.3 General Perspective

Marissa Mayer as first woman Silicon Valley engineer was employee of Google. Google's paradigm innovation was hiring first female work was significant choice for its paradigm aspects. This can also deliver positive cultural aspects for the company.

Google's products wise of scope is significantly broad. There are as many products as consumers can reach by knowing and unknowing.

#### 9. Recommendation

Google follows open innovation strategy; where an organization is willing to share its own ideas, technologies, and processes with outsiders which is called outbound under open innovation process. It risks of losing competitive advantage by sharing information; it's a enormous challenge for an organization. So sometimes it is important not (challenge for inside-out) to leak out critical information in order to minimize the risk that may entail to potential loss of competitive advantage, Google must carefully identifies what information and data is to be shared with small entrepreneurs for free and what information remains protected and accordingly, they charge for it.

The 'not-sold-here' syndrome, for example barriers to collaborate (challenge for inside-out), Google is maintaining open culture and continued to seek opportunities to share knowledge and developed new ideas throughout the years. This culture is secured by its inside-out innovation strategies and contributes to a strong innovative and reliable reputation of the company, which attract more opportunities for Innovation from outside the organization.

One of the important for Google is Knowledge management control which is called inbound (challenge for outside-in) in open innovation system, for instance the lack of attention to details, inefficient management of huge information, and the lack of balance of daily tasks and open innovation activities. Google is related with a large number of external partners and innovators; who provide the company with a vast amount of information. Google should be more concern about that issue it causes mistrust with its partners.

For Google, relationship management is very important for the selection of suppliers and partners because these are critical in the innovation process for the causes of learning activities in a particular project may take a long time to be completed, which requires a firm and strong long-term relationship.

# **Innovation Strategy**

By the study of Google's innovation, its scope is too wide from incremental to radical process. As well as Google has too many products and only few of those products are preferred by customers. Google should focus on something they do very well and will do for the future.

#### **Business Strategy**

Google's revenue stream of business model highlights that it depends only advertising. Google should have to figure out the source of revenue in terms of technology update or social factor change might cause financial issues for the company. Diversifying the source of revenue would be wise to be considered.

## **Organizational Culture**

Google's employees show that most of them have studied in Stanford University where founders had studied. Google should diversify employee educational background as hiring graduates from all parts of the states or even other nations. Google might achieve more cultural learning for organization.

### **Innovation Process**

By analysis of (Walter Frick, 2014), it is considerable that innovation process should not be incremental. As one of IT industry's company, environment of IT is quickly changing. Google should be quickly follow other factors of reason for innovation.

Google's innovation scope and process are disruptive. Range of tech is too broad as the company has medicine, autonomous car, internet provider, and many other unpopular products can be not efficient.

#### References

- Al, C. M. (November, 2012). Using Google Analytics to Evalutate the Impact of the Cyber Training Project. School of Education, Trinity College Dublin, 625-629.
- Bock, L. (November, 2015). Inside Google. HR Magazine, 26-27.
- Brands, R. F. (2017). Learn From the Best: Google's Nine Principles of Innovation. Huffington Post.
- Coen, A. (November 17, 2014). Industry Ponders: Google Asset Management? *MONEY management executive*, 4-5.
- Datamonitor. (22 Aug 2008). Google Inc. www.datamonitor.com, 1-12.
- Frick, W. (August 20, 2014). How Google Has Changed Management, 10 Years After its IPO. *Harvard Business Review*, 2-6.
- Garvin, D. A. (December, 2013). How Google Sold Its Engineers on Management. *Harvard Business Review*, 74-82.
- Han, T. F. (n.d.). Microsoft of Google Web 2.0 Tools for Course Management. *Journal of Information Systems Education*, 123-127.
- Hyeonjoo Kim (May, 2020), Analysis of how Tesla Creating Core Innovation Capability. *International Journal of Business and Management*, 42-61. https://doi.org/10.5539/ijbm.v15n6p42
- Hyeonjoo Kim (September, 2020). Comparison of Strategic Leadership: Steve Jobs and Tim Cook. *Business and Management Studies*, 17-25. https://doi.org/10.11114/bms.v6i3.5010
- Hyeonjoo Kim (Steptember, 2020), The creative innovation organization in the case of Tesla. Morebook.com
- Hyeonjoo Kim et al. (2018), Google Inc's Innovation Management.
- Janice, Prescott et al. (May, 2009). The Quintessential Law Office Management Innovation Tool? Would You Believe, Google! *LAW OFFICE MANAGEMENT & ADMINISTRATION REPORT*, 2-6.
- Joe Tidd, et al. (2005). MANAGING INNOVATION Integrating Technological, Market and Organizational Change. John Wiley & Sons Ltd.
- Johanna Shalhoub, et al. (2007). Brand asset management in the age of Google. JOURNAL OF DIGITAL ASSET MANAGEMENT, 269-273. https://doi.org/10.1057/palgrave.dam.3650094
- Market Line. (28 Jun 2012). Google Inc. MarketLine, 1-11.
- MCGIRT, E. (Feb. 1, 2017). Google Searches Its Soul. fortune.com, 49-57.
- Robert, N., & Lussier, P. A. (2010). LEADERSHIP Theory, Application, & Skill Development. *South-Western Cengage Learning*.
- Sadun, F. (AUGUST 24, 2017). Google's Secret Formula for Management? Doing the Basics Well. *Harvard Business Review*, 1-4.
- Telecoms, M. (May, 2008). Company Spotlight : Google. Datamonitor, 30-37.
- Vella, M. (August 24, 2015). Google is trying to reinvent itself and maybe Silicon Valley. *The Brief Analysis*, 16-17.
- Vries, M. F. (June, 2014). Personality Disorders at Work. Harvard Business Review, 18-19.

#### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).