

## The Role of Value Proposition and Value Co-Production in New Internet Startups: How New Venture e-Businesses Achieve Competitive Advantage

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**Abstract**—Many of the successful e-businesses during the era didn't necessarily possess the original idea. Some of them duplicated their predecessors' ideas and then re-implement them with more advanced technologies and resonating value propositions to create value for their users, and successfully "captured" the value of the original ideas from its predecessors. Once the entrepreneurs in e-business gain marginal advantage over their competitors, they seek to widen the lead by building effective value co-production mechanisms. The issues raised above are what entrepreneurial strategists would concern: How a successful new venture in network economy should do to create, protect and appropriate value?

The purpose of the present paper is to emphasize the role of value proposition and value co-production in new venture development. Value proposition, which has been a buzzword among managers in the real world for a while, is actually new concept to the academic world as well as value co-production. This paper argues that a properly constructed value proposition is essential to the value creation process in e-business, and value co-production is the building blocks for value protection mechanism in network economy. The discussion of value creation and value appropriation in e-business won't be complete unless the two concepts are included.

### I. INTRODUCTION

Internet startups such as Google and Skype started their

business as followers, providing basically the same service as their predecessors. Both of them enjoyed a faster growth rate and surpassed the first movers in their markets in a short period of time. Fast and constant growth also creates an entry barrier for the later entrants, making them leaders in their respective market. Take Skype for example, there's been dozens of VoIP<sup>1</sup> startups long before Skype make its debut in 2003. Most of the VoIP pioneers went down, but there's also some VoIPs operators achieved moderate success, such as PalTalk. Fig. 1 gave us an idea of the competition dynamics in VoIP industry in the past few years.

As demonstrated in Fig. 1, iPhone, the firm that invented VoIP, was no longer in the consumer VoIP market. PalTalk has 4 million members by 2006 after eight years from its first launch [22]. Skype, however, gained 65 million members in less than four years. TelTel quickly followed Skype, deploying the same P2P technology on its VoIP platform. TelTel was never able to catch up with Skype and only reached about 1.5 million members in early 2006. It is clear that Skype successfully "jump started" right from its launch date, and immediate imitation from its competitor didn't work out. Albeit the poor profit numbers, Skype has already established itself as the leading VoIP service provider -- the capital market awarded Skype founders with 2.6 billion dollars when eBay acquired Skype.

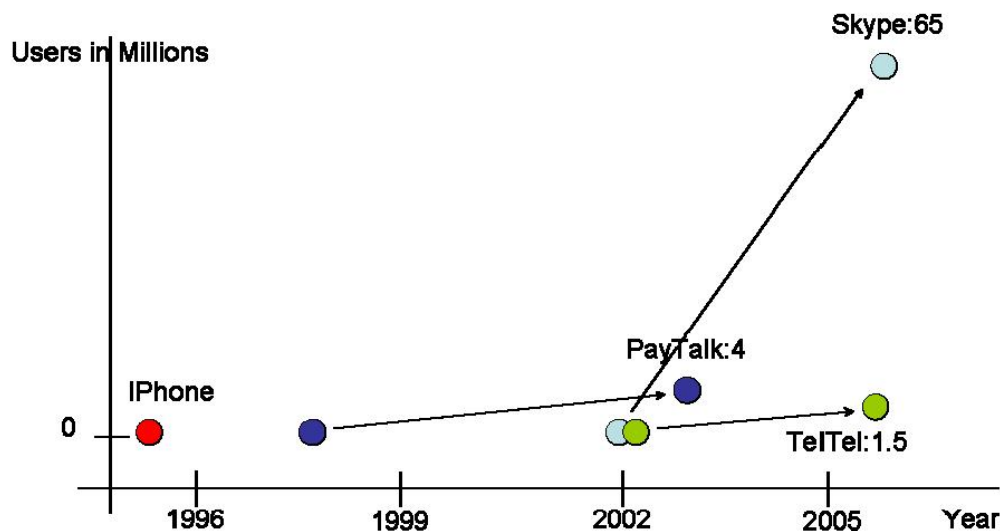


Figure 1. Pioneers and Well-known Firms in the VoIP Industry  
Source: Present Study (Collected from various source from the Internet)

<sup>1</sup> The purpose of "Voice over Internet Protocol", also called "Internet Telephony", is to provide similar functionality as telephone using computer and internet. As transferring voice over Internet is more cost effective than traditional long distance phone calls, most VoIP vendors labeled their service as "more affordable than landline".

The present paper attempts to address two research questions raised above 1. How does an Internet startup grow rapidly as a late entrant? 2. How does an Internet startup maintain its lead after initial success? As stated in [11], value is the core issue of strategy research, and the research questions of this study almost reflect the typical identification of value creation and value capturing. The present paper propose that two relatively new concepts to the academic field regarding value – value proposition and value co-production – are critical to value creation and value capture process of new Internet startups.

## II. VALUE PROPOSITION AS THE FIRST STEP OF VALUE CREATION PROCESS

### A. Value Creation, Value Capture and Related Concepts

Value creation has been an important concept and an integral part in e-Business model formation [1]. In the process of literature review we found that among the concepts about value, value creation is the most discussed one. But there have been more and more works focus on value capture. Value creation and value capture are two essential criteria to evaluate corporate strategy or business model. A firm needs to create value for users to adopt its' product or service, as well as to find a way to capture value to make a profit. The difference between perceived value and exchange value is "consumer surplus", on the other hand the difference between exchange value and cost is the actual profit "captured" by a firm [5].

Value capture is widely regarded as highly related to bargaining power [13][20]. Therefore value captured by a firm depending on the horizontal and vertical structure of the industry. The concept of value capture is further extended by later works such as [12] and [17], to explain why a firm couldn't capture (appropriate) the value it created. Value created by a firm could be "captured" by other firms if it can't "appropriate" the value it created through some "value protection" practices [12]. Reference [17] proposed that value created at firm level might be captured by actors at another level, such as the whole society or specific individuals. The phenomenon is named "value slippage".

For an Internet startup, first it must try to create value for its users, or it won't have any chance to make profit from its business. Next it'll have to worry about value capture by competing firms (through imitation and other means), and value slippage to the society. But even if the firm couldn't capture the value it created instantly, if the Internet startup could widen the lead in adoption rate over its closest competitor to the extent that the advantage become irreversible [3], it is in a good position to appropriate future value capture opportunities. Once an Internet startup achieves this, the entrepreneur has the chance to benefit from value slippage by trading equities of the firm on capital market, as long as the capital market recognize the potential of the firm. The latter option has been a strong incentive for

entrepreneurs to start up a new business on the net.

### B. Definition of Value Proposition

The term "Value proposition" was first used by Moore in his book "Crossing the Chasm" [21]. He proposed that a complete value proposition should include three elements: 1) Who your target customers are 2) What product or service you're going to provide 3) Why a customer should purchase from you instead of you competitor with similar offering. Through a well-defined value proposition, customers can fully appreciate the value of the product / service. Reference [15] provides a more economics-oriented definition for value proposition. He regards value proposition as preference or utility perceived by customers, therefore probable value proposition could be formed by doing customer survey.

On the actual content of value propositions, [23] proposed that when confronting low-priced competitor, the firm should try to either increase the product value to reduce product price. "Generic" value propositions such as lower price and higher quality are always applicable for virtually any business, as it can give the users / customers an simple idea of the benefit that a product could offer. But it is hardly "resonating" [2]. A resonating value proposition uses a few statements to give users / customers to a strong reason try out the product / service instead of the competitors'. Reference [2] also described a well-constructed value proposition as distinctive, measurable and sustainable, but there're value propositions that are not measurable but yet resonating.

Reference [31] shows that a drug manufacturer trying to provide integrated health service to their customers, reducing transaction costs for their customers and at the same time provide a more complete service. Reference [10] proposed "blended value", encouraging firms to propose social values such as ecology, trust, community and even good will. Firms such as Café Direct from England basically sells the same coffee as major brands, but with a promise to treat coffee bean producers well by ensuring their expense for living and education are covered well. There's been yet a consensus to what a "properly-constructed" value proposition is, but resonating value proposition is indeed a good start to boost the perceived value for your product / service by your customers.

### C. Value Proposition and Value Creation

According to the analytical framework proposed by [5], higher perceived value increased the possible range for value capture, which also means there'll be more customer surplus and captured value to be shared between the purchaser and the firm. As [13] stated, value proposition is the first step in value creation process. In the case of new Internet startups, the exchange might be 0 for a while, so the cost to try out a product / service is even lower for a user. But still to try out a product require time and effort from a user, and a firm needs to compete with competing firms to earn those time and effort from a user. The time and effort spent by users could turn into resources for a firm as this paper would describe later.

The value creation process started by a customer attracted by a resonating value proposition, and ended when

<sup>2</sup> [10] used the term "value appropriation" for the same meaning of "value capture" in other literatures.

the value is delivered to its customer. Different value proposition for the same product could lead to different value perception, as the referenced competitor and focused product property is different. Thus the whole business process should be designed to propose a value proposition and to fulfill it. Every part of the organization should have a complete idea of a value proposition for a product or service, and coordinate accordingly. For example, if a value proposition is unrecognized or is not well understood by the sales department, there'll be no way that a customer would appreciate the supposed higher perceived value of the product. They will still negotiate the deal based solely on price or other factors no matter what the value proposition is [2].

To sum up the discussions about value proposition and value creation, we came up with proposition 1:

*Proposition 1: A Properly Constructed Value Proposition Has Positive Impact on Value Creation Process*

### III. USER / CONSUMER PARTICIPATION IN VALUE CREATION PROCESS: VALUE CO-PRODUCTION

#### A. User Participation in Value Creation Process

The concept of value co-production is described in [25] as two or more economic actors create value for and with each other. Traditionally an actor in economy is either a producer or a consumer, leading to the conclusion that producers create value whereas consumer “destroys” value, but nowadays users / consumers can be seen as co-producers of value or even regarded as assets of a firm. Users / consumers started to take parts in more and more value creation activity, ranged from the very beginning of the value chain (i.e. demand recognition, R&D) to the very end of it (i.e. marketing, customer support, etc.). Value creation activities that a user / consumer can take part in can be summarized as Table 1:

TABLE 1: USER / CONSUMER PARTICIPATION IN VALUE CREATION PROCESS

Value Creation Activity Involved	Example	What User Contributes	Citation
Provision of Infrastructure	Skype / FON utilizing user's hardware	Installation of software or purchase hardware	Present study
Research and Development / Knowledge Accumulation	Google / Microsoft invites user to beta-test or debug their program Netflix / Amazon invites user to write review for their product	Effort and Knowledge	[28] [30]
Produce (Product)	Ikea Let user assemble furniture parts themselves	Effort	[25]
Produce (Information)	Banks Collect customer's purchasing information for use in later marketing activity	Effort	[28]
Increase Product Utility	Telephone, Fax	Usage	[14]
Customer Service	Seagate put all manuals online to let customer serve themselves	Effort	[28]
Marketing (Information Contagion)	Later adopter ask early adopter for advice	Word Spreading	[3]
Marketing (Information Cascading)	Opinion leader decides the price of artwork	Word Spreading	[8]

As Table 1 suggests, user / consumer is able to participate in more and more value creation activities, therefore user participation has been an important element of business model for many new Internet startups. The latest marketing buzzword “Web 2.0” actually encouraging Internet firms to identify and utilize the mechanisms listed in Table 1.

#### B. Value Co-Production: Value Creation and Capturing Process in a Package

There's no doubt that users can now participate in value creation activities in so many ways to create value for themselves and for other customers. Customers can serve themselves by assemble furniture they purchased or by reading through the troubleshooting knowledge base on the vender's website. Infrastructure and production equipment were supplied by firms in the past, but thanks to the advancement in distributed computing and storage technology firms can now utilize CPU, storage device and

even Internet bandwidth of their customers to serve other customers. Users even participate in marketing activities actively by word of mouth or by promoting their favorite hardware and software online. It almost seems that we might see a business model with no value created by the firm coming up in the next few years.

On the other hand, some types of value co-production listed in Table 1 could be helpful for an Internet startup to capture value or to maintain the option to capture value in the future. Reference [1] stated that there're four sources of value creation for an e-Business model: Novelty, transaction efficiency, lock-In and complementary. However, judging from the definitions of the latter two, they are more related to value capture. In Table I there are many mechanisms that could trigger lock-in effect and / or provides complementary assets for the product / service provided. In these cases users tend to keep using the service / product as he or she became more locked-in to it, and users' usage further ensures that the

complementary assets are in place for the product / service to create value for the users in the long run. This way the focal firm can create entry barrier and appropriate future value capturing opportunity.

### C. Positive-Feedback Mechanisms in Value co-production

One of the most distinct properties of the so-called “new economy” is “increasing return” and “positive feedback” [4]. In Table I we can identify many types of value co-production with positive-feedback effect built-in. Take knowledge and information accumulation for example: knowledge and information contributed by the (or extracted from) the users turns into firm assets in the long run, becoming core resources for firms and enables them to provide better services, which brings more new users / customers in turn.

For example, the search technology of Google is designed to constantly improve its search quality by monitoring the behavior of users, and by analyzing the relationship between the links listed on the webpage it retrieved, which is also created by users.

Other examples include network externalities and user-sponsored infrastructure, which improve the quality or utility of the product or service as user number grows. Positive-Feedback means that once a firm gained enough “momentum”, widen the lead over its competitor to a certain extent, the follower is unlikely to catch up. If a firm can accomplish while maintaining low marginal cost, it has a good chance to make profit in the future.

To sum up the discussions about value co-production, we came up with proposition 2:

*Proposition II: The Participation of Users and Customers in the Value Creation Process Has Positive Impact on the Value Capture of the Focal Firm*

## IV. CASE STUDY

### A. Method

Since value proposition and value co-production are both relatively new concepts in the strategy field, qualitative methods will be used in this study, hoping to provide some evidence for the propositions. The case selected in the present study is Skype. The criteria for case selection include representativeness as an e-Business, suitability for research purposes, and accessibility to case data.

The primary data sources for this case study are from case databases such as ECCH teaching cases and Harvard Business cases. Data from the Internet is also used, including information from various news website, technology explanation from the Skype’s own website and some informal but precious data collected by leisure Skype observers, such as daily online user number of Skype since its launch.

### B. Company and Service

Founded in 2002, Skype Inc. is a Luxemburg-based company founded by founders of Kazza. Kazza is a so-called peer-to-peer file sharing software and platform, which has

been among the targets of copyright holders for quite some years [24]. The founders of Skype finally decided to leave the P2P file exchange scene and try to implement VoIP technology with peer-to-peer philosophy in mind.

In late 2002 the first version of Skype launched and enjoyed immediate success in terms of user number. The user number of Skype has been growing roughly exponentially since its launch [19], and in 2005 there’re more than 65 million downloaded copies [6]. Whether Skype can become a profitable business model remains to be seen, but it indeed has a very high market value as Skype was acquired by eBay for 26 billion dollars in 2005 [7].

Skype software can be downloaded from the website. Free services includes PC-to-PC calls and conference session with up to 4 people at the same time. Skype also offer several paid service includes:

- SkypeOut – Enables a user to call regular phone around the world.
- SkypeIn – Assign regular phone numbers to your Skype account so that you can receive phone calls from regular telephones on Skype.
- Voice Mail – Allows other user to leaves message on your Skype.
- SMS sending service - Allow a user to send messages to mobile phones.
- Skype Ring – A user can setup custom ring tone for the caller to listen to while waiting.

Skype also license its’ technology to hardware vendors to manufacture “Skype phones”. For example, a Taiwanese portal site “PCHOME” designs and sells a series of Skype phones, users can also purchase other Skype service on the website.

### C. Value Proposition of Skype and its Competitors

The first slogan appeared on Skype website is “the VoIP that just works”, and the slogan is a rather resonating one, giving users a reason to try it out. Computer users used to spend a lot of time trying to setting up VoIP software so that they can have a brief conversation with their friend and college, and Skype solved this problem by utilizing P2P technology. Translated by the first slogan used by Skype, their value proposition can be identified as “zero-configuration Internet telephony for all Internet users”.

The “zero-configuration” value proposition is valuable to users because previously released voice capable Internet messaging program, including Microsoft Messenger or ICQ, would give users hard time to setup impossible to setup when one of the party in conversion are behind a firewall or other NAT (network address translation<sup>3</sup>) devices. Previously it

<sup>3</sup> Network address translation allows several users to share a public IP, giving all local area network users Internet connectivity and enhance security of individual computers by being invisible to other Internet users. But being invisible to computers outside the local area network also creates great difficulty for certain applications that require the computer to act as a server, including VoIP and video conference ones.

would take a technology-savvy user has to configure their NAT devices specifically to each software and each user. But through P2P and dynamic routing technologies, Skype solves this problem by leveraging user's computer in the Skype network as relay nodes, allowing users behind NAT devices to send and receive calls [27]. Just install the software and you can start calling someone without worrying network configurations. When the first time a user calls someone successfully, the high perceived value due to proper value proposition turned into actual value created for him.

When trying to use a software or hardware to communicate with another person, a user's best reference is telephone. In order for VoIP to replace traditional circuit-switching telephone, any VoIP software or hardware must be as easy and as reliable to operate as a telephone. Skype still have a long way to go in terms of stability, as dropped calls and instable sound quality still occurs during daily usage, but the appliance of P2P technology has given Skype a clear edge in the ease-of-use department over its predecessors.

On the other hand, the competitors of Skype such as PalTalk or Vonage have different propositions for their customers. PalTalk positions it self as a virtual community platform [22], allowing members to join the voice community created by them<sup>4</sup>. Paltalk has many active chatrooms filled with users, who stay on the platform for a long time, talking or even singing to each other. Vonage's value proposition, as well as most VoIP providers', is the generic "more affordable" statement<sup>5</sup>. Both competitors has a fair share of market but never became a dominant force [26].

#### *D. User Participated Value Creation Activities*

Driving by a well constructed value proposition, Skype enjoyed great reputation among early adopters. There's even an unofficial website tracing the development of Skype<sup>6</sup>. Late adopters usually consult early adopters when adopting a new product / service [3][21]. Active early adopters could become promoters for their preferred technology, pushing late adopters for adoption. In short, early adopter can be initiators of information contagion and information cascading effect, speeding up the diffusion progress.

Just like in the case of telephone or FAX machine, network externality [14] is bound to exist in the diffusion progress of any VoIP machine. The utility of Skype perceived by existing raise a little bit with every new user joined. As the network size grows the utility of the device soars, but it doesn't stop here for Skype.

Skype's P2P technology treats every user not only as a user but also a "node" for transferring voice and non-voice data. When two Skype users are communicating with each other, data travels on those nodes, dynamically avoiding any

possible congestion and prevent disconnection from happening. In other words, the infrastructure of the whole Skype network is provided by all users, Skype isn't responsible for improving network capacity. Network quality of Skype improves with every new user joined. This effect is similar to network externality but not exactly the same. It's an innovation that only made possible due to the progress in distributed computing and storage.

Strong positive feedback effects described above makes a perfect value protection mechanism as well --- Skype is preemptive as to decide when to appropriate the values it created. It may need some time to figure out how to design a revenue model, but as long as the user number is growing well and the marginal cost is low, its market value will remain high.

#### *E. Summary*

Present first-mover advantages/disadvantages literatures suggest that being the first mover in an industry is really a double-edged sword for a firm. Take resource acquisition for example, an early entrant is more preemptive to acquire scarce resource, but it is also possible that it acquires the 'wrong' resource. But in the "customer perceptual space" there's usually advantage for first movers -- the customer's preference for early entrants, the switching cost developed with the accumulation of using experience and the network externalities all contributes positively to the first mover advantage. In the context of network economy, early entrants of VoIP industry should possess significant first-mover advantage, but a properly constructed value proposition was needed for the early adopters to "jump on the ship", and this is where Skype came in and grabbed the opportunity to acquire this superior "resource" [18].

As described in [27], users of Skype are not only creating value for other users, they (and their computer) can also be seen as assets of Skype. User value and firm assets both increases exponentially as positive feedback effects take place. Multiple value co-production mechanisms are embedded in its technology and business model, strengthening its leadership in the market. As a result, Skype is leading its closest competitor by more than 10 folds. Although they're still in search of a viable revenue model, they have the potential to be one of the major players in the global telecomm industry.

#### V. CONCLUSION

Since the dot com crash in 2000, the capital market for Internet startups seems to get back in shape. Several major acquisitions completed during the course of 2006, including firms that has yet to earn real money, such as Skype or YouTube. It was said after the dot com crash that any new Internet startups should have viable revenue model before it gets serious consideration from potential investors, but it seems that there's still plenty players in the capital market who are not hesitate to put big money into rapid-growing new

<sup>4</sup> As in [22], Paltalk claims itself to be "the largest online video chat community with 4 million active members".

<sup>5</sup> On the Vonage website the primary emphasis is saving with Vonage.

<sup>6</sup> <http://www.skypejournal.com/>



ventures that has yet to turn a profit, as long as it could demonstrate its ability to capture value in the future.

But some value protection practices such as intellectual property sometimes just doesn't work in the battle field of e-Business. According to [3], for Internet startups to appropriate future value capture opportunities, the best bet is to start fast and grow fast in a market that has large customer base. An Internet Startup can leave its competitor behind once it gets dominant market position, and concentrate on the value creation activities.

In the Skype case we demonstrate that with properly constructed and delivered value proposition, a new venture could "jump start" and become a serious player in the industry in a short period of time; with value co-production mechanism embedded into technology and business model, a new product can enjoy strong positive feedback, resulting in exponential user number growth. This also builds up a really high barrier for any later entrant, therefore achieves competitive advantage and high market value.

Following the rationale proposed by [3] and [18], first mover advantage in "customer perception space" should exist in any market with network externality and information contagion effects – the first movers has more time to reach the critical mass and become a dominant market force. However, in the present paper we argue that in order for the first mover advantage in the "customer perceptual space" to realize, a resonating value proposition is needed. And for a new venture to succeed overtime it should have value co-production mechanism built-in to technology and business model, or it won't be able to grow as fast as needed to appropriate future value capture opportunities.

## VI. DISCUSSION: HOW TO CONSTRUCT A RESONATING VALUE PROPOSITION?

As a side note, there's still no consensus as how to construct a resonating value proposition besides "customer survey or analysis is needed". However, from the case study in this paper we can see that to provide a solution for negative user experience seems to be a quite effective strategy. The demand is already there and is available for anyone to fulfill that demand. The demand is already there, and it's up to the firms to fulfill that demand.

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