



APPLICATION OF OPEN INNOVATION STRATEGIES IN WORLD RENOWNED ORGANISATIONS

Siham El-Kafari

Director of Research and Senior Lecturer
ICL Education Group, Auckland, New Zealand

Email: siham@icl.ac.nz

Jing Cha

Operations Manager
Greenspot Ltd., New Zealand

Email: carlos.chai@greenspot.net.nz

ABSTRACT

Purpose: This research aims to critically assess two open innovation strategies, the inbound open innovation/inside-out innovation and the outbound open innovation/outside-in innovation, and their application in two world renowned organizations.

Design/Approach: The research will first discuss the application of the inside-out innovation strategy at Google, which provides the largest search engine in the world. This will be followed by a discussion of the application of the outside-in innovation strategy of Microsoft as one of the most influential personal computer software corporations in the world. Finally, the results of a comparison and evaluation of both Google and Microsoft's applications and adoption of the open innovation models and strategies will be provided.

Findings: The following are some of the findings resulting from analysing Google's inside-out innovation strategy versus Microsoft's outside-in innovation strategy:

- Successful open innovation strategies not only refer to developing new products, but also include strong marketing competencies to commercialize the products;
- Google and Microsoft have strong resources, experience and capabilities to market new products to potential customers, and effectively communicate with the potential customers about the value created by the products;
- Google and Microsoft adopt both inside-out and outside-in strategies and put great efforts into minimizing the disadvantages of such strategies;
- The success of the outside-in innovation strategy depends on how an organization supports outside innovators by facilitating an environment that supports both intrinsic and extrinsic motivations, as exemplified in the case of Microsoft.

Originality/Value: This research highlights the challenges and success factors confronted by two of the world's most renowned organizations when they apply the open innovation models from which other organizations could benefit, especially when planning a collaboration with external innovators.

Research Limitations: This research reports on findings of two case studies that cannot be generalized on all types or sizes of organizations.

Keywords: inbound open innovation, outbound open innovation, innovation strategies in Google and Microsoft.

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INTRODUCTION

Innovation has been heavily investigated in the literature because of its critical role in influencing the competitiveness of firms today. Innovation is argued to be essential for product and service development, quality control, process efficiency, decision making, change adaption, and other aspects of business operations and competitive advantage development and maintenance (Fagerberg *et al.*, 2005).

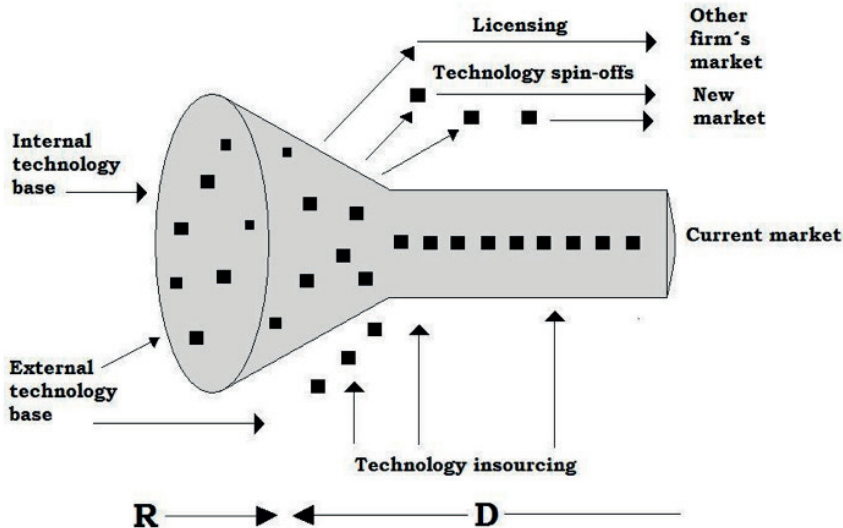
This research aims to critically assess two open innovation strategies, the inbound open innovation/inside-out innovation as well as the outbound open innovation/outside-in innovation, and their application in two case studies (Chesbrough and Crowther, 2006).

The research will first discuss the application of the inside-out innovation strategy at Google, which provides the largest search engine in the world. This will be followed by a discussion of the application of the outside-in innovation strategy at Microsoft as one of the most influential personal computer software corporations in the world. Finally, the results of a comparison and evaluation of both Google and Microsoft's application and adoption of the open innovation models and strategies will be provided.

OPEN INNOVATION MODEL

The fast developing technology, the increasingly important and more frequent interactions between firms and their external stakeholders, and the fast changing customers and market make a company's own R&D insufficient in contributing to the strong, continuous innovation that creates competitive advantage (Rao *et al.*, 2001). Accordingly, firms need to study and understand customers' changing needs and incorporate this knowledge in the process of production development in order to develop new products that are needed and wanted in the market. This also applies to services organizations in the way that it is often argued that the value for services is co-created by the service organization and the customers (Edvardsson *et al.*, 2011).

Due to globalization, technological development, and the need for organizations to be competitive for survival, the Open Innovation paradigm appeared as a follow up to the Closed Innovation paradigm, which was heavy on internal organizational R&D. This Open Innovation Model has been coined by Henry Chesbrough (2003) and illustrated in Figure 1 below.

Figure 1 Chesbrough Open Innovation Model

Source: Chesbrough, 2003.

“INSIDE OUT” – THE OPEN INNOVATION STRATEGY OF GOOGLE:

As the term implies, “inside out” refers to the open innovation strategy where an organization is willing to share its own ideas, technologies, and processes with outsiders (Fagerberg *et al.*, 2005). Traditionally, this is very difficult and managers are rarely convinced that an organization can benefit from a strategy of sharing some of its “trade secrets” to “outsiders”. However, the business world in the 21st century is characterized by more and more collaboration and strategic alliance between different companies. There are no true outsiders, because any outsider can eventually turn into a company’s customer as long as a company knows how to embed organizational strategies with customer’s needs (Chesbrough, 2011).

Google is a good example of how a large multinational corporation aggressively adopts an inside-out open innovation strategy to strive for a balance between internal R&D and innovation taking place outside Google. As many people may already know, Google is a giant company in the Internet industry. It is specialized in providing Internet-related services to billions of Internet users around the world. Its core service is the

Google search engine; this helps Internet users to accurately locate information on the World Wide Web, just by typing a few key words in the search box (Hamen, 2011). Because of the superior search engine technology developed by Google, commercial organizations all around the world want to place their website in the most visible position of the search results generated by Google’s search engine. This brings huge business opportunities and profits for Google. As a result, Google AdWords is now the most profitable service section of the company (Hamen, 2011).

As Google gradually becomes one of the most recognizable brands in the world, the next question the organization starts thinking of is how to make use of its brand equity and gain the trust of other businesses who are keen to make better use of Google. This is the initial step that Google has made towards open innovation. At this stage, the organization thinks beyond making money from outside businesses through search engine rankings and displays. It goes towards sharing the Google’s search technology and the cloud platform with other businesses, especially small entrepreneurs who have less experience in making use of Google tools. This inside-out open innovation idea is implemented by Google in the

Google for Entrepreneurs Program and its global community called *Startup Grind*.

The slogan of the *Google for Entrepreneurs Program* is “you dream of building a great company. Google has the products you need to make it happen” (Google for Entrepreneurs, 2015). This slogan reflects the essence of the inside-out strategy. Sharing the technology and resources that a company has with other businesses enables the organization to bring in more innovative ideas and business opportunities for the organization that shares it, i.e. its win-win for both sides.

Google for Entrepreneurs first shares proprietary data and statistics generated from Google research to entrepreneurs to help them make data-driven decisions. An example of this is the recent football game search data published by Google where it clearly points out the hidden business opportunities in a football game. For example, Google announced that 70% of football game related searches happen in the month surrounding the game day rather than the day itself (Think with Google, 2014). This is important information for advertisers because they would get to know that pre-game and post-game advertising is usually more effective than game-day advertising.

The search data shared by Google are very important for businesses who want to advertise during the football game event. By sharing these data with these businesses, Google also benefits because many interested businesses would approach Google and ask for further data and information related to the game search. For example, the businesses would want to know what types of advertisements are viewed most surrounding the game, or which advertisements have the highest click rate (Think with Google, 2014). Google would classify these detailed data and information as confidential and only release them to businesses who are willing to pay for them.

In addition to its core search engine services, in recent years Google has also expanded its product and service range by offering business solutions, such as professional email, online storage, shared calendars, and video meetings, that are specifically designed for businesses and work teams. Google has set up a professional team that belongs to the *Google for Entrepreneurs Program* to help businesses get started with

these Google Apps. The aim of this inside-out strategy is to grow the influence of the Android mobile operating system developed by Google among business users. The influence and success of a particular mobile operating system depends largely on the customer base of the system. By offering business apps that are synchronized and integrated under the Android system, it provides a one-stop solution to businesses and further expands the Android user group.

“OUTSIDE IN” – THE OPEN INNOVATION STRATEGY OF MICROSOFT:

Founded in 1975, Microsoft is the world’s largest producer of software, services, devices, and solutions, with 126,945 employees around the world and annual revenues of US\$86.83 billion (Microsoft, 2015a). The company’s mission is to enable people and businesses throughout the world to realize their full potential through Microsoft’s products and services, and the company has innovated actively and successfully to achieve this mission (Cusumano and Selby, 1997).

Throughout the years, Microsoft has never stopped searching for new opportunities and creating values through new products and services. The company has a wide range of products and services, such as Bing, Office, Windows, Cloud computing, Internet Explorer, MSN, Outlook, Skype, Xbox, Kinect, Security software and other hardware and software. These products cover communication, PC software, mobile apps, gaming, and many areas that are closely connected to people’s daily lives and business operations, supporting Microsoft’s overall mission.

As a company that has continuous innovation and keeps moving to the edge of many areas, Microsoft has significant investments into research and development in areas such as computational science, computer systems, data mining, data management, graphics, multimedia, machine learning, artificial intelligence, and software development (Microsoft, 2015b). In addition to internal R&D, Microsoft has recognized the importance of sharing information with external parties, promoting communication, and

collaborating with people and businesses outside Microsoft.

The outside-in innovation strategy refers to inviting external contributions, such as ideas and technologies, into the innovation process (Chesbrough, 2011). In today's competitive and fast changing market environment, it is not possible for an organization to always predict changes in customers' needs and develop products that are competitive without receiving feedback from many external parties, such as the government, customers, suppliers, and competitors. Many times, ideas from these external stakeholders can have critical insight into how an organization can innovate its products and processes.

For example, customers who purchase and use the products and services have the best idea as to whether there are critical weaknesses with the products and services and what new features should be developed. Suppliers have sufficient knowledge on the costs and quality of raw materials, which can have important implications for product innovation.

Microsoft has always recognized the importance of collaborating with key external stakeholders and involving them in the innovation strategy. The company has put great efforts into establishing a customer and partner experience measurement programme, which includes product a satisfaction survey, usability studies, online feedback forms, research fora, real-time feedback systems with Microsoft products, and Microsoft help and support (Microsoft, 2015c).

The company considers effective communication as an important tool in learning and interacting with stakeholders, and to align the company's innovation with the needs of customers and partners. Communication with customers and partners is carried out throughout the product development process. In addition to effective communication, Microsoft has its partner networks, enterprise business centre, and small business centre, which allow the company to source external ideas (Chesbrough, 2003), commercialize products that are potentially ready to be marketed (Chesbrough, 2011), foster incremental and cumulative innovation (Murray and O'Mahony, 2007), and discover radical new solutions (Dahlander and Gann, 2010). In fact, Microsoft has built the world's largest business network, involving more than six million

developers and tens of thousands of companies working on the development of computer hardware and software (Anderson and Wood, 2002).

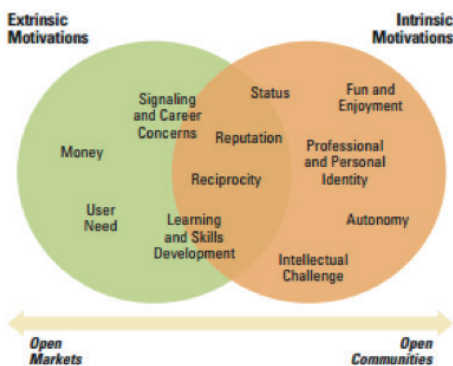
Microsoft's development of Xbox and Kinect, for instance, are successful stories of how Microsoft collaborates with suppliers and developers in a field the company has never stepped in before (i.e. the gaming industry) but, nevertheless, created successful products. Outside-in innovation not only allows Microsoft to successfully create and market the gaming hardware, but also allows Microsoft to enter the video game software industry, which is growing at a rapid pace.

According to Boudreau and Lakhani (2009), and as illustrated in Figure 2 below, there are a number of intrinsic and extrinsic motivations that drive outside innovators to participate with Microsoft's innovation projects. Microsoft's successful outside-in innovation strategy was supported because the company was able to provide such motivations to outside innovators. For instance, Microsoft welcomes new ideas and provides suppliers and developers with sufficient resources to execute their ideas. The organization also has a global reputation of signalling great career development opportunities to outside innovators.

In the case of Xbox and Kinect development, many game developers would be extremely interested in working with such a reputable global corporation on a new product that may play a critical role in the video game industry. Microsoft's outside-in innovation is also successful because the outside innovators would like to learn new skills and be able to work with talented people from the same field.

Figure 2 What Motivates External Innovators?**WHAT MOTIVATES EXTERNAL INNOVATORS?**

The wide range of motivations that draw outside innovators to participate in a project can be classified into two broad categories: extrinsic and intrinsic. As a simple approximation, markets tend to favor the former, and communities are more oriented toward the latter.



Source: Boudreau and Lakhani, 2009, p.71.

OUTSIDE-IN VERSUS INSIDE-OUT

From the cases of Google and Microsoft, it can be seen that successful open innovation strategies not only refer to developing new products, but also includes strong marketing competencies to commercialize those products (Daneels, 2004). Google and Microsoft have strong resources, experience and capabilities to market new products to potential customers, and effectively communicate with those potential customers about the value created by the products. This is influenced by the companies' strong global reputation as well as their close relationship and strong network with many different organizations around the world.

The researchers believe that innovation strategies of both Google and Microsoft have the following advantages:

- They bring knowledge to support innovation at the organization;
- They seek new opportunities; and
- They create valuable networks and relationships for long-term development.

In fact, Google and Microsoft utilize both inside-out and outside-in innovation strategies over

time to take advantage of different external circumstances and opportunities. However, there may be a number of disadvantages of the inside-out and outside-in innovation strategies to which the organizations need to pay close attention. The following are the challenges and how to deal with them:

Risk of Losing Competitive Advantage through Sharing Information

One important success factor of Google's inside-out innovation strategy is how Google's intellectual property and key competitive advantage can be protected in the process of inside-out innovation. Google shares its data and information but does not wish to risk losing its know-how or competitive advantage to potential competitors. Also, it is argued that managers tend to overestimate their 'irreplaceable' innovation, and, at the same time, underestimate others' substitute solutions (Rigby and Zook, 2002). This can be very dangerous for large and established organizations who underestimate the power of competitors in the market.

In order to minimize the risk of leaking out critical information that may lead to the potential loss of competitive advantage, Google has

clearly identified the scope and extent of inside-out innovation collaboration and ensured that the company's core competencies, such as the established search engine, are well protected. For instance, Google carefully identifies what information is to be shared with small entrepreneurs for free and what information remains protected and is charged for accordingly. *The 'Not-sold-here' Syndrome, i.e. Barriers to Collaboration:*

The so-called 'not-sold-here' syndrome is also a threat to inside-out innovation strategies and the open culture of an organization. This refers to the protective attitudes of an organization towards the external exploitation of an innovation, or the idea of 'if we don't sell it, no one else should' (Chesbrough, 2003). This attitude creates barriers to collaborations between the organization and other organizations and damages the open innovation culture.

Google, however, has maintained an open culture and has continued to seek opportunities for sharing knowledge and developing new ideas throughout the years. The culture is strengthened 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.

Ineffective Communication

The main challenge for the outside-in innovation strategy is ineffective communication, which can lead to a lack of trust, misunderstanding, and damages to the relationship between the organization and external innovators. Collaboration with external innovators requires intensified communication and high coordination costs, and can be vulnerable to a firm's innovative performance (Chesbrough and Appleyard, 2007).

In the case of Microsoft, the company has made significant investments to develop and maintain a wide range of communication channels to be connected closely to key external stakeholders. This sophisticated communication system shows that Microsoft considers communication to be an extremely important element in its innovation and business management process.

Knowledge Management Control

Another challenge for the outside-in innovation strategy is knowledge management control. This can be exemplified through the difficulty in managing and controlling knowledge, i.e. the lack of attention to detail, inefficient management of abundant information, and a lack of balance of daily tasks and open innovation activities (Chesbrough and Appleyard, 2007).

In the case of Microsoft's outside-in strategy, the company is connected to a large number of external partners and innovators who provide the company with a vast amount of information. Microsoft needs to carefully and efficiently manage the high complexity of any relationship in order to avoid losing important knowledge, losing control, missing critical information, and miscommunication.

Relationship Management

Careful management of relationships with external stakeholders is vital because involving customers into the process of innovation may lead to customers' confusion about what they really want (Chesbrough and Crowther, 2006). Moreover, selecting the right partners and innovators to work with can also be difficult and time-consuming, even for a large and reputable corporation such as Microsoft. The selection of suppliers and partners are critical in the innovation process because the learning activities in a particular project may take a long time to be completed, which requires a stable and healthy long-term relationship.

CONCLUSIONS

The trend of globalization and the fast development of technology require organizations to be innovative, not only through internal R&D but also through collaborations with external parties. This research uses the two cases of Google and Microsoft to illustrate how these companies innovate through inside-out and outside-in open innovation strategies. *The Google for Entrepreneur Program* offers a way through which Google can share its innovative ideas with small businesses, by teaching them how to make use of Google tools in a business context. On the other hand,

Google also benefits from the increased business demand for its products and services and the growing influence among its Internet and mobile users.

Microsoft adopts an outside-in innovation strategy, which promotes efficient communication with external stakeholders, such as customers, suppliers, and developers, and involves stakeholders in the process of innovation. The development of Xbox, for example, was a successful example of how Microsoft collaborates with a large number of external innovators to create a new product.

In reality, Google and Microsoft adopt both inside-out and outside-in strategies and put great efforts into minimizing disadvantages of such strategies. For instance, Google carefully identifies what information is to be shared and protects the core competencies of the company. Microsoft recognizes the importance of efficient communication to outside-in innovation and invests significantly in communication channels and programmes with external stakeholders. Therefore, different open innovation strategies may be chosen for different circumstances and for different purposes, and projects and companies can utilize both inside-out and outside-in strategies to extend the innovation capabilities of the organization.

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BIOGRAPHICAL NOTES

Dr Siham El-Kafari has wide experience in overseas industry and consultancy (i.e. medical, manufacturing and service industry) before becoming an academic 18 years ago. Her teaching experience plays a leadership role in the creation of high quality student experience in a wide range of business courses. Siham holds a PhD from the University of Waikato, a Masters in Adult Literacy and Numeracy Education from the Auckland University of Technology, a Masters of Public Administration from the American University in Cairo, and a BA in English Literature with Honours from Ain Shams University, Cairo, Egypt. Siham is a solid researcher with numerous publications in high-quality academic journals, book chapters and conference proceedings, and has international and national roles as a journal editor/reviewer and referee in eight academic journals. Siham's research interests include: Innovation from both business and educational perspectives, service quality, customer service either in health sector, manufacturing and/or service industry, sustainability from various perspectives, leadership, business excellence and corporate governance, corporate social responsibility, organizational culture and business ethics, and adult education pedagogy.

Mr Jing Chai (Carlos) is an entrepreneur both in real estate and the IT industry. He graduated from Unitec, majoring in Marketing, and ICL Business School, majoring in International Business. Currently, he is working at the Greenspot Corporation as Operational Manager.

