Skype's Disruptive Potential in the Telecom Market: A Systematic Comparison of Business Models

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Abstract:

Identifying how insurgents disrupt established markets is a major challenge. In this paper we study the disruptive potential of Skype, which is an Internet start-up company and potential insurgent to the telecom market. Our analysis is composed of two parts. First, we describe a Delphi study based on an analytical instrument developed by Rafii and Kampas that shall help us to discover Skype's disruptive potential. Second, we aim at identifying which elements in Skype's business model contribute to its likelihood to succeed in the quest of conquering the telecom market. We achieve this by comparing Skype's business model to the one of a fictional traditional Telco. Both models are described with the Business Model Ontology (BMO) and the *e³value* ontology, in order to systematically identify their similarities and differences. Finally, by combining the results of the Delphi study and the business model comparison we outline our conclusions about Skype's disruptive potential in the telecom market and how this potential is rooted in its particular business model.

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Introduction

A disruptive innovation is a technology, product or process that creeps up from below an existing business and threatens to replace it . In this paper we aim at analysing whether Skype, an Internet Start-up Company founded in 2003, has the potential to play such a role in the global telecom market. Few authors have systematically and analytically investigated the question.

Typically, a candidate for disruption offers lower performance and functionality at a lower price during an initial phase. At first, its value proposition is only adopted by marginal customer segments. However, with time the new product or innovation gradually improves and conquers mainstream market segments until it displaces the incumbent (Christensen 1997). These characteristics seem to perfectly fit the description of Skype and its offer to the market, with the exception that the incumbent's displacement still has not yet taken place. Therefore, in order to better understand Skype's disruptive potential, we applied different methods to detect Skype's likelihood to have an impact on the telecom market. The methods consist of a business model comparison and a Delphi study. The information on Skype has been collected during an interview in March 2005 with its co-founder, Niklas Zennström, an interview with members of the business development team and a number of secondary sources.

The paper is structured as follows. After this introduction we describe the Internet start-up Skype which is treated as potential candidate to disrupt the telecom market. We test this hypothesis by applying theories of disruptive innovations (Christensen 1997) and by conducting a small-scale Delphi study based on an analytical tool to test the potential of disruptive innovations (Rafii and Kampas 2002). Then we study Skype's and a fictional traditional Telco's business model to understand whether they are based on a similar or completely different business logic. The analysis of these similarities and differences together with the Delphi study shall allow us to make some

statements as regards Skype's potential to disrupt the telecom market. Finally, we conclude that as an insurgent Skype and its business model are quite likely to have an important impact on the incumbents in the telecom market.

Skype

Our focus of attention is the business model of Skype which is a start-up that was co-founded by Niklas Zennström and Janus Friis in 2003. Since its launch the company received substantial media attention because their co-founders have a considerable entrepreneurial track record. More precisely, they were at the roots of KaZaA, with more than 370 millions downloads the most successful Internet software to date (www.skype.com). KaZaA is a music download platform based on peer-to-peer technology that reverberated across the music industry because it allowed users to download music for free (Rupp and Estier 2003). Similarly, their new venture provides a peer-to-peer based communication software. It could be a good candidate to shake up the telecom industry. Skype's software allows anyone with a broadband Internet connection to make free voice over internet protocol (VoIP) calls from Skype to Skype and cheap calls from Skype to any traditional phone in the world or the other way around. Additionally, the software integrates other communication and productivity features (e.g. instant messaging and file exchange, voice mail). While the application is still perceived as an Internet technology for early adopters it is increasingly piercing mainstream market segments. In fact, the technology is progressively integrating and converging with traditional phone technology. Skype has several million users and is adding tens of thousands per day. More than 2 million people use Skype simultaneously. Ten percent of the users are paying customers. The average call time is 6 minutes.

Disruptive Innovations

As outlined above, our first goal is to identify Skype's disruptive potential. An innovation, product or process is considered disruptive when its utilization allows the design of new products, services, and processes at lower prices (Christensen 1997). It brings a very different value proposition to the market than had been available previously. Typically, during an initial phase, disruptive innovations are seen as unattractive by established industry players during their emergence because they are not valued by mainstream customers and because they have low projected profit margins. Therefore, products that are based on disruptive innovations are generally proposed by small and

innovative companies to niche markets. The proposed products are often cheaper, simpler, smaller, and, frequently, more convenient to use. Yet, during the initial phase they tend to under-perform established products in mainstream markets. However, with their establishment in new small markets, small scale innovations raise the innovation's performance and they start to invade established markets (Danneels 2004) and conquer a dominant position.

To better understand this phenomenon as regards Skype's disruptive potential, we apply a framework proposed by Rafii and Kampas which can be used to explain and detect disruptive innovations (Rafii and Kampas 2002). The two authors identify six stages towards disruption. First, the insurgent enters a *foothold market*, which is typically an untapped or underserved market below the main one in terms of price and sophistication. Second, the insurgent enters the *main market* if it succeeds in overcoming barriers to entry such as incumbent patents and access to channels and capital. Third, the insurgent begins to *attract customers*, most often by offering lower performance or fewer capabilities for a much lower price than the incumbent's. Fourth, customers will change suppliers, if their *switching costs* are not too substantial. Fifth, the incumbent will likely *retaliate*, once it becomes aware of a pending disruption, though sometimes it will abandon a market if profitability levels aren't worth defending. Finally, the incumbent is *displaced* by some degree; this can range from minor annoyance to total destruction.

In order to detect disruptive innovations Rafii and Kampas outline a number of indicators or contributing factors at each stage of the disruption process. By rating and weighting the contributing factors it becomes possible to evaluate if the disruption is more or less likely to succeed. This analytical methodology aims at scoring and graphing the disruptiveness profile with its disabling and enabling forces.

Delphi study on Skype vs. Telco

We applied Rafii and Kampas' analytical tool in a small laboratory experiment composed of 20 students of different backgrounds, such as communications systems engineering, computer science, information systems, and business administration. Additionally, we used the Delphi technique (Linstone and Turoff 1975) to increase the pertinence of the analysis. In other words, a first survey was conducted independently by each subject without any previous debate in order to avoid mutual influence. Then, a second round of the same survey was conducted after the survey participants discussed the first-round outcome in a group discussion.

In the survey each student was invited to evaluate the factors that enable or disable disruption in the telecom market at each stage of Rafi and Kampas' framework. They had to rate the contributing factors on a seven-point scale that rates each contributing factor's disruptiveness; The scale goes from highly disabling (-3) to highly enabling (+3). A positive rating indicates that factors enabling disruption are more significant than disabling ones. In addition, the students had to weigh the contributing factors on a scale from 0 to 3 in order to quantify each factors importance. By multiplying, the rates and weights, we obtain a weighted score that is represented as the rating in Table 1 and Table 2.

Disruptiveness profile			
Stage	Forces disabling disruption	rating [-3..3]	Forces enabling disruption
Foothold market entry	Unattractive foothold market(s)	1.0	Attractive foothold market(s)
Main market entry	High barriers to entry	0.4	Low barriers to entry
Customer attraction	Low value added	1.0	High value added
Customer switching	High cost of switching	0.9	Low cost of switching
Incumbent retaliation	Low barriers to retaliation	0.5	High barriers to retaliation
Incumbent displacement	Low revenue displacement	1.4	High revenue displacement

Table 1: First round results (Disruptiveness profile) of the Delphi study

The results of the first round already demonstrate that the subjects of the survey perceive Skype as disruptive. In fact, the positive values in Table 1 show that the contributing factors at each stage are enabling disruption. To confirm and improve the quality of these first individual results the Delphi method calls for a second investigation after debating the first-round evaluations.

Disruptiveness profile			
Stage	Forces disabling disruption	rating [-3..3]	Forces enabling disruption
Foothold market entry	Unattractive foothold market(s)	1.0	Attractive foothold market(s)
Main market entry	High barriers to entry	0.6	Low barriers to entry
Customer attraction	Low value added	1.3	High value added
Customer switching	High cost of switching	1.3	Low cost of switching
Incumbent retaliation	Low barriers to retaliation	-0.2	High barriers to retaliation
Incumbent displacement	Low revenue displacement	1.9	High revenue displacement

Table 2: Second round results (Disruptiveness profile) of the Delphi study

The second round shows that after a group discussion the students confirmed but also changed some evaluations. In general, they valued Skype's disruptive potential as stronger. However, as regards the incumbents' ability to retaliate, they changed their opinion in favour of forces disabling

disruption (Tables 3 & 4). In conclusion, the second round still confirms the subjects' opinion that Skype has a real potential to be disruptive in the telephony market.

Incumbent retaliation					
Forces disabling disruption		Forces enabling disruption			
Factors	rating [-3..3]	Factors	rating [-3..3]	weight [1..3]	weighted score
Incumbent is keenly aware of insurgent, and/or entrance happens quickly and dramatically	-0.4	Incumbent is unaware of insurgent, and/or entrance happens slowly and subtly	-0.4	3	-1.1
Incumbent is aggressive and adaptive	0.6	Incumbent is passive and adverse to change	0.6	3	1.7
Incumbent would not suffer much financially by retaliating	1.1	Incumbent stands to disrupt its near-term revenue and valuation by retaliating	1.1	2	2.1
Incumbent would not need to kill off much-loved products and/or architecture	1.0	Incumbent would need to kill off much-loved products and/or architecture	1.0	2	2.0
Incumbent would not need to change its business model	1.5	Incumbent would need to change its business model	1.5	2	2.9
Incumbent has had previous ups and downs, and has succesfully made shifts in its business	0.3	Incumbent has never made shifts before and is at top of its game	0.3	2	0.5
Incumbents would not need to change or add core competencies	1.6	Incumbents would need to change or add core competencies	1.6	2	3.1
Incumbent has excellent ability to execute	-0.3	Incumbent has poor ability to execute	-0.3	2	-0.6
Incumbent has shown willingness to go outside for technology	-0.3	Incumbent has shown unwillingness to go outside for technology	-0.3	3	-0.8
		Average	0.6	2.3	1.1
		Weighted stage score			**0.5**

Table 3: First round results for "Incumbent retaliation"

This analysis, with all its limitations due to the size and composition of the sample, gives a first indication that Skype has a good chance to succeed in the telephony market. However, the second round results also underline that the incumbents have some potential for retaliation and can thus disable or limit the impacts of a disruption.

Incumbent retaliation					
Forces disabling disruption		Forces enabling disruption			
Factors	rating [-3..3]	Factors	rating [-3..3]	weight [1..3]	weighted score
Incumbent is keenly aware of insurgent, and/or entrance happens quickly and dramatically	-1.1	Incumbent is unaware of insurgent, and/or entrance happens slowly and subtly	-1.1	3	-3.3
Incumbent is aggressive and adaptive	-0.3	Incumbent is passive and adverse to change	-0.3	3	-0.9
Incumbent would not suffer much financially by retaliating	0.7	Incumbent stands to disrupt its near-term revenue and valuation by retaliating	0.7	2	1.5
Incumbent would not need to kill off much-loved products and/or architecture	0.6	Incumbent would need to kill off much-loved products and/or architecture	0.6	2	1.3
Incumbent would not need to change its business model	1.3	Incumbent would need to change its business model	1.3	2	2.6
Incumbent has had previous ups and downs, and has succesfully made shifts in its business	-1.1	Incumbent has never made shifts before and is at top of its game	-1.1	2	-2.1
Incumbents would not need to change or add core competencies	1.3	Incumbents would need to change or add core competencies	1.3	2	2.6
Incumbent has excellent ability to execute	-1.8	Incumbent has poor ability to execute	-1.8	2	-3.6
Incumbent has shown willingness to go outside for technology	-0.7	Incumbent has shown unwillingness to go outside for technology	-0.7	3	-2.1
		Average	-0.1	2.3	-0.4
		Weighted stage score			**-0.2**

Table 4: Second round results for "Incumbent retaliation"

The analysis of Skype's business model compared to the one of a traditional Telco in the following sections will give us some further indications of how and if Skype might or might not provoke a disruption in the telecom market.

Comparing Business Models - a conceptual approach

Over the past few years, business models have been an important topic in various disciplines such as business, information systems and computer science (Pateli and Giaglis 2003). Various aspects have been addressed such as business model *taxonomies* (Timmers 1998; Rappa 2001), *industry-specific* business models (Krueger, van der Beek et al. 2004; Rappa 2004; Shubar and Lechner 2004; Yousept and Li 2004), *reference models* (Hamel 2000; Linder and Cantrell 2000), and *meta-models* or *ontologies* (Gordijn 2002; Osterwalder 2004). In this paper we apply two of the conceptual approaches to business models, in the form of *business ontologies,* in order to describe and compare two different business models in the same industry, which in this case is telecommunication. The ontologies shall help us compare and analyze the business models of Skype, respectively a traditional Telco in a more structured and systematic way than textual comparisons usually allowed hitherto. In philosophy, an ontology is seen as a theory of what exists (Orman Quine 1961). So a business model ontology should explain *what a business model actually is and of what it consists*. In other words, it defines what elements of a company must be described to understand the way it does business and earns money.

Thus, by applying the same ontology to our two subjects of attention we describe what elements the business models are composed of and the respective business models become comparable. We can then easily understand their similarities and differences. For our analysis we have identified two mainstream and complementary ontologies, which are the Business Model Ontology (Osterwalder 2004) and the *e*^{3}*value* ontology (Akkermans, Baida et al. 2004). We use both to describe the two studied cases. This structured approach will let us depict the studied business models in a systematic way and help us work towards a better understanding of Skype's potential disruptiveness.

The Business Model Ontology (BMO) is composed of nine elements and their relationships that allow us to describe how Skype and Telcos make and intend to make money and how they achieve this. These elements are a business model's value proposition, customer segments, distribution channels, customer relationships, value configurations, resources and capabilities, partnerships, cost structure and revenue streams.

The e3value ontology allows us to better understand the actors involved in Skype's and a Telco's business model and which value exchanges they conduct among each other. Its ability to calculate profitability sheets for each actor involved makes it possible to evaluate the economic attractiveness of different actor constellations.

Skype vs. Traditional Telco

In this section we compare the two analyzed business models on the basis of the nine business model elements of BMO (Osterwalder 2004) (cf. Figure 1 and Figure 2) and model their value constellation with the *e*^{3}*value* ontology (cf. Figure 3 and Figure 4). We outline the business model building blocks of the respective companies and describe the similarities and differences that are summarized in Table 5. The information for describing the models comes from primary sources, such as interviews and secondary sources, such as the Internet, various news articles, newsgroups and user forums.

Product related business model elements

Value propositions. In both business models voice communication is the central value proposition. The most striking difference between the value propositions of the respective models is Skype's free voice communication. "Skype to Skype" lets you call anyone at zero cost that has downloaded and installed the free Skype application on their computer or personal digital assistant (PDA). With "SkypeOut" you can call any landline or mobile phone in the world at comparatively cheap local rates. Interestingly SkypeOut rates are independent from the caller's location. Additionally, the payable value-added service “SkypeIn” allows users to be reached by a traditional phone through a regular phone number. Contrary to Telcos Skype applies flat rates that exclusively depend on the destination of the calls. This stands in stark contrast with complex call rates applied by Telcos to reduce price comparison.

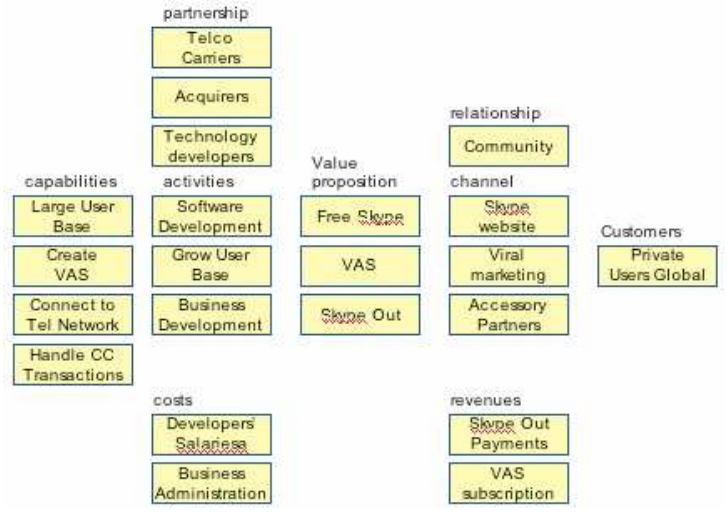

Figure 1: Elements of the Skype ‘s business model

In contrast to Skype traditional Telcos usually also offer business oriented value propositions with particular value-added services and business solutions specifically targeted at enterprises. In addition to these value propositions, traditional Telcos often offer wholesale traffic which is an important part of their business. Some Telcos also propose phones, devices and accessories to their customers as opposed to Skype who does this only through partners. However, Skype advertises some devices on its website.

In general we can observe that Skype's value proposition is still very basic compared to the ones offered by Telco's. Currently it is mainly limited to voice communication. Payable value-added services, such as “SkypeIn” and voice mail, will be completed by additional value-added services in the future. At present Telcos are much more diversified though communication remains their core business. Furthermore, Skype is still perceived as an application for early adopters and more technology-proficient users. Yet, thanks to devices of important hardware manufacturers that seamlessly integrate with normal phones, Skype might have made a decisive step towards catching up with Telcos' value propositions and will eventually outrun them.

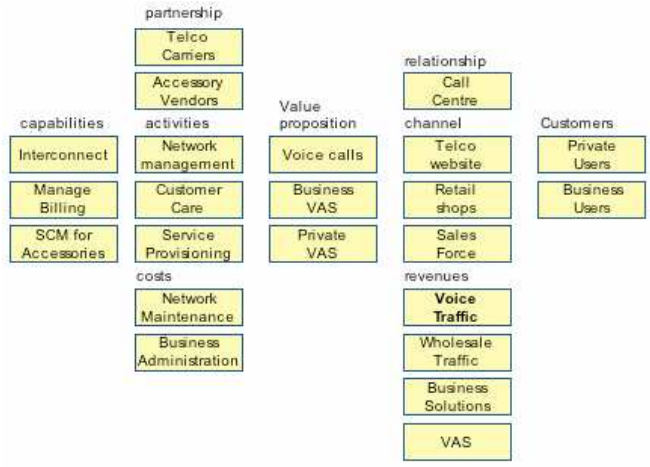

Figure 2: Elements of the telco’s business model

Customer related business model elements

Target customers. Telcos essentially address three different customer segments, which are national private customers, national business customers and other Telco carriers. Skype potentially addresses all individuals globally that possess a broadband Internet connection. The company already disposes of several million users while adding ten thousands every day. In the future Skype also plans to address business customers.

Comparing the customer segments of Skype and Telcos the most noticeable difference is that the former has a larger scope while the latter has a larger scale which is essentially global. Many of Skype's users actually come from developing countries and emerging markets where phone rates are very high.

Distribution channels. As regards distribution channels the two business models pursue very different approaches. Traditional Telcos most often rely on retail stores and/or a sales force to acquire customers and initiate a relationship with them. They also build on traditional marketing based on conventional advertising, such as, for instance, media advertising, billboards and sponsorships. Skype on the other hand almost entirely relies on viral marketing, its large presence in the press and co-branding with device manufacturers and vendors, such as Plantronics and Logitech. The company also increasingly aims at bundling its product with software and products of other companies.

Skype and Telcos both use the internet as a media to interact with customers. But while the web is accessory to Telcos it is the main delivery and communication channel for Skype. This stems from the fact that Skype's value proposition is basically digital and can easily be delivered over the Internet.

Customer relationships. All of Skype's customer relationships are internet based. It maintains an Internet-based “ticketing system” and an automatic frequently asked question (FAQ) system to reply to customer enquiries. Formerly, it also used instant messaging (IM) technologies for this taks. Similarly, Telcos maintain a call centre to respond to their customers' questions. In addition to ticketing Skype also heavily relies on online user communities. It hosts several forums on its website and closely follows the discussions and voiced opinions to improve its value proposition.

Infrastructure related business model elements

Core capabilities and resources. One of the core capabilities Skype must dispose of is the ability to grow its user base. This is crucial if the company wants to exploit network externalities (Katz and Shapiro 1985) and increase the utility of its value proposition. Therefore the company must make certain that it closely listens to its customers, identifies needs and rapidly adapts.

In addition to the above, Skype must also assure interconnection with POTS. Similarly a traditional Telco has to assure the connection with any traditional phone in the world, which was already been standardized decades ago.

A main difference between the two business models is the way they handle payments. Telcos traditionally rely on billing systems, though they have also introduced prepaid cards. In contrast, Skype relies exclusively on prepaid systems (mostly credit card based) and payment solutions, such as for example PayPal for its payable services. Another important difference in terms of capabilities and resources originates from the fact that many Telcos also sell devices and other accessories. This means that they have to manage complex and costly supply chains to assure product availability.

Finally, from an organizational perspective, a core capability that Skype must assure is the management of incredibly rapid growth. Though Skype's business model is scalable from a product perspective, the organizational aspects must nevertheless follow behind.

Value configuration and activities. In terms of activities Telcos are mainly preoccupied by three areas. These are the improvement and maintenance of their network, customer care and service provisioning. Skype is preoccupied by similar areas but with somewhat different activities. As to the first area, the company does not have to maintain a proprietary network but has to take care of its software platform and manage the circulating versions. In terms of managing customer accounts Skype totally relies on its software. However, as regards customer related activities, it additionally focuses intensely on growing its user base in order to increase network externalities. Finally, like Telcos Skype builds on developing and delivering service provisioning. But in Skype's case the services are mostly built in the software.

Partnership agreements. Skype builds extensively on partnerships. While it focuses on its Skype software platform it collaborates with partners for most other activities and resources. It works closely with hardware manufacturers and distributors of devices, PCs and headset in terms of co-branding and certification. For example, Skype has a promotional agreement with Logitech, a PC accessory company, to bundle free vouchers for SkypeOut with Logitech USB Headsets. Furthermore, it nourishes partnerships with software developers and joins forces with other companies for specific technology areas, such as peer-to-peer or VoIP. Also, it collaborates for translation in order to assure that its software appears in as many different languages as possible.

The area where Skype and traditional Telcos resemble each other most is in the domain of partnerships with Telco carriers. Both business models must assure interconnection with the global phone network and therefore have to cooperate with global carriers.

Value constellation. The two value constellations resemble each other quite strongly (cf. Figure 3 and Figure 4). Most actors are of very similar nature in both of the analyzed business models. For example, both models can rely on their own communications infrastructure but have to work with partners in order to interconnect to terminate "outside" calls. Skype relies on its software platform for Skype-to-Skype communications and collaborates with selected carriers for SkypeOut calls. Similarly, Telcos partly rely on their proprietary telecommunication infrastructure for traffic on their own network but have to join forces for calls outside of their systems. A significant difference between both business models lies in the fact that most Telcos sell their free network capacities to other Telcos, while Skype does not route any other traffic over their platform. Also contrary to Skype Telcos sell devices and accessories to their customers which they procure from different suppliers. Skype leaves this activity to a number of selected partners with which they sometimes enter into a co-branding deal. In general we can observe that partnership agreements are more strategic to Skype than to Telcos. The latter mainly collaborate in the domain of voice carriage and device retailing.

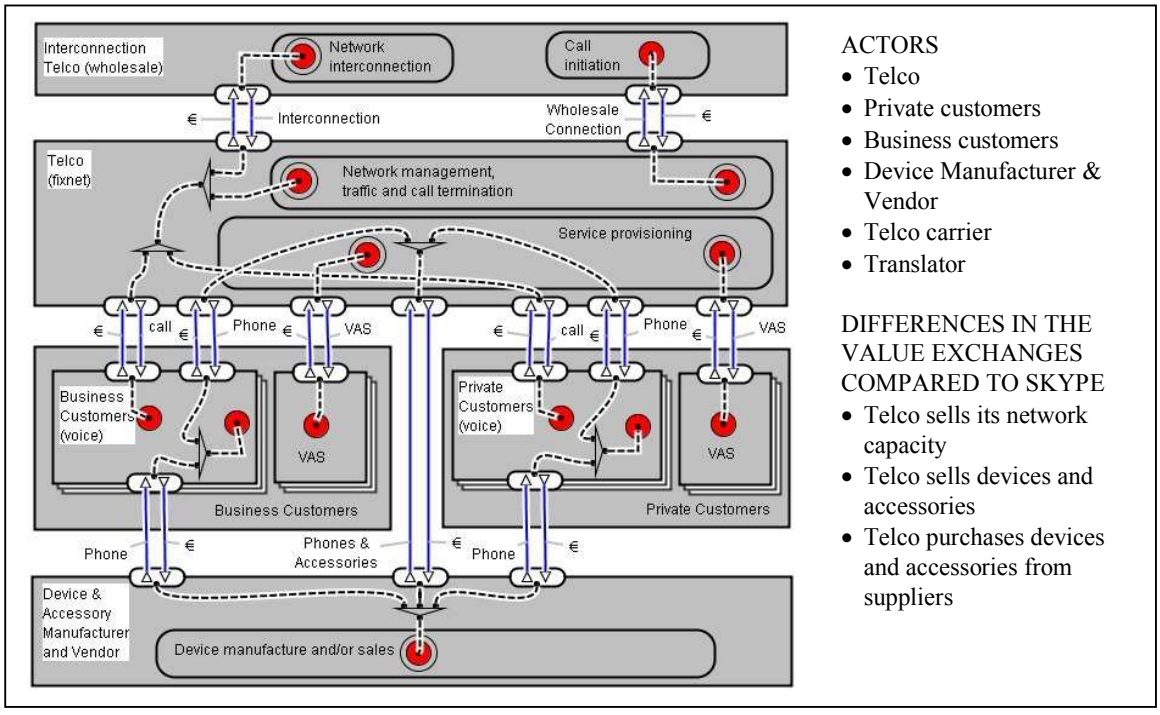

Figure 3: A traditional Telco's value constellation

A major difference in Skype's value constellation is the customer's need for an internet broadband connection from an Internet Service Provider (ISP) before he can actually use Skype. In other words, Skype depends on the penetration of broadband internet. Another difference between the

two models that is probably about to disappear is Skype's current limitation to individual customers as opposed to Telcos that serve individuals and businesses.

As regards the value exchanges of the analyzed business models and value constellations the most striking difference lies in Skype's free Skype-to-Skype communication. They can do this because of their particularly low marginal costs and the scalability of their peer-to-peer based software platform. This is not the case for traditional Telcos and even most VoIP providers that have to increase their network capacity and hence infrastructure costs for every customer added. This can be accurately demonstrated when we simulate the *e³value* profitability calculations for different scenarios in terms of customer numbers, network usage and pricing models. A final difference in Skype's value constellation is its reliance on a third party for payment processing, which is currently based on online credit card transactions. As a consequence of this Skype's business model is susceptible to fall victim of credit card fraud.

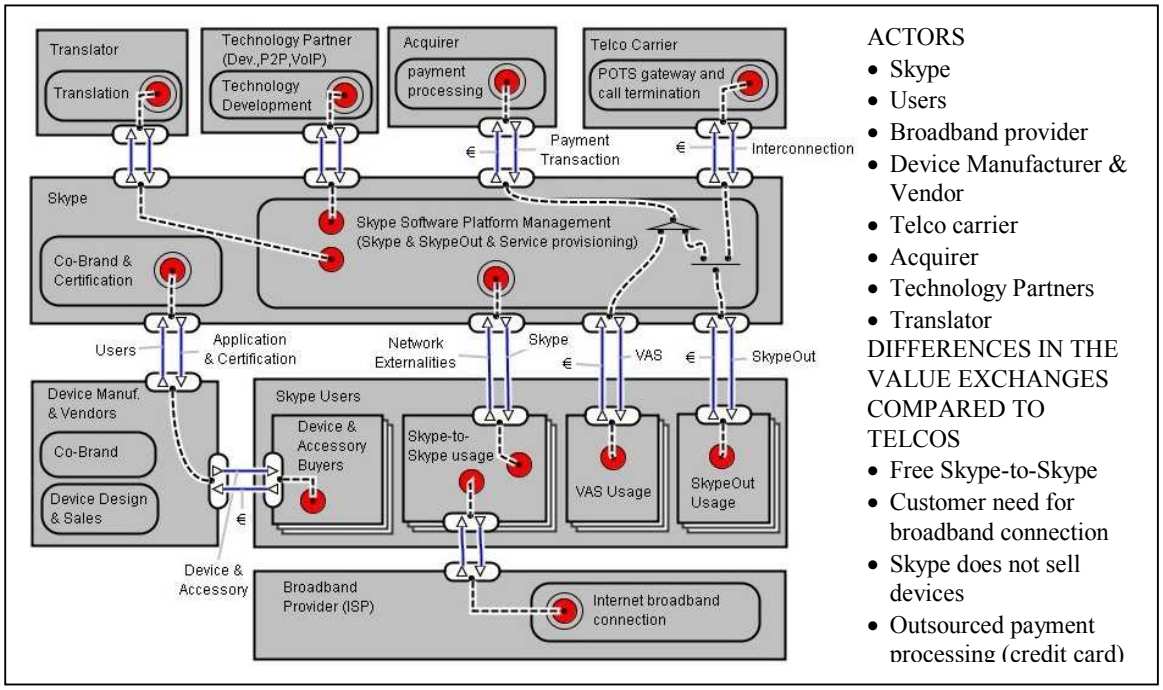

Figure 4: Skype's value constellation

Finance related business model elements

Revenue streams. Regarding revenue streams traditional Telcos are much more diversified than Skype. They usually derive revenues from voice and data communications from private and business customers, wholesale traffic from other Telcos, value-added service and business solutions. However, the bulk of their revenues still come from voice and data. In contrast, Skype

offers Skype-to-Skype for free and currently only derives revenues from SkypeOut, but plans to earn money with value-added services. Furthermore, it also plans to tap the business customer segment.

Cost structure. As to the cost structure Skype has a much leaner organization. While Telcos incur important costs to maintain their network, Skype merely has to manage Software development. This allows them to have much lower marginal costs than Telcos. Additionally, the business administration at Skype is much cheaper because most of its customer related tasks are automated. Yet, though cost growth is not linear to customer growth Skype's increasing size brings new costs, such as fighting fraud. Also different from Telcos, Skype must pay so-called acquirers for the credit card transactions to purchase SkypeOut vouchers and value added services.

Discussion

In this section we discuss which business model elements contribute to Skype's likeliness to disrupt the telecom market. In addition, we connect these elements with Rafii and Kampas' six stages of disruption.

As to Skype's value proposition it still underperforms in terms of functionality compared to the value proposition of a traditional Telco. Yet, with its free Skype-to-Skype communication it offers an important price advantage. Furthermore, with SkypeOut and so-called dualphones that bridge the gap between traditional and Skype-based telephony it is entering the *main telecom market* with a significant price advantage.

In terms of customer segments Skype's *foothold market entry* was based on early adopters and customers from developing countries. However, with a value proposition increasingly similar to the ones of a traditional Telco, but at a more attractive price, Skype may be able to conquer the mainstream market. A significant advantage of Skype and an important factor of disruption is its inherent global customer scale. Particularly since it doesn't have to maintain a global telecom network to serve these customers but can rely on the Internet to deliver communication services. However, as regards the main market entry a question mark remains on the lucrative business segment.

As regards Skype's distribution channels, there still exists numerous opportunities to extend market coverage. Compared to traditional Telcos, Skype still incurs practically no marketing cost and

relies strongly on low-cost viral marketing. Although growing strongly, Skype's limited distribution channels indicate that the company is only at its initial phase of conquering more important market segments. Further significant expansions can be expected with a more sophisticated channel strategy.

	Business Model Element	Telco	Skype
PRODUCT	Value Proposition	Voice calls	Skype-to-Skype VoIP calls (free)
			SkypeOut
		Value-added services	Skype value-added-services
		Business solutions	x
		Network traffic wholesales	x
		Devices and Accessories	(Accessories through partnerships)
CUSTOMER	Customer Segment	National private customers	Broadband internet users globally
		National business customers	x
		Telco carriers	x
	Distribution Channel	Retail shops	x
		Sales force	x
		Telco website	Skype website
		Traditional marketing	Viral marketing
		x	Accessory Vendors
	Customer Relationship	Call centre	Live instant messaging (chat)
		Website (self-service)	Website (self-service)
		x	Community
INFRASTRUCTURE	Core Capabilities and Resources	x	Large user base
		Create VAS	Create VAS (innovation)
		Interconnect with other networks	Interconnect with phone network
		Manage billing	Handle credit card transactions
		Supply chain management (accessory)	x
		x	Listen to customers and rapidly adapt
		x	Handle rapid growth
	Value Configuration (activities)	Network management	Software/version management
		Customer care	Growth of user base
		Service provisioning	Service provisioning
	Partnership Agreement	Telco carriers	Telco carriers
		Device Manufacturers and Vendors	Device Manufacturers/Distributors
		x	Acquirers (payment processing)
			Technology (developers, P2P, VoIP)
FINANCE	Revenue Stream	Voice	Skype out
		Wholesale network traffic	x
		Business solutions	x
		Value-added services	(Value-added services)
	Cost Structure	Network maintenance	Software development
		Business Administration	Business Administration

green business model element =Skype & Telco similar / red business model element =Skype & Te

Table 5: Skype vs. traditional Telco

Managing customer relationship at Skype's neck breaking global growth is an important challenge and may hinder its ability to attract mainstream customer segments. For example, on Skype's company-owned customer forums several threads discuss the firm's ability to guarantee after-sales support of credit-card-based purchases. Understanding and adapting to customer demand will be a major issue if Skype wants to succeed in disrupting incumbents.

When it comes to infrastructure Skype has to manage a completely different set of core capabilities and resources as compared to traditional Telcos. Together with a similarly different value configuration this might be Skype's main asset in disrupting the telecom market. Traditionally, Telcos had to increase their network capacity with each customer added and they were occupied day in day out by maintaining their telecom infrastructure. Skype merely has to manage its peer-to-peer software platform as Skype communications are routed over the Internet. This calls for a completely different mindset as regards the management of capabilities, resources and activities.

As to partnerships, Skype is dependant on other Telco carriers for its SkypeOut calls. This may increase or decrease its likelihood to succeed in disruption. However, up to now these partnerships have allowed Skype to offer particularly low calling rates. Another important element in regards to partnerships is Skype's ability to enter into marketing alliances that will allow it to augment its market share. Finally, as Skype's value constellation shows one partner or actor it is dependant on is its users' broadband ISP.

The disruptive potential of Skype is closely related to its ability to generate sustainable revenue streams. While Skype is particularly successful in attracting new customers and users of the Skype platform it is not clear how much revenue they are able to generate from this. If Skype is able to add a revenue stream based on value-added services in addition to its SkypeOut-based revenue stream, its potential for disruption will substantially increase.

Finally, Skype's efficient cost structure is a mirror of the previously described business model elements and is the fundament for its disruptive potential. Skype has very low marginal costs and its fixed costs are mainly related to software development. While it is possible for Skype to offer certain services for free this is much more difficult for Telco. This is based on the fact that the former can route its communications for free over the Internet and the latter has to maintain a costly infrastructure.

Conclusion

In this paper we investigated Skype's disruptive potential for the telecom market through a Delphi study based on Rafii and Kampas' analytical framework. We then compared Skype's and a traditional Telcos' business model in order to understand differences and similarities in their business logic. The combination of these two analyses allows us to conclude that Skype is very likely to have a disruptive impact on the telecom market. First, in our survey Skype is perceived as being rather disruptive in five of Rafii and Kampas' six stages towards disruptiveness. The only factor perceived as playing in favour of the incumbent is his perceived potential capacity to retaliate. However, by analyzing and comparing the two business models we discover that Skype's model seems to underline its potential for disruptiveness. Particularly its ability to provide free services, its inherent global scale in terms of customers and its unexploited potential related to distribution channels indicate that Skype is only beginning to have an impact on the telecom market.

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