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An analysis of Google entry and positioning in Unified Communications for the business customers market

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Abstract

In this paper, we focus on the telecommunications/computing convergence in business market. While the telecommunications/audio-visual convergence has been extensively analysed from an academic perspective, the telecommunications/computing convergence has drawn less attention. This is also the case in general of the business market as opposed to the consumer market. The business communications market has been deeply transformed by technological and product convergence, due to the progressive substitution of traditional TDM-based voice products and services by ToIP (Telephony over IP) based products and services. The adoption of IP and the management of voice applications in the same way as data application has given rise to convergence offerings under the name of Unified Communications, and allowed the entry of data communications vendors, such as Cisco, in a market initially dominated by TDM-based product vendors. The increasing dissociation between hardware and software and the virtualisation of services have induced the entry of new players relying on their initial position in software and web services, among which Microsoft and Google.

Firstly, we present the Unified Communications market and products. Secondly, we analyse how Google's has entered this market and built its product portfolio through acquisitions, in order to identify the dimensions of line extensions and the importance of extensions. Thirdly, it leads us to discuss this strategy as an extension of its two-sided market strategy. This strategy is different from its traditional two-sided market strategy, as it aims at generating other revenues than only advertising. It is also not really a two-sided market, but rather a product versioning relying on direct network externalities. This study is based on documentary research, in particular the systematic analysis of Google's press releases, and on information collected from interviews with market incumbents.

Keywords: Convergence, resources, two-sided market, unified communications, business communications, Google

Introduction

The emergence of the so-called multimedia industry, based on the expected merging of three vertical industries (telecommunications, computing and the media) into a new horizontally layered one, raised tremendous interest at the end of the 1990s. There was a great deal of conjecture about how this new industry would be structured and what types of players would be successful in positioning themselves in this emerging value chain ([1]; [2]). In fact, it is only recently that the actual patterns of convergence can be observed and analysed (i.e. [3]). According to [4], convergence may include competitive as well as complementary dimensions. Different views on this issue have been expressed. For example, while [1] have evoked a competition scenario based on substitution between actors and services, [5] have focused on a complementary convergence scenario based on differentiated services and infrastructures. Competitive convergence occurs through substitution of products, players and industries. In this case, the growth of an asset or activity in one industry reduces the marginal value of a corresponding asset or activity in another industry [6]. As convergence also results in the creation of new activities and markets, competitive convergence may concern both the current core markets of the concerned industries as well as the newly created markets.

In this paper, we focus on the telecommunications/computing convergence in business

market. While the telecommunications/audio-visual convergence has been extensively analysed from an academic perspective, the telecommunications/computing convergence has drawn less attention. This is also the case in general of the business market as opposed to the consumer market. The business communications market has been deeply transformed by technological and product convergence, due to the progressive substitution of traditional TDM-based voice products and services by ToIP (Telephony over IP) based products and services. The adoption of IP and the management of voice applications in the same way as data application has given rise to convergence offerings under the name of Unified Communications, and allowed the entry of data communications vendors, such as Cisco, in a market initially dominated by TDM-based product vendors. The increasing dissociation between hardware and software and the virtualisation of services have induced the entry of new players relying on their position in software and web services, among which Microsoft and Google. In this paper, drawing on the resource-based perspective, we analyse the patterns of entry of Google in this market.

In order to analyse the entry of Google in the business unified communications market, we draw from the competences and resources approach (i.e. [7]; [8]; [9]), combined with an overall evolutionist perspective [10]. Therefore, we put the emphasis on the critical resources and competences which are at the heart of actors' competitive position. We also consider the learning processes and trajectories, as well as the changing amount and value of resources, which allow them to operate strategic moves. The complementary convergence scenario is based on the assumptions of low mobility, imitability or substitution of resources and competences between industries (i.e. telecommunications companies and audiovisual companies cannot acquire, reproduce or substitute each other's competence). In this case, we show that learning over time, acquisition of new resources combined with the development of substitute resources can overcome resource and competence barriers.

Firstly, we present the Unified Communications market and products. Secondly, we analyse how Google's has entered this market and built its product portfolio through acquisitions, in order to identify the dimensions of line extensions and the importance of extensions. Thirdly, it leads us to discuss this strategy as an extension of its two-sided market strategy. This strategy is different from its traditional two-sided market strategy, as it aims at generating other revenues than only advertising. It is also not really a two-sided market, but rather a product versioning relying on direct network externalities. This study is based on documentary research, in particular the systematic analysis of Google's press releases, and on information collected from interviews with market incumbents.

Business Communications and unified communications market

The Business Communications market has been traditionally dominated by large telecoms equipment vendors such as Ericsson, Siemens or Avaya. They were initially providing specific systems for telephony constituted around PBXs (Private Branch exchange), using voice technologies (first analogue, then TDM-based). Apart from the PBX, these systems included private infrastructures, connections to trunk lines, terminal equipments, and were providing enhanced services. The business was centred on private standards, and once a customer had bought a PBX from a given brand, he had to buy the other elements (i.e. handsets) from the same brand to fully benefit from the enhanced services offered. Data communications were managed by separate networks, using routers and LANs.

Two main technological evolutions have deeply changed this situation. The first is VoIP (Voice over Ip): all signals are converted in Ip packets for transmission, and use the same cable infrastructure, while the management of communications remains distinct (eventually integrated in hybrid equipment). The second is ToIP (Telephony over Ip): Telephony applications are integrated with data applications, and managed in the same way as data application. A related evolution is that Ip servers can manage voice communications, facilitating the entry of data communications equipment vendors such as Cisco in the business voice market. More generally, ToIp allows the full integration of all type of communications and related services into what is now commonly called “Unified Communications”.

Several definitions of Unified Communications can be found (Table 1). They highlight three main characteristics: (1) the integration of voice, data and image applications (2) a unified user interface, and (3) the contribution of UC to better communications, collaboration and productivity. Mobility is also at the heart of the UC concept.

Organizations/Vendors	Definitions of UC
IDC(2007)	A software infrastructure platform that consolidates directory, routing, and management of communications across a growing set of applications including advanced IP telephony calling and management; Web, audio- and videoconferencing; instant messaging; and pervasive presence management and awareness. All accessible through desktop and mobile devices and as functions available to business applications developers.
Frost & Sullivan(2007)	An integrated set of voice, data and video communications, all of which leverage PC and telephony based presence information.
Gartner(2009)	UC products are to facilitate the use of multiple enterprise communication methods, including control, management and integration of these methods. UC products integrate communication channels (media), networks and systems, as well as IT business applications and, in some cases, consumer applications and devices to provide the ability to significantly improve how individuals, groups and companies interact and perform.
Yankee Group(2009)	The convergence of all forms of audio, video, web, desktop and mobile communications on an IP network that breaks down all distance, time and media barriers. UC enables people to communicate with each other anywhere, anytime, over any device.
Cisco(2009)	Unified voice, video, data, and mobile applications on fixed and mobile networks to delivering a media-rich collaboration experience.
Avaya(2009)	Orchestrated communication and collaboration across locations, time, and medium to accelerate business results. It is achieved through the convergence of real-time, near-real-time, and non-real-time business communication applications including: calling, conferencing, messaging, contacts, calendaring, collaboration, and rich presence with voice, video, text, and visual elements.
IBM(2009)	A simple and effective solution through a single user interface to deliver real-time communications services—from enterprise instant messaging and online meetings to telephony and video conferencing.

Table 1. The different definitions of UC from various organization/vendors

Frost & Sullivan also make a list of the mandatory and optional components in any UC offering (Table 2) (Frost & Sullivan 2007).

Mandatory Components	Optional Components
• PC based presence(online or off line) • Telephony presence(on the phone or available for call) • Point to point voice calling • Chat(i.e. instant messaging) • Audio conferencing • Web collaboration(application, files and desktop sharing) • PC-based video • Find me/Follow me capabilities (for call routing)	• Unified messaging • Social network capability • Wikis/blogs • Mobile client • APIs for easy integration with other applications

Table 2.Frost & Sullivan's perspective on Unified Communication

Currently, the market is still largely dominated by equipment vendors. However, the increasing dissociation between hardware and software and the virtualisation of services have induced the entry of new players relying on their position in software and web services, among which Microsoft and Google. For example, Microsoft proposes a 'soft switch" in the form of a software platform that can be installed on servers and can substitute some of the functions provided by IPBxs and IP call servers. The strategies of these new competitors are dependant on their initial resources and competences and according to their trajectories, they don't provide the full range of services. Microsoft, for example, can benefit from its presence on servers and PCs, as well as from established relationships with the computing departments of business customers. In order to acquire the missing resources and competence, these new players have made several acquisitions, such as the acquisition of Skype by Microsoft in May 2011.

Google and Unified Communications

Google's position is very different from the ones of other players, as it doesn't benefit from pre-existing relationships with business customers. However, it has extensive relationships with consumers through its search engine, the various services offered such as Gmail or Google maps, and more recently through its mobile OS, Android.

The main feature of Google strategy is its two-sided market character. Over the last ten years there has been a significant body of research on multi- or two-sided platforms. It has particularly addressed the main economic characteristic of platforms: the crucial role of indirect (and eventually direct) externalities. In two-sided platform business there is a strong interdependence between the two sides of the market: the sellers and the buyers. For example, a specific credit card will not be accepted by merchants unless they expect to get a sufficient number of customers to use it, while customers will only adopt it if they expect to be able to use it for most of their purchases. Similarly, sellers propose products on eBay because there are a lot of buyers, and buyers consult this website because there are a lot of sellers. Another type of indirect externalities which is particularly relevant for technology-related platforms is the interdependence between the firm's own technology platform and complementors who will design compatible complementary products or modules [11]. One important consequence

of network externalities and two-sided markets is that it is possible to settle low tariffs (i.e. under marginal cost) for one type of economic agent on one side of the market, and to increase tariffs on the other side.

In the case of Google, most services aimed at consumers are provided for free. Relying on its large base of customers on one side of the market (consumers), Google generates advertising revenues from the other side (suppliers). In fact Google should rather be considered as an advertising company: its advertising revenues amounted to $ 28.24 billion in 2010 from a total of $ 29.32 billion, representing 96% of total revenues.

For Google, UC is a way to extend its two-sided business to other activities, and probably to reduce its dependence on a single source type of revenues. Due to the dominance of the consumer market in Google's service market, it is difficult to distinguish between consumer services and business services. For example, Google Aps, one of the main components of Google's UC offering, is provided for free to the public, but sold as a Premium Edition to businesses (Table 3)

Service	Description	Price
Gmail for Business	25GB storage, less spam, 99.9% uptime SLA, and enhanced email security	**$50 per user per year**
Google Calendar	Agenda management, scheduling, shared online calendars and mobile calendar sync	
Google Docs	Documents, spreadsheets, and presentations. Work online without attachments	
Google Groups	User-created groups providing mailing lists, easy content sharing, searchable archives	
Google Sites	Secure, coding-free web pages for intranets and team managed sites	
Google Videos	Private, secure, hosted video sharing	

Table 3: Google Apps for Business (Source: Google)

In table 4, we present Google products that are directly or undirectly related to UC. They have classified in eight categories. One single product may contribute to more than one competence. This table further illustrates the difficulty to isolate UC services for Businesses from services aimed at consumers.

Due to its initial lack of resources and competences to be present on the communications market, Google has made several acquisitions that we analyse in the next chapter.

UC competence	Direct UC-related Google Products	Indirect UC-related Google Products
Voice and Telephony	Google Voice (telecommunication service-VOIP)	
Presence and IM	Gtalk	
Mobility	Android	
	Gears	
	HTMLL5	
	Google Mobile	
		Google Chrome
		Internet backbone
Collaboration	Google Docs	
(Google Apps)		
	Google Wave	
		YouTube/Google Video
		Blogger
		Piscasa
		Google sites
	Gtalk	
	Android	
	Video chat	
Messaging	Gmail	
	Google Talk	
	(on-line application for IM and messaging--VOIP)	
	Google Voice	
	Speech Recognition, SMS	
		Translate,
		speech recognitio-technology
		SMS
Development	Google App Engin, Go	
control		chrome browser
		android
Other		reader
		checkout
		adwords
		analytics

Table 4: Classification of UC related products

Analysis of Google acquisitions

Among the 73 acquisitions made by Google between 2001 and 2010, 21 acquisitions have been selected as UC related acquisitions (In this paper, the acquisition of AOL is considered as partnership instead of an acquisition.). They are listed in table 5.

Google UC related Acquisition List						
	Acquisition date	Company	Country	Value (USD)		UC competence
1	04 April 2003	Neotonic Software	USA		Gmail	Messaging
2	07 July 2005	Reqwireless	CAN		Google Mobile	Mobility
3	07 July 2005	Current Communications Group	USA	$100 000 000,00	Internet backbone	Mobility
4	17 August 2005	Android	USA		Android	Mobility
5	31 December 2005	allPAY GmbH	GER		Google Mobile	Mobility
6	31 December 2005	bruNET GmbH	GER		Google Mobile	Mobility
7	09 March 2006	Upstartle	USA		Google Docs	Collaboration
8	01 June 2006	2Web Technologies	USA		Google Docs	Collaboration
9	31 October 2006	JotSpot	USA		Google Sites	Collaboration
10	04 January 2007	XunleiC	CHN	$5 000 000,00	Google Video	Collaboration
11	17 April 2007	Tonic Systems	USA		Google Docs	Collaboration
12	19 April 2007	Marratech	SWE	$15 000 000,00	Google Talk	Presence and IM
13	11 May 2007	GreenBorder	USA		Google Chrome	Mobility
14	19 June 2007	Zenter	USA		Google Docs	Collaboration
15	02 July 2007	GrandCentral	USA	$45 000 000,00	Google Voice	Voice and Telephony
16	09 July 2007	Postini	USA	$625 000 000,00	Gmail	Messaging
17	09 November 2009	Gizmo5	USA	$30 000 000,00	Google Voice	Presence and IM
18	04 December 2009	AppJet (EtherPad)	USA		Google Wave	Collaboration
19	05 March 2010	DocVerse	USA	$25 000 000,00	Google Docs	Collaboration
20	30 April 2010	Bump Technologies	CAN	$30 000 000,00	Android	Mobility
21	18 May 2010	Global IP Solutions	SWE	$68 000 000,00	Google Talk	Presence and IM

Table 5: UC related acquisition by date of acquisition

These acquisitions can be further classified by type of competence, using our previous classification (Table 6).

UC competence	Google Product	Acquired Company	Related fonction
Voice and Telephony	Google Voice	GrandCentral	VOIP
		Gizmo5	VOIP
Presence and IM	Gtalk	Marratech	videoconferencing
		Global IP Solutions	IM ▪ Presence
Mobility	Andoid	Android	mobile software
		Bump Technologies	Mobile software
	Google Mobile	Reqwireless	mobile browser (support HTML)
		allPAY GmbH	mobile software
		bruNET GmbH	mobile software
	Goolge Chrome	GreenBorder	computer security
	Internet backbone	Current Communications Group	broadband access
Collaboration	Google Docs	Upstartle	word processing
		2Web Technologies	spreadsheet
		Tonic Systems	Presentation Program
		Zenter	on line Presentation
		DocVerse	compatibility with Microsoft
	Google Wave	AppJet (EtherPad)	on-line programming
	YouTube/Google Video	XunleiC	peer-to peer file sharing
	Google sites	JotSpot	web application (SMEs)
Messaging	Gmail	Postini	communication security
		Neotonic Software	CRM software

Table 6: UC related Google acquisition by type of competence

In terms of the six UC competences, we can observe that most acquisitions Collaboration (8 out of 21) and Mobility (7 out of 21). There are similar numbers of acquisitions (2) for messaging, Presence and IM, and Voice and Telephony. Interestingly enough, if we look back at table 5, we can observe sequential patterns of acquisition according to the time period concerned. Mobility related acquisitions have been made mainly in 2005, while collaboration related acquisitions tend to be concentrated in 2006/2007. Finally, communications related acquisitions (presence, IM, and voice) are situated in the 2007/2010 period.

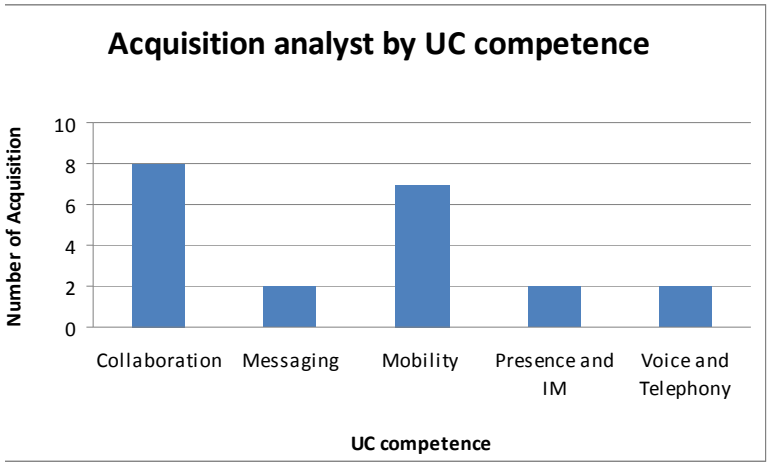

Figure 1: Distribution of acquisitions by competence

Discussion

We now try to characterize the strategy of Google by confronting this business with the theory of two-sided or multi-sided markets and plat forms. The main elements of this theory can be found in [12],[13], [14], [15], [16], and [17]. According to this literature, a two-sided platform is characterised by three elements:

- the first is that it provides goods and services to two different groups of customers who need each other,
- the second is that there are indirect network externalities between the two groups of customers. The value for one side of the market is dependant from the number of customers in the other group and vice-versa. Eventually, there can also be direct externalities inside each side of the market,
- the third is that specific price policies are applied, in the form of cross-subsidies between the two customer groups.

The core business of Google with around its search engine is a good illustration of this type of strategy: on one side, consumers benefit from free services, and on the other side, business customers finance these services by paying targeted advertising to Google.

In the case of Google's Unified Communications services, there are two customers groups (consumers and businesses), and a specific price policy. However, the two customer groups consume the same service and are not linked by indirect externalities but by (potential) direct externalities. It looks like an hybrid between versioning (as defined by [18]), as the UC services for business customers are premium services, and the cross-subsidies that have characterised the development of telephone networks. There are strong direct externalities inside the consumer market, and they may also result in a competitive advantage for Google on the business market. While incumbents such as telecom equipment vendors focus more on intra-company communications (localised externalities), the openness of the Google services may provide an advantage by easily including inter-company communications (direct externalities at the customer group level). Potentially, there can be more significant direct externalities between members of the two customer groups, as business customers may develop interactive marketing strategies targeting the installed base of Google's UC consumers. At the current state, it can be assumed that the consumer group is mainly financed by advertising revenues, according the traditional two-sided model of Google, as these

services provide valuable additional information to advertisers. However, the potential direct externalities between the members of the two customer groups may provide a distinct competitive advantage to Google on this market, compared to “pure business market players”.

Conclusion

From this first approach of Google strategy by analyzing UC related acquisitions; we have been able to identify some patterns of over time. Google has progressively acquired the necessary resources and competences concerning collaboration, messaging, mobility, presence and IM, and voice and telephony. In accordance with its positioning as a “web company”, its strategy is to provide most services on line, as opposed to most competitors who rely rather on Customer Premise Equipment. The recent trend of Cloud Computing may reinforce the eventual pertinence of this strategy.

This strategy is an extension of, but different from its traditional two-sided market strategy, as it aims at generating other revenues than only advertising. It is also not really a two-sided market strategy, but rather a product versioning relying on direct network externalities. The potential direct externalities between the members of the two customer groups (consumers and business customers) may provide a distinct competitive advantage to Google on this market, compared to “pure business market players”.

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