



Solving chicken and egg dilemma in online platform startup: Value proposition in focus

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Abstract

Objectives: Over the last decade, platforms have disrupted the way that brick and mortar businesses usually operate. Their success is phenomenal with striking example of Ebay, Google and LinkedIn but their failure rate is admittedly high as well. The ultimate benefits of such business depend largely on the interaction between multiple sides of the market through a common platform. How to drive initial liquidity to the marketplace and get both sides on board (chicken-and-egg dilemma) is the very first challenge to any platform startups. Addressing the gap in extant literature which neglect the importance of what values perceived by sellers and buyers during the user retention process, this research aims to design a benchmarking system with value proposition in focus that will assist new platform owners in realizing the parallel measurements of success and picking up the best practices to solve the chicken-and-egg dilemma. Thus the study focused on the following research questions: (1) What are different types of e-marketplace based on its value proposition to buyers and sellers? (2) What are effective strategies and business tactics to overcome chicken and egg problem in each type of e-marketplace?

Methodology: The research utilized qualitative multiple case study approach to help yield rich data on such complex research structure. Three case companies were selected based on criteria obtained from literature review, taking into consideration its availability of data on studied topic. The data was mainly collected from companies' resources, reputable media discussions and academic analysis. Narrative approach was deployed to analyze available information.

Findings: The research findings categorized platform businesses into three categories: Growth Platform, Value Added Platform and Innovation Platform. Each of these platforms corresponds to a set of business tactics and strategies that help it to overcome the chicken-and-egg dilemma. Regardless of categories, the three cases used a combination of strategies and gave high priority to testing out its services with marquee users which is in agreement with the lean methodology that has become popular among startups as well as incumbents towards innovation. In addition, the result showed that platform transition is possible between the three categories in different phrases or expectedly with different values brought to users.

Keywords chicken-and-egg dilemma, value proposition, platform typology, platform strategy,

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1. Introduction

1.1 Research motivation

The booming of information technology has brought about the surge of online platforms which connects two or more distinct but interdependent groups of user, also known as intermediary service providers (McKinsey, 2016). According to Fortune 2016's list of worldwide most valuable firms, 5 out of top 10 positions belongs to a platform company (see table 1):

Table 1: Fortune 500's 10 most valuable companies

MARKET VALUE RANK ▼	COMPANY	INDUSTRY	MARKET VALUE (\$BIL)
1	Apple	Computers, Office Equipment	534
2	Alphabet	Internet Services and Retailing	507
3	Microsoft	Computer Software	413
4	Exxon Mobil	Petroleum Refining	326
5	Facebook	Internet Services and Retailing	321
6	Berkshire Hathaway	Insurance: Property and Casualty (Stock)	312
7	Johnson & Johnson	Pharmaceuticals	288
8	General Electric	Diversified Financials	271
9	Amazon.com	Internet Services and Retailing	250
10	Wells Fargo	Commercial Banks	242

Source: S&P Capital

The success of online platform has been exceptionally high in comparison to traditional business. Over the period, platform companies have emerged as an important “economic force” and “engines of motivation” (Evan & Gawer, 2016). A survey of 176 platform companies with a valuation of at least \$ 1 billion each has shown that, with a total market value of \$4.3 trillion and direct employment base of over \$ 1.3 million, platform business has become a driving force for the global economy (Evan & Gawer, 2016). They disrupt the way that brick and mortar businesses usually operate and drive up productivity by matching right actors of the business (e-commerce or online marketplace) or facilitation of asset management (sharing economy). Platform models are being practiced in many kinds of industries from cinema to healthcare, from trading to investment services. Companies such as Google, Apple, Ebay, Amazon are robust evidence for this unparalleled triumph. Ever since, the phrase has become a rallying attempt for every new startup hoping to build the next big thing. Yet among those, only a few make it to the turning point of growth.

The ultimate benefits of such business depend largely on the interaction between multiple sides of the market through a common platform. How to drive initial liquidity to the marketplace and get both sides (buyers and sellers) on board have been an aching question to all platform practitioners (Bruun et al., 2002; Muztaza et al., 2004 and Salminen, 2014) and the very first challenge to any platform startups. Indirect network externalities increase the dilemma of chicken-and-egg problem which is the situation that buyers and sellers’ willingness to join an intermediary is dependent on each other (Caillaud & Jullien, 2003). A classic example would be games and game consoles. A player only buys a game console if there are games that he can play with but game designers only make games for certain game consoles if there is a big enough user base. Solving the chicken and egg problem is strategically important deciding whether this business is going to make it or break it.

Being involved in a platform startup myself leads me to believe that the problem of chicken and egg dilemma causes extreme hardship to many startup founders. Reading a dozen of stories, guidelines and articles to look for solutions for my particular platform has left me with a confusion as many techniques and strategies have been introduced but the criteria for benchmarking are barely touched concerning the distinctive values brought to each group of user (value propositioning). Thus, the purpose of this research is threefold. First, I classify e-

marketplace based on its value proposition to buyers and sellers. Second, I explore different business tactics and strategies to solve chicken and egg problem and build a framework of matching those solutions with proposed platform typologies. Finally, observations are matched with the framework to further refine the relationship.

1.2 Key concepts

Online platform: an online intermediary that allow at least two interdependent sets of agent interact with each other (Evan, 2009)

Benchmarking: the process of evaluating company's performance or process against best practices from other company vertically or horizontally.

Strategy: Strategy can be defined as various activities that strengthen the competitive position of the firm undertaking such actions and encompass planning, monitoring and executing pre-planned operations. (Grandy & Mills, 2004)

Tactic: “*residual choices*” of company as a result of its business model, reflecting how much value is created and captured by that company (Masanell & Ricart, 2010)

Value proposition: A value proposition is a company's value commitment which will be delivered to its customers (Buttle, 2009)

1.3 Research gap

Less than two decades ago, platform started received increasing interest from academicians, especially in the field of economics and information system (Casey & Töyli, 2012). The number of platform startups is on increase recently in the online economy; however, every platform must make way through its early stage to become a viable and profitable business. That is when most startups fail (Haltiwanger et al., 2009; Watson & Everett, 1999). Among those, getting the first batch of users needed to drive liquidity and trigger the feedback loop is one of the very first and most important challenges for this kind of startup's managers. Only getting the critical mass

from initial liquidity will the e-marketplace really take off. Therefore, the chicken and egg dilemma must be solved in order to get both buyers and sellers on board and create transactional relationship between two sides of the market.

Extant literature has been focusing on revealing why startups fail. Reasons are attributed to inefficient management, strategy error, mistargeted customers segment, lack of resources and so on (eg. Zacharakis et al., 1999; Honjo, 2000; Azoulay & Shane, 2001). In addition, the online environment poses several challenges as well to the survivors of the new ventures. Studies by Li & Li (2005) has pointed out that driving liquidity and creating value lie in the core of e-marketplace in order to succeed. Online platform startups undoubtedly face similar mentioned obstacles, yet the chicken-and-egg dilemma is recognized as the very first constitutional issue in platform business (Evans, 2002; Rochet & Tirole, 2003), considering its distinctive model of serving at least two interdependent groups of customers simultaneously. Several strategies or business tactics have been introduced across academic research and narrative stories of successes or failures to solve this strategic problem (eg. Bruun et al., 2002; Belleflamme & Tuolemonde, 2004; Eisenmann et al., 2006). However, Brunn et al. (2002) and White (2007) pointed out that most of the researches have been conducted for specific industry or type of marketplace with a narrow approach (based on functionalities or numbers of stakeholders), leaving those who practice in this domain confusion about whether these tactics or strategies are suitable for their particular proposition.

Online marketplaces should not be treated as one single business model as different types of marketplaces may encounter different strategy orientation (Stockdale & Standing, 2002). In order to make strategic benchmarking, new platform business owners should be able to realize the parallel measurements of success, which in this particular case is how to get both groups of users on board at the early stage. Thus classification of the platform will assist new platform ventures to pick the best practices in their own domain. So far, researchers and business professionals have been classifying platforms mostly based on its functionalities or sales scenario (eg. Evan, 2003; Krammer et al., 2001). However, those criteria of classification do not captivate complete attention to this specific problem of chicken and egg dilemma. Chicken and egg problem concerns two questions: *which one is the chicken or egg?* and *which comes first?* The first question addresses the role of users while the second one sheds light on whether which

group of users should be attracted first to the platform business. Solving chicken and egg problem is about attracting first buyers and sellers to the marketplace. The reason for buyers or sellers to join a platform depends on the values of the platform that they perceive (Bruun et al., 2002, Rask & Kragh, 2004). Thus value proposition to two sides of the platform plays a decisive role in benchmarking platforms regarding the problem being discussed in particular. This research aims at developing a systematic model that can help platform managers to understand the online platform's value proposition to users, benchmark to the right category based on the value proposition towards strategic groups of user and crafting a strategy for overcoming chicken and egg problem.

1.4 Research question

RQ1: What are different types of e-marketplace based on its value proposition to buyers and sellers?

RQ2: What are effective strategies and business tactics to overcome chicken and egg problem in each type of e-marketplace?

1.5 Methodology

In this study, the case study approach is deployed for matching evidence with the outlined indicators of the categories formed in the literature review. A group of successful cases is chosen to benchmark with the proposed classification and whether the framework reflects the real practices. The selection of case companies was based on the fact that these companies are widely recognized as platform market leaders and in their fields of operation and accumulate considerable experience in coping with the concerned topic.

Research data for this thesis was acquired from various secondary sources like companies websites, interview articles, white papers and other available official materials published by studied companies and reputed media. The research process was divided into following stages:

1. Study current literature to develop a theoretical framework

2. Case study selection and data collection
3. Single and cross-case analysis
5. Evaluation and further refinement of the defined theoretical framework

2. Literature review

2.1 Platform as a new business model

2.1.1 Platform definition revisit

Cyber entrepreneurship and cyber venture

Platform is a type of cyber venture and new platforms nowadays are mostly created by startups and entrepreneurs, thus it is reasonable to understand the broad phenomenon before getting deeper into the researched issue.

Baharuddin et al. (2010) defined cyber venture “*as any start-up a business or any attempt to exploit the information technology for business purposes and intended to gain profit in return*”. A cyber entrepreneur is an individual who creates a firm that is fundamentally attached online environment and the efficiency of network exploitation forms the key metric of success.

Although entrepreneurship literature tends to focus more on what we called “traditional entrepreneurs”, some researchers have been engaged in examining entrepreneurship in technology context (Carrier et al., 2004; Fillis et al., 2004; Martin & Wright, 2005 and so on). Cyber entrepreneurship is still evolving over time, and there is more remained to be explored regarding in unique contextual environment (Martin & Wright, 2005).

Platform versus Pipe

The term “Pipe” has become popular since the advent of industry in which businesses create products, introduce products to market and sell to customers. The value is created and consumed

through a linear stream like water flowing through a pipe. Almost all traditional businesses run on a pipe models. A phone comes to our consumption through a pipe. News on television is brought to our knowledge through a pipe. The software is created and sold to users also through the pipe.

With the blossom of internet area, “Platform” emerges as a distinctive model in which the value creation and consumption also move in the opposite direction. It means that instead of just pushing products to the market for selling, platforms enable interaction and facilitate the possibility of value creation from users. Considering the distinctive characteristics between this two model, if you are going to apply the method of building a pipe to build a platform, highly that the failure is waiting for you (Boncheck & Choudary, 2013). The main differences between “Pipe” and “Platform” will be summarized in Table 2 below:

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Table 2: Pipe versus Platform

	PIPE	PLATFORM
User acquisition	Attract user & convert to customer	Attract producers & consumers
Product design	Focus on Customer	Focus on Producers & Consumers
Purpose of product	The customer interacts with the product. Product is valuable itself	Producers and Consumers interact with each other. The community is valuable
Value	Charge customers for product usage	Figure out who create value & who gets charged

Source: Boncheck & Choudary (2013)

Definition of the platform has been examined by several types of research. Rysman (2009) - the most cited source, defined platforms as it includes:

(1) two sets of agent interact with each other through an intermediary;

and

(2) the decision of one set of agent affects the outcome of the other set of agent typically through an externality

The definition already reveals one type of dilemmas that platform owners need to tackle during the creation process as platform serves as an intermediary between two sides of the market and each the existence and satisfaction of one group of the user are largely determined by the other one's action.

Many researchers have attempted to provide classification for e-marketplace. Le (2005) and Krammer et al (2001) chose the number of market owners and their role as criteria for differentiating one platform from another. Platforms are also categorized based on its functionalities. Evans (2003) identifies three types of the platform: 1) market makers, 2) audience makers, and 3) demand coordinators. Demand coordinators enable members to interact by providing services in the background, such as operating systems and payment cards (Evans, 2003). Salminen (2014), on the other hand, focused on online platform classification of 1) exchange platform 2) content platform 3) social platform and 4) infrastructure platform. Some authors such as Griege (2004) and Rudberg et al., (2002) explored e-marketplace in term of procurement process in design co-ordination and supply chain management.. However, merely none of them put a closer look what matters to customers the most: values. Platforms yield substantial values to customers when they bring together enough buyers and sellers, yet in the initial phase of getting first customers (either buyers or sellers or both) to participate, it is important to convey clear value propositions to them. Understanding the different types of platform based on the value proposition to buyers and sellers will help platform owners choose best practices to deal with its unique challenges.

2.1.2 Platform's value proposition

The booming of Internet and technology has brought in the surge of internet-based businesses – all are thriving for success. However, they will not be able to stand out in a crowded competitive world if they do not bring any values to customers. Having unique value proposition becomes the popular secret of triumph that all organizations try to master (Mahadevan, 2000). Value proposition becomes what is first perceived by potential customers who are trying to understand what this company is doing and why they should become the company's customer. To put it in another word, value proposition is what help business owners to persuade their potential customers to use or purchase the products/ services.

Research has provided a wide range of user's motives for platform participation. Platform generally provides users with information and capabilities under-governed rules to drive decision across the purchasing process. Users choose to adopt a platform as it brings certain values to facilitate their buying or selling process either by decreasing the cost and increasing the reach. However, what users perceive about the values of a platform is different from the value proposition to each group of participants that platform owners want to convey to their first adopters. Solving chicken and egg problem is about getting the first users, yet the true values of a platform are hardly recognized without getting enough number of buyers and sellers on board. Buyers and sellers here are not necessarily people who demand and people who supply good or services but rather concern the relationship between one side who proactively create values and another side who respond to such proaction and make use of the values created.

Table 3 gives an overview of comparative advantages or expected values perceived by buyers or sellers for platform participation by major studies that focus on this strategic problem. The indicators will be further sorted out in Table 4 with other studies listed.

Table 3: Value proposition indicators

Indicators		Study
Seller's Perspective	Buyer's Perspective	
<ul style="list-style-type: none"> - Reach to trading partners - Process efficiency - Inter-organization IT integration - Alignment with existing/ desired processes and standards - Efficiency in technical development and management 	<ul style="list-style-type: none"> - Power of buyers to demand seller's participation - Reduced price of good bought 	White et al., 2007
<ul style="list-style-type: none"> - Lower marketing and sales cost - Lower cycle time and inventory work - Increased competitive benchmarking - Increased service levels and product configuration 	<ul style="list-style-type: none"> - Aggregate buying power with other buyers - Reduced transaction cost/time - Increased transparency - Reach to more suppliers 	Andrew et al., 2000
<ul style="list-style-type: none"> - Improving competitive position - Leverage of ready-made marketing power and technology sophistication - Newmarket testing - Wider buyers reach 	<ul style="list-style-type: none"> - Time-saving for alternative evaluation - Bargaining power - Reduce search cost - Wider suppliers reach 	Rask and Kragh, 2004
<ul style="list-style-type: none"> - Expanded reach - Process automation - Lower customer acquisition cost - Shorter product development cycle 	<ul style="list-style-type: none"> - Access to broader range of customers - Increased transparency - Lower cost due to one-stop 	Bruun et al., 2002

<ul style="list-style-type: none"> - More efficient inventory control and logistics management - Better customer feedback - Access to new information or offer new information 	<ul style="list-style-type: none"> shopping and process automation 	
<ul style="list-style-type: none"> - Lower transaction cost - Improves marketing efficiency - Improved customer relationship management - Increased IT effectiveness - Backlog facilitation - New revenue sources 	<ul style="list-style-type: none"> - Lower transaction cost - Increased IT effectiveness - Better price 	Gulcin, 2005
<ul style="list-style-type: none"> - Exploring new markets - Grow revenue at faster pace 	<ul style="list-style-type: none"> - Cycle time reduction and faster inventory turnover - Efficient processes and workflow 	Premkumar 2003
<ul style="list-style-type: none"> - Premium products/ services - Premium experience - Premium price 		Lindgård et al 2009

White et al. (2007), Bruun et al. (2002) and Andrew et al. (2000) are among the well-known studies emphasizing on platform adoptions on both buyers and seller's perspectives, yet taking different approaches. White et al (2007) focused on consortium platform (e-marketplace for multiple suppliers and buyers), pointing out the early expectation of first users joining the electronic market. The motivations come out differently to different interviewees, yet cost-efficient access to a wider reach of partners and transparency are dominating in both buyer's and seller's points of view. Price saving can be tremendous to certain platform users but can also be

regarded as a minor driving force if the transaction value is huge or the process efficiency is of prime importance. Buyers can use the platform to compare price in order to gain bargaining power over suppliers. However, in the industry such as healthcare, the price reduction may not help to get the lead as the quality determines. Another factor highlighted by White et al. (2007) is the infrastructure integration. By joining an already-made platform tailored to specific business or industry, participants save time and money in information development, administration and data collection. Even if the platform does not provide complete compatibility with the user's current IT system, the integration effort only takes once at the beginning.

Bruun et al. (2002) broke the design of platform in three layers to associate related strategic problem (building liquidity, capturing values) with winning strategies. Andrew et al. (2000) took a slightly more general approach in studying e-marketplace as an opportunity for shaping competitive advantage. However, in addition to a study by White et al. (2007), the two types of research added motivational factors for joining platform in terms of logistics management and product development through collaboration between buyers and sellers. Wider reach to trading partners also means faster inventory circulation. Buyers do not have to rely on a single supplier while suppliers can push product faster to market by trading with several partners at the same time. The standardization of marketplace enables information transparency, which helps to reduce the transaction time and cost. Quick feedback on customers as well as collaboration in product design brings substantial benefits to suppliers as well. Premkumar (2003) shared the similar ideas, yet adding the potential of exploring new market as one reason for adoption as well. However, such reason is more to be collected when the platform become phenomenal internationally or globally. Early adopters might not consider that as desirable to an earlier phase in comparison to other values. However, seeing the possibility of going global with successful platform might motivate suppliers to give it a try.

Improving competitive position in the business or industry are cited in Andrew et al. (2000) and Rask & Kragh (2004) as persuasion to platform users. As platform provides standardized process and information such as price, processing time and quality description, suppliers with a competitive advantage in any of those criteria will gain more traction in the marketplace, which they have to put more effort to stand out in traditional one. Thus, platform functions as an

effective marketing channel for suppliers that cost considerably less than conventional marketing methods (Gulcin, 2005).

There are other studies that support the factors mentioned above but on a smaller scale. The summarized table 3 only dedicates to aspects that influence buyers or sellers to join a platform in its initial development. Other factors concerning customer relationship management or industry trends are removed from the study. For examples, suppliers might follow a big buyer to a platform in order to keep the buyer close; or the platform becomes a must in the industry that any buyer and seller have to join so not to stay out of the track.

Table 4: Value Proposition categories

Categories	Indicators	Other Studies
Efficiency Maximization	<ul style="list-style-type: none"> - Wider reach to trading partner - Improved transparency - Product development - Process automation and management efficiency - Infrastructure integration - Competitive positioning - Newmarket testing 	Christiaanse and Kumar (2000); Hartmann (2002); Eng 2004; Sashi and O'Leary (2002); Brush & McIntosh (2009);
Cost/ Expense Minimization	<ul style="list-style-type: none"> - Price advantage - Reduced transaction cost - Reduced customer acquisition cost - Reduce infrastructure cost - Revenue growth 	Malone et al. (1987); Klein and Quelch (1997); Emilian (2000); Kaplan and Sawhney (2000); Smart and Harrison (2003)

Overall, value proposition towards either buyers or sellers can be classified into two clusters according to their purposes: experience/ quality maximization and cost/ expense minimization. The clusters cover all the motives for potential early adopters of the new platform. Some motives such as following trading partners or industry movement are not considered as those rationales happen after the initial liquidity is acquired, which is not subjected to the phase of this study. Experience/ Quality maximization category consists of perceived quality-oriented values which relate to either organizational efficiency or product/ service level. Cost/ Expense minimization corresponds to quantity oriented values that relate to revenue growth or optimization.

Efficiency Maximization

Early adopters choose to participate in one platform as they perceive certain benefits that being claimed by the platform owner. The most realized value is attributed to organizational efficiency in IT integration and marketing. Sellers participating in a platform that provides seamless information technology configuration are aware of the resulting assistance in having all the process automated and data processing in real time, especially in supply chain management (Bruun et al., 2002). To avoid the huge resource investment in the case of conventional new market entry, suppliers may make the entry by exporting through e-marketplaces to test the market. For buyers, the opportunity to save time through process automation motivates buyers to integrate e-marketplace with purchasing activities. Especially, the process of searching, contacting and negotiating with new suppliers are optimized by e-marketplace, making it an attractive alternative to traditional purchasing process (e.g., Grewal et al., 2001; Subba Rao et al., 2007; Steinfield et al., 1995).

Cost/ Expense minimization

The design of e-marketplace allows sellers to expose themselves the same criteria which make the market more transparent to buyers. Christiaanse and Kumar (2000) and Emiliani (2000) claimed that e-marketplace may actually help buyers to gain bargaining power over suppliers, making their purchasing decision more dynamic. The motivational factors also include the potential to expand reach to larger supplier base. As a result, buyers gain higher chance to achieve price reduction, diversified portfolio and quality maximization (Eng 2004; Kaplan and Sawhney, 2000; Sashi and O'Leary, 2002). The characteristic of rice transparency on e-markets

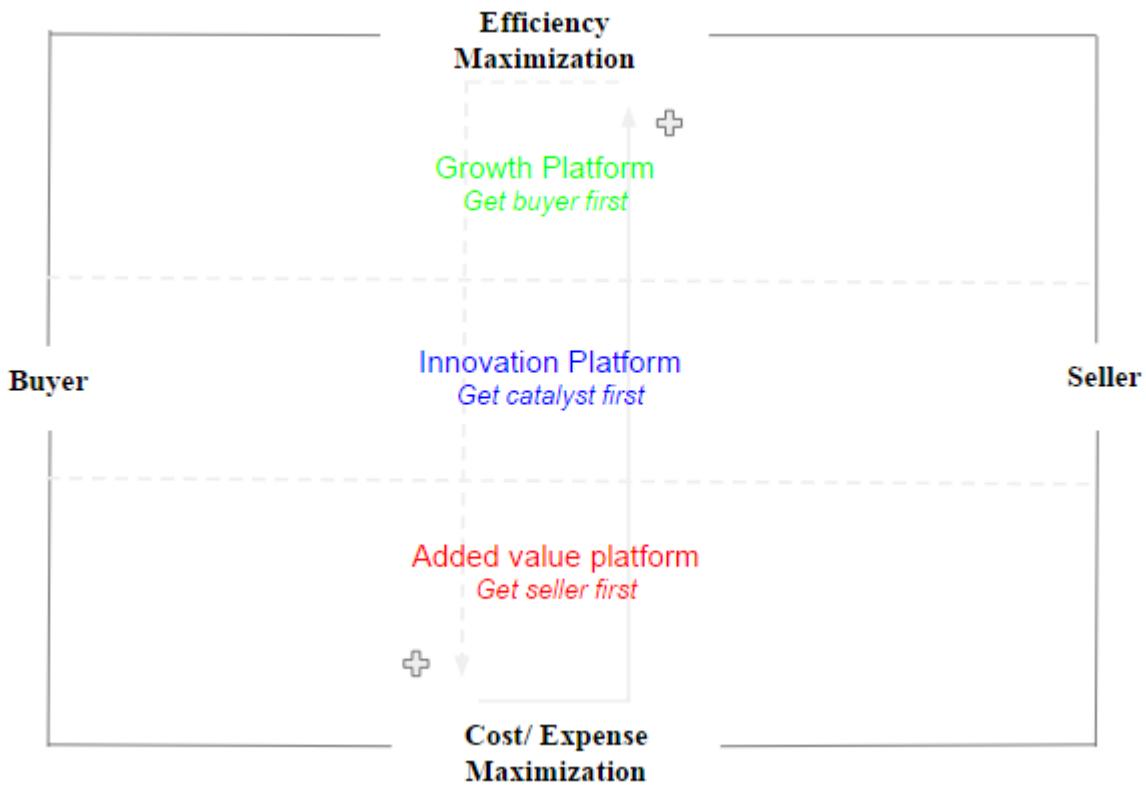
generally cause increased competition among suppliers in term of price and quality, thus lowering price and improving quality are associated as the benefits of e-marketplace to the overall industry (Klein and Quelch, 1997; Smart and Harrison, 2003). Therefore, it is the shadow of no doubt that buyers are motivated to join e-marketplace. In the case of sellers, it has been suggested that since e-marketplace deploys similar system across participants, suppliers might reduce expense associated with system integration with new partners. Malone et al. (1987) referred to it as the '*electronic integration effect*'. Sellers can also reducing cost and time of getting contact, negotiation and transaction with customers by using platform as intermediary (Kaplan and Sawhney, 2000; Grewal et al, 2001; Eng, 2004).

2.1.3. Platform's typologies with value proposition in focus

Grouping platforms into different tiers based on realized value proposition will make it easier to decide on the questions that has been asked in order to overcome chicken and egg dilemma: which one is the chicken or egg (which one creates value and which one is charged)?; which one come first (which one should be attracted first to the platform)? Obviously, it will be much easier to charge the party that gain more benefits from the platforms than on the party that does not benefit or receive little values. Moreover, the e-marketplace should make sure that it delivers value to both sides of the market, otherwise the unbalanced benefit distribution may hinder the less catered party to maintain its participation (Rask and Kragh 2004).

Thus the following figure illustrates three different setups of platforms in terms of its relative values offered to sellers and buyers at the same time.

Figure 1: Platform typologies based on value proposition to buyers and sellers respectively



Growth platform

In this type of platform, the Efficiency values lean towards buyers while the Cost/ Expense Maximization values are more perceived by sellers. Buyers participating in the platform to receive a better experience than what they are traditionally doing either. Sellers see the potential of cutting cost or expenses by integrating into a ready-made platform with supporting functionality to doing a transaction with buyers or presenting in the platform with strong user base to leverage marketing process. Example for this type of platform could be any platform that focuses on providing useful content or social connection to buyers, creating traffic in order to attract sellers in later phase for advertising or trading.

Added value platform

In this type of platform, the Efficiency values lean towards sellers while the Cost/ Expense Maximization values are more perceived by buyers. Sellers participating in the platform in order to gain benefits of technical as well social development provided by the platform, which in fact helps them to gain a material advantage as well. Buyers rely on this type of platform to seek for a most cost-efficient solution to their demand, mostly by comparing price and quality of products/services offered by sellers and negotiate using bargaining power. For example, consortium e-marketplace like Ebay is an example of this type of market. Buyers and sellers both enjoy values in quantity and quality of transaction. Buyers are able to save budget by comparing prices and reviews, making purchasing process much faster than before. Sellers, on the other hand, are able to reach buyers globally without spending vast investment in setting up an e-commerce website or payment service. For this type of platform, it is more important to clarify who create the values on the platform in the first place, who are going to purchase those values and who are going to be charged for getting the values?

Innovation platform

It is rather to determine whether buyers or sellers gain more advantage as the platform integrates different angles of the transaction in order to hugely benefit the whole ecosystem. The purpose of platform sponsors is to create an ecosystem that supports one type of industry in general or cross-industrial functioning. Thus the parties involved in this type of platforms play multi-roles rather than just sellers and buyers. This multi-sided platform created as an innovation serving towards innovation, thus it is important that trend leaders, influentials or thought leaders are on board helping communicate benefits to potential users. This type of platform is close to software platform as distinguished by Schmalensee & Evan (2007). Gawer & Cusumano (2002) mentioned platform ecosystem as a mean to increase the values brought to general users. The network of innovation plays the role of external resource attraction as complementary products will be built on top of the provided platform (Ceccagnoli et al. 2011). There has been many research on this topic exploring how platform ecosystem, especially in technology (software) domain has emerged among platform economy. For example, Gawer & Henderson (2007)

explore the factors influences entry decision of platform owner with reference to Intel while and Parker & Van Alstyne (2008) explored the relationship between openness of technology platform and developers' entry. Other notable studies are Lee & Mendelson (2008) and West (2003). Such innovative platform is not only beneficial to end users but also support complementary providers to bring more values to general users. Thus, the values generated by platform are multiplied by several times. Similar platform concept was subjected to the study by Economides & Katsamakas (2006) under the name of the proprietary platform and open-source platform.

Innovation Platform is born to lead the market that it attempts to enter with the motivation to influence on the direction of market innovation. In order to do so, Innovation Platform thrives to possess a strong network power with corresponding partners as well as increase the number of involved parties relating to the industry. Gawer & Cusumano (2002) added that bundling the core service with complementary products/ services from related partners will enable win-win situation for any parties involved, even the customers. Thus it is expected that the scale of Innovation Platform constantly expand both in values and number of entities.

The values perceived by either sellers or buyers do not necessarily hinder another side's to gain the same values. The classification only implies that in certain platform or marketplace, some specific values are more attractive or clearly delivered to sellers rather than buyers and vice versa. Both sellers and buyers can enjoy the benefit of cost reduction in the transaction, thus the other potential benefits added to make the platform more tempting to a certain group of the user at the beginning of platform evolvement.

2.2 Chicken and egg dilemma

2.2.1 Dilemma breakdown

Network externality strongly influences the entry decision of customers in a platform. It means that users on one side of the platform will be likely to join the platform if the platform proves to acquire enough users of the opposite side. Platform with little to none interaction between two side will face difficulty in customer retention. Ambrus & Argenziano (2004) added that even

with considerable amount of users on both side but there is no match between supply and demand, there is no incentive for users to retain or interact.

Rochet & Tirole (2003) discovered the platform's most important dilemma which is chicken & egg problem. This problem can be called either a dilemma or a paradox in which trying to determine which came first is the sole effort. To attract buyers, the platform should have a good amount of sellers who are willing to register if many buyers show up. That leads to a strategic decision whether to tap into the buyers or the sellers first. Furthermore, the chicken and egg problem also shows up to the newly established content platform when this platform tries to get the very first users (cold start) to create content. To attract new content creators, the platform should show that other creators are producing content on the platform and users are consuming the content. Thus in the platform, the purpose is to secure at least one side of the platform to attract the other before the platform can sustain itself. When building the concept of the platform, the entrepreneur should already think about who use the product, who pay (monetization), who may be willing to join first and who need to be subsidized to join.

The chicken and egg dilemma of getting users, acquiring content and reaching liquidity has been under discussion in many kinds of literature on platform, e-marketplace or two-sided marketplace (Caillaud & Jullien, 2001, 2003; Eisenmann, 2008; Kim & Tse, 2011). Although the dilemma is not novel, most of the research focus on pricing strategy as a deal-breaker of this type of business model (Piezunka, 2011) and neglect the true reasons why potential users would join the platform in the first place and if the motives are different to different group of users. Some notable research approaching to explain the chicken and egg problem in closer context includes Bruun et al. (2002); Rask & Kragh (2004) and Salminen (2014). Bruun et al. (2002)'s study came the closest to my current research, proposing the Temple framework to understand e-marketplace mechanism as collective values towards buyers and sellers in order for managers to pick up the "winning strategy". Rask & Kragh (2004) identify four distinctive categories of motives for e-marketplace participants based on empirical research of 47 cases from 2001 to 2004, giving implication for platform managers to stress on benefits to each group of agents in order to attract them to join. Salminen (2014) divided the chicken and egg dilemma into cold start dilemma and lonely user dilemma which respond to the same-side and cross-side effect in

this platform business. Salminen (2014) also discussed a direct and indirect solution to that problem which helps to form a strong academic background for this research as well.

Solving chicken and egg problem is fundamental to platform business as it forms the initial interaction between two sets of the agent. The participant of one group of users will draw the attention of other users from the same group and attract the opposite side. The snowballing effect is applied in this situation where one member “invites” others to participate organically and exponentially. Eventually, buyers and sellers will enjoy the network effect created by themselves joining the same ground to do trading. Platform should be able to continuously acquire new users on both sides (or at least enough users on one side as in content-focused platform such as magazines or social media platform). Otherwise, first users will quickly turn away if there is no or not enough interaction (lonely users). Therefore, it is important to find potentially active users and invite them to join and produce content, even with subsidization. However, in different types of platform, those potentially active users can be buyers, sellers or catalysts.

In the next part, we are going to explore how the chicken and egg dilemma is shown in different types of the platform that has been described earlier as in each type of platform, the answer to the key questions of chicken and egg dilemma can be different.

Growth platform

In this type of platform, buyers are the one who creates values as they have the motivation to join the platform in order to gain better experience. Sellers only participate when they see the potential of cutting the cost down either in IT integration or marketing. Thus platform owners should attract buyers first to get enough large user base to attract sellers in a later phase. The content platform can be an excellent example as it provides meaningful content to a certain group of users, making them use the platform on a frequent basis. After gathering a substantial amount of active users, the platform will sell their space or content to potential related sellers, turning users into buyers by doing so. Sellers can interact with buyers by placing an advertisement or create favorable content to lead to transactions.

Added value platform

This platform provides sellers with numerous possibilities to do business more efficiently, which as a result helps them to cut down costs. Buyers, on the other hand, seek for an economical solution through the platform by comparing sellers to choose the best option for their demand. The comparing criteria can be price, quality, delivery terms, etc. Obviously, buyers will be reluctant to use the service if there are no sellers on board. Thus, the platform creators should invite a number of sellers first to create values before reaching out to buyers. Depends on the types of service, either buyers or sellers will be charged to receive benefits from the platform, thus the solution much focus on how to subsidize the charged party at the beginning to get them on board.

Innovation platform

As this type of platform serve more like a communities or ecosystem where buyers and sellers interact with each other to work towards a common goal (Salminen, 2014), getting the catalysts in the first place is crucial, regardless of whether these catalysts belong to sellers' side or buyers' side. Users joining platform believe that they are leading a change or being a part of an innovation. Getting them on board would need an innovative approach as well.

Table 5 will summarize the description of three classified platforms based on the value proposition to buyers and sellers.

Table 5: Platform classification summary

	Growth Platform	Added value Platform	Innovation Platform
Description	<ul style="list-style-type: none"> - Buyers: Efficiency > Cost minimization - Sellers: Efficiency < Cost minimization 	<ul style="list-style-type: none"> - Buyers: Efficiency < Cost minimization - Sellers: Efficiency > Cost minimization 	Integrated Efficiency and Cost minimization for both buyers and sellers
Strategy approach	Get buyers first	Get sellers first	Get catalysts first

In the next sections, the solution to solve chicken and egg problems in each platform typology will be discussed. The solutions are integrated from existing research and available articles by platform experts. They will be restricted to the first phase of platform business which is to get two sides of users on board. Any attempts to maintain the liquidity are not identified here. A summary is provided at the end.

2.2.2 Dilemma strategies

Solving chicken and egg dilemma is about the acquisition of agents on both sides to use the platform in the initial phase. Existing literature have given a variety of answers to the puzzle. In marketing study, releasing a free version of products or service (sample, freemium) or securing participant of opinion leaders influencers becomes very popular among new offering introduction (Niculescu & Wu 2010). Strategic and organizational learning focus more on building business models that help monetize. Driving liquidity and getting critical mass are widely discussed as the core of platform business, yet in order to reach enough liquidity, platforms need to surpass the “cold start” (Salminen 2014) time when the first group of users joins and creating network effect values for the institution.

In this part, I will concentrate only on the solution that helps driving at least traffic from one side of the platform (as the other side often automatically joins due to the availability of the trading partners). Strategic choices that convert first users to loyal users or getting critical mass are not to be described considering the scope of this research. The term “solution” can be broadly understood as strategy or business tactics that help platform make market entry with securing early adopters.

Table 5 gives a summary of the literature that discussed concerned solution under different names. The details of each solution group will be introduced further with an approach to evaluate whether this group of the solution will benefit what type of above-classified platforms. One solution can be applied to several platforms, yet in different employment.

Table 6: Solution literature

<i>Subsidization (Penetration Pricing)</i>	Evan (2002), Caillaud and Jullien (2003), Rochet & Tirole (2003); Parker & Van Alstyne (2005); Eisenmann et al (2006); Bakos & Katsamakas (2008); Hemphill (2008); Wright (2004); Lee & Wu (2009)
<i>Remora (Envelopment)</i>	Eisenmann (2003); Bruun et al. (2002); Salminen (2014), Kollock (1999); Ba & Pavlou (2002); Gefen et al (2003); Koufaris & Hampton-Sosa (2004)
<i>Strategic Alliance</i>	Armstrong & Wright (2005), Bruun et al. (2002), Eisenmann (2003)
<i>Aggressive marketing</i>	Bruun et al. (2002); Salminen (2014); Cennamo and Santalo (2013)
<i>Marquee user Influencer</i>	Eisenmann et al. (2006); de Reuver et al. (2015); Parker & Van Alstyne (2012); Rochet & Tirole (2003); Jarmeus et al. (2012)

<i>Freemium</i>	Salminen (2014); Teece (2010); Niculescu & Wu (2010); Günzel-Jensen & Holm (2015)
<i>Bundling</i>	Choi (2007); Amelio & Jullien (2006), Richet & Tirole (2003);
<i>Tying</i>	Choi and Stefanidis (2001); Carrillo and Tan (2006); Carlton & Waldman (2002); Eisenmann (2006)

Subsidization/ Penetration pricing

Subsidization has been commonly used in traditional marketing for customer acquisition and customer retention. It is a monetary grant to individuals or companies to lower their barrier of performing transactions. Study on the pricing of the two-sided market by Evan (2002) and Caillaud and Jullien (2003) pointed out that the fees imposed on each side of the market can affect the group of users' participant. Thus, depending on the type of platform, certain user set should be subsidized, which means that they will be provided service with a lower price than what it actually charges. For example, many e-commerce sites provide low priced or free shipping as a form of subsidization to encourage purchase.

However, one concern regarding this financial solution is that provision of subsidization at the beginning of the company life create large negative sum in the account statement, which will be expected to be offset later by the long-term effect of market liquidity and network effect. Chen and Hitt (2002) claimed that customer acquisition cost is probably the largest cost to a new internet brokerage firm and accounts for substantial losses in the initial phase of such companies. Thus, getting users to join is obviously not enough for two-sided markets to survive but rather creating early traffic to gradually reach liquidation. A mobile operator might give handset as a part of a subscription to acquire new customers. The case is especially strong in Japan. The reason why operators are able to do this is due to the volume discount with handset providers and the possibility for content managing and configuration. In some cases, subsidies can be provided to both side but for limited time only, otherwise, it will be difficult to compensate the cost later. The subsidy is targeted at price-sensitive users who have higher demand elasticity than the others or the group who enjoy the most benefits from cross-network effect. Another group of users that need not seek any permission or barrier on joining Internet intermediaries is a content provider as

their content adds values to platform business. Lee and Wu (2009) also discussed whether zero-pricing and net neutrality can help to subsidize content providers and improve Internet service. Another study such as Wright (2004) and Hemphill (2008) on zero-price mechanism as opposed to content providers by online platform businesses confirms this remedy as a major resolution in the content centric platform. High sensitivity to quality also indicates the group of users that platforms should subsidize (Eisenmann et al 2006). Thus instead of charging quality buyers, quality suppliers are charged a premium (by imposing strict regulation, licensing fee or compliance) to join the top players. Yet the case is rather suitable when the quality buyer side is secured.

Platform startups rely on subsidy to secure one side of users to make sure that the platform is able to sell to the rest of using cases. Cailaud & Jullien (2003) called it “divide and conquer strategy”. Platform will pay money to encourage one side of the market to join while earning the compensation from the other side, expectantly the compensation will be larger than the subsidy. The ultimate purpose is to create network effect values to both sides. It means that availability of subsidized users will hopefully attract the charged side to join in order to reach potential trading partners. Furthermore, the participant of major players will also result in the crowd effect of getting their competitors to adopt the platform as well to balance advantage. They are respectively called “cross side” and “same side” effect. However, the question of which side of users needs to be subsidized matters greatly. Platform startups may subsidy content (refer to as buyers in Growth Platform) to create content by paying for some of them to join or offering substantial gain to encourage subscription. Platform may also subsidy potentially charged users for a certain amount of time or for a certain level of service. For example, an E-commerce platform makes it free for the merchant to list a product for several months and charge them later after network effect has been proved. Thus subsidization is beneficial to both Growth Platform and Added Value Platform by supporting buyers in Growth Platform to provide content or encourage sellers in Added Value Platform to take initiation. In the case of Innovative Platform, catalysts are usually inspired by concepts and ideology rather than material compensation. Thus subsidization will not greatly affect them to join and advocate for the platform.

Remora

The second group of the solution is *remora* (Salminen 2014) or *envelopment* (Eisenmann et al. 2011). Eisenmann et al. (2011) described that:

"Envelopment entails entry by one platform provider into another's market by bundling its own platform's functionality with that of the target's so as to leverage shared user relationships and common components. Dominant firms that otherwise are sheltered from entry by standalone rivals due to strong network effects and high switching costs can be vulnerable to an adjacent platform provider's envelopment attack."

Famous examples include Paypal => Ebay, Android => Google, ... The younger platform attaches itself to the bigger one in order to leverage the existing user base and reputation. As long as the platforms share similarity in core components, the system integration will generate positive benefits.

The start of this relationship can be established only after the complementary platform develops its full concept and prototype. It is primary that the small platform should complement to what the bigger one is missing or cannot build by itself efficiently. The solution will help bring users on both sides at the same time, which means that the dependent platform will quickly capture network effect from the dominant one to create new values to existing users. Relating to other reasons for this approach, users find it easier to enter the well-established one with approved reputation rather than a new platform. Trust in online marketplace has been examined in various research. Both Kollock (1999) and Ba & Pavlou (2002) describe a third party mechanism (a dominant platform can act as one) as a safe method to ensure potential users of the quality of new services. Gefen et al (2003) analysed trusted in different levels, suggesting that when building an online marketplace, the business owner should consider integrating trust mechanism in the design of customer experience, making it easy to use and customize according to real demand, as company that is willing to do customization appears to hold more resources and capabilities than non-customized one. The study by Koufaris & Hampton-Sosa (2004) found out that initial trust can be built if the online business is able to provide a perceived reputation, which is again can be supplied by emerging in an existing platform. According to Edelman (2015), Remora can be presented in two forms: leverage existing user base and leverage existing data as

a substitute for one group. Since Remora takes effect when trust issue is critical and there exists a need for mass user acquisition, Growth Platform and Innovation Platform see fit in their strategies.

Strategic alliance

Different from Remora/ Envelopment, the idea of strategic alliance or exclusive contract is to secure big buyers/ sellers or turnkey providers who have power over market distribution. Turnkey providers could be providers of technology, logistics or financial services which help increase the efficiency of the platform, giving it a competitive advantage from other competitors (Bruun 2002). Companies leverage strategic alliance to prevent key players from entering multi-home situation.

In a marketplace, there will be buyers or suppliers who play important roles on dragging traffic to the new platform because of their dominant position in the industry. They are exclusive users, acting like magnets to other players, either complementary or competing. In addition, having their commitment will prevent them from joining rivals (Eisenmann, 2003). Platform offers an exclusive contract to potentially multi-home users to keep them produce values on one side while the demand on the other side keeps rising correspondingly. This is a cross-side effect. While subsidization is applied to all users of the same group, aka general users, exclusive contracts are more selective on target because of the contract price, yet the return comes in the form of increasing user base from both sides resulting in increasing interaction and profit. Amstrong & Wright (2005) suggested that strategic alliance and exclusive contracts might not benefit platform in equilibrium - a platform that enjoys the balance in market position towards both sides of users. Thus the solution is more fitted to another platform rather than Innovative Platform, which is primarily monopoly in its own industry in terms of its concept for an exceptionally big value proposition. Furthermore, the study also indicated that strategic alliance and exclusive contracts are easier to negotiate and supervise with sellers (firms) than buyers (consumers) due to its size and legal commitment. Therefore, Added Value Platform, in which platforms owners need to secure sellers first, obtains more benefit from this type of solution.

Aggressive marketing

Aggressive marketing can be so called “get big fast” by many practitioners. The idea is to quickly capture the first mover advantages. As platforms can build liquidity really fast and the values of platform are also based on whether the critical mass is achieved, it is naturally for platform owner to grasp the piece of market by their best. Bruun (2003) said that this strategy once deployed, would bring about the trade-off between quantity and quality. Accelerated expansion and high-quality service can be challenging to be accomplished simultaneously. Thus it brings out the question that has to be solved by platform owners: whether it is critical to get big fast or keep up with the high standard. The answer might depend upon industries and nature of products or services. Cennamo and Santalo (2013) continued the discussion by proposing how this could be done effectively. Giving away the products or services or free to one side of the market in order to get them quickly on board is one of the tactics. Also tapping into large-scale users or partners instead of individual business might end up with a big deal. Platforms that rely on this strategy often aim at conquering the market mass than “step by step approach” (Bruun 2003). Thus the strategy can be applied to any type of platform as long as the nature of product or services allows the massive scaling.

Freemium

Freemium is a combination of free and premium, illustrating the business tactic of offering basic service to the majority of users for free while requiring a charge for more premium version (Teece, 2010). Research by Günzel-Jensen & Holm (2015) investigated how the free elements has become essential in early stage electronic venture in order to explore new opportunity, enter new market and trial and error learning. New platform venture might use freemium to build up their presence in the market and quickly grasp a piece of market share by offering basic service for free. Spulber (2010) confirmed the role of freemium in solving chicken and egg dilemma by increasing the adoption rate, as being applied by many content platforms nowadays. Thus freemium is applicable in Growth Platform as a magnet tool to get free users in the first place. However, freemium also encounters the same drawbacks as subsidization when platform needs to monetize in order to sustain. Although the matter is out of focus for this research, the solution

to this can be referred to McGrath (2010) and Davidsson et al., (2005). The freemium model is usually used when those freemium users are also potential payers while subsidization can be applied to one group of user in order to charge higher fee to the other (Edelman & Geradin, 2015). Thus freemium can be applied into Growth Platform or Innovation Platform.

Marquee user/ Influencer

Marquee users are defined as the early promoters of the business, aka business ambassador (Thomson, 2010). Marquee users can be individuals or groups of customers/ users who potentially bring in exceptional values to the platform. Eisenmann et al. (2006) when discussing platform strategies paid attention to the way of attracting new participants by using those early adopters of the products or services. He stated that *“the participation of 'marquee users' can be especially important for attracting participants”*. Parker & Van Alstyne (2012) shared the same comment by emphasizing on positive network effect as the direct result of the marquee users. Thus marquee users should be given incentives to participate and advocate for the platform.

Influencers are similar to marquee users in its values of acting as a platform magnet. However, influencers are not necessarily critical users of the platform, as long as they can create viral (Salminen, 2014, p.210). Influencers can be celebrities, experts in the related field or public figure. Anyone can count if their opinion matters. Marquee users and influencers are important when the products or services are novel enough that having early opinions influence the trial. A user cannot be considered a marquee user if he or she does not bring exceptional values by advocating for the platform or providing feedback (Phelon, 2006).

Tying / Bundling

The concept of tying or bundling is similar to subsidization in the way that offers more values to customers than what they have to pay for. But instead of lowering the entry cost or paying users to join, tying and bundling rather combine multiple service/ products that complement each other to improve the attractiveness of the overall offering. Tying has become popular in many markets, especially software service. For example, Microsoft bundled Internet Explorer with its Windows. Platforms rely on tying and bundling might find it risky to impose direct monetary transfer to

users through a subsidiary as customers do not enter the market in the same condition, which may create an adverse selection to platform owners (Amelio & Jullien 2007). Jullien (2005) confirmed that bundles are less risky when monetary transfer does not seem to be attractive to certain group of customers. Tying and bundling also take advantage of envelopment when the core service/ products are tied with reputed existing brands in the market.

In an innovative context where new platform entry should quickly take up monopoly position, the tying of complementary offerings can assist in such strategy. Research by Carlton & Waldman (2002) proposed two cases that tying/ bundling can be employed: lowering entry cost and expanding network externality. Tying/ bundling can also be used to avoid potential rivals in the market by strengthening market power with complementary products or services (Choi and Stefanadis, 2001)

2.3 Theoretical framework

Based on the literature review of different studies relating to platform values and strategies, a theoretical framework is proposed as the protocol for the research.

Figure 2: Theoretical framework

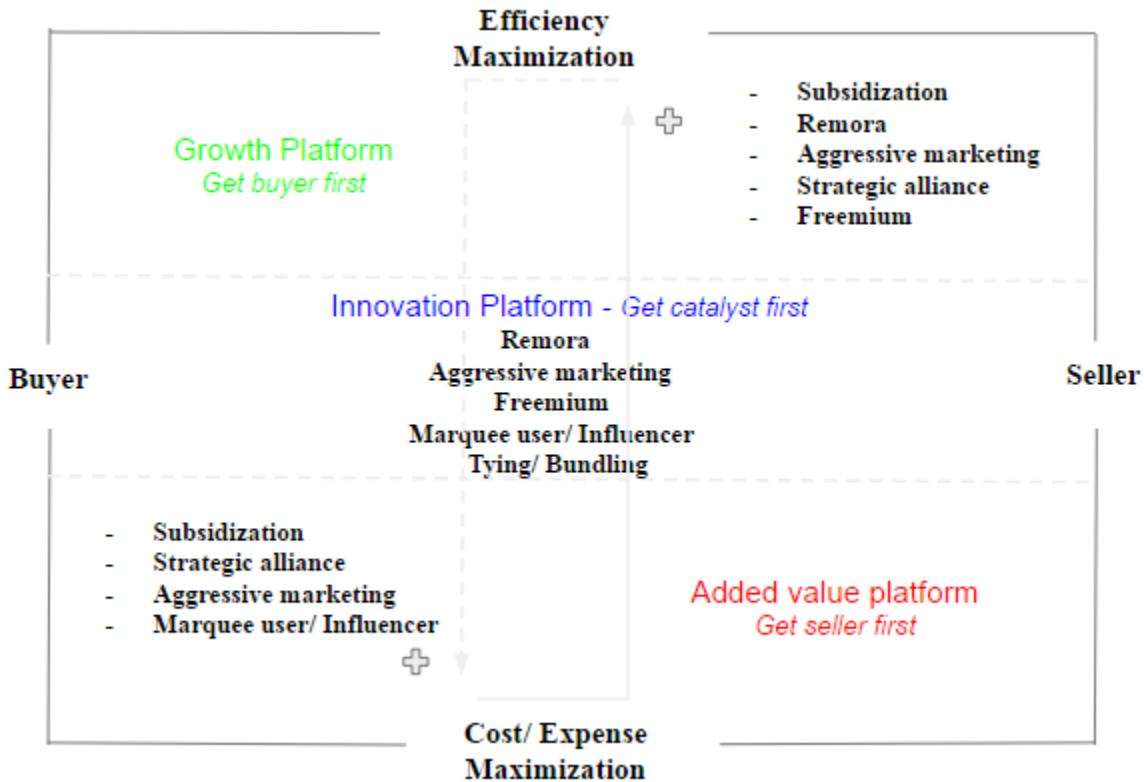


Table 7: Theoretical framework detailed summary

	Growth Platform	Added value Platform	Innovative Platform
Description	<ul style="list-style-type: none"> - Buyers: Efficiency > Cost minimization - Sellers: Efficiency < Cost minimization 	<ul style="list-style-type: none"> - Buyers: Efficiency < Cost minimization - Sellers: Efficiency > Cost minimization 	Integrated Efficiency and Cost minimization for both buyers and sellers
Strategy approach	Get buyers first	Get sellers first	Get catalysts first

Solution	Subsidization	Subsidization	Remora
	Remora	Strategic alliance	Aggressive marketing
	Aggressive marketing	Aggressive marketing	Freemium
	Strategic alliance	Marquee user/	Marquee user/
	Freemium	Influencer	Influencer

The theoretical framework illustrates the contents and causal relationships of different variables which included platform agents, platform values, and platform strategies. Researches by Andrew et al (2000), White et al. (2007) and Bruun et al. (2002) set the base for this research by identifying critical values brought in by e-marketplaces or platforms. These studies approached value propositions of platform in the same way that value proposition should be distinguished between buyers and sellers of the market. Categorizing platforms based on its perceived values by buyers and sellers will make it less challenging for platform owners to benchmark and assist decision-making process in the early phase of the business. Researchers have listed many values offered by platforms, however, the values are grouped into two domain: efficiency maximization and cost/ expense minimization. The efficiency domain mostly focuses on how platform execution makes the user experience more premium while the cost/ expense domain emphasize on the direct budget cut as a result of platform participation. Evaluating that domain against buyers and sellers will lead to the classification of platforms, namely: Growth Platform (buyer priority), Added Value Platform (seller priority) and Innovation Platform (ecosystem priority). Each platform typology possesses certain strategy approaches for building liquidity and getting critical mass, which means that platform successfully overcome the chicken and egg dilemma.

3. Methodology

3.1 Selection of research method and viewpoint

As the aim of the study is to explore the phenomena in questions, qualitative research is a rational choice over quantitative (Kothari, 1985). Denzin & Lincoln (2011) added that qualitative research put an emphasis on processes instead of attempting to measure phenomena in quantified dimensions. Furthermore, Eriksson & Kovalainen (2008) described qualitative research as a mean to gain knowledge of the phenomena in real life context and understand its existence and emergence. There are different methods in qualitative research such as ethnographic research, grounded theory, and focus group research. Among those, case study proves to effectively illustrate social complex issues and combines different kinds of data, whether from interview, observation or white information (Yin, 2002). The case study was defined by Yin (2002) as "*an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between the phenomenon and the context are not clearly evident, and in which multiple sources of evidence are used*" (p.13-14). The definition itself indicates two important reasons why case study is selected as the research approach of this thesis study. First, the purpose of the case study is to investigate a contemporary phenomenon which in this case is the online platform businesses. The literature on digital companies, also known as dotcoms or internet-based business has just emerged significantly since the explosion of the internet. The second reason is that case study explores such phenomenon in a specific context which is reasonable concerning the unstable and changing characteristics of the business environment in which online platform firms operate. In addition, the study combines analysis of different variables such as value proposition, types of platform and platform strategies and their cross relationship. Such complex issues require a comprehensive look at data in a more descriptive way in order to understand the linkage.

Although case study was conventionally recognized as a tool for theory building (Eisenhardt, 1989), other views added that case study was also aimed for theory testing or refinement (Welch et al., 2011). This agreed with Eriksson & Kovalainen (2008) which also described classic case study (intensive case study) could be used for theory elaboration. In this thesis, a theoretical framework on chicken and egg dilemma is built based on extant literature as the guidelines.

However, the framework is neither unconditionally accepted nor intensively tested. Instead, the construction of a unique model based on original one is allowed to emerge from the data generated. Additionally, case study is the most suitable to help understand why certain decisions were made and how the decisions lead to such results. According to Yin (2013), case study is best applied when the main research questions focus on processes of past events. As the study focus on how chicken and egg dilemma was solved, a case study is an obvious choice.

Among intensive and extensive approaches, intensive case study research is selected. According to Eriksson & Kovalainen (2008), an intensive case study was used to provide a holistic view and detailed description of the study objects in a certain context which is in consensus with the exploratory purpose of the study. Furthermore, the research also mentioned that intensive case study often deals with time, development and process, thus it reinforces the choice of intensive case as the research approach. And again, intensive case research is not meant to generalize to a higher level of context but rather to explore and understand in-depth the circumstances. The research will be driven by the elements of the accounting practices, not by the pre-existing theories (Humphrey & Scapens 1996, p.100). Finally, since the limited number of cases accessed by the author, using intensive case research will help me to yield more data and deep insight into the cases being investigated.

3.2 Case selection and data collection

As Eisenhardt (1989) stated, the cases selected for qualitative research should represent well the types of business that the author is going to explore, in this case, it is different types of platforms as defined earlier. It means that the case companies should bear the characteristics of online platforms as per definition generated by the author. The number of cases should be corresponding to the numbers of platform types. Therefore, there are three cases selected for this research project. All of them fit definition discussed in the literature review and the scope of study which means the case companies satisfy the following criteria: 1) two-sided market facilitating interaction between groups of users 2) generate 1 million users within the first 5 years 3) fall under one type of platform being discussed 4) still operate in the market. As the purpose of this study is to detect success factors, it is primary that the cases selected satisfied the above 4

criteria. However, in order to determine the suitable case, a pre-analysis scanning was conducted. I had chosen several companies as targeted cases and narrowed down to shortlist by quickly examining the companies' value proposition. The expected outcome would be that 3 companies would be chosen for 3 platform typologies defined earlier in this thesis. As a result, the cases are as follows:

- LinkedIn: LinkedIn is a social networking site for professionals to find people, jobs, products and services through recommendation and close social circle. This company represents Growth Platform typology.
- Etsy: Etsy is an e-commerce platform for individual artists and artisans to sell their products to global buyers by establishing virtual storefront with listings and review system. This company represents Added Value Platform
- TripAdvisor: TripAdvisor is an ultimate travel enthusiast covering massive database of travel content and travel-related business listings, making it a largest travel site globally which enable travelers from any corner of the world to search, plan and book services for their trips in advance. TripAdvisor represents Innovation Platform.

All of these companies are leading in their respective fields, which mean that they have successfully overcome the chicken and egg dilemma to reach growth phase. Besides seeing a good fit with the study's purpose, the availability of data on these companies constitutes to the reasons I have chosen them for this research. Their successes have been acknowledged by well-known business magazines and forums such as Money CNN, Forbes, Business Insiders and so on. Academic papers and books also have mentioned those companies as typical examples for business models and strategy actualization.

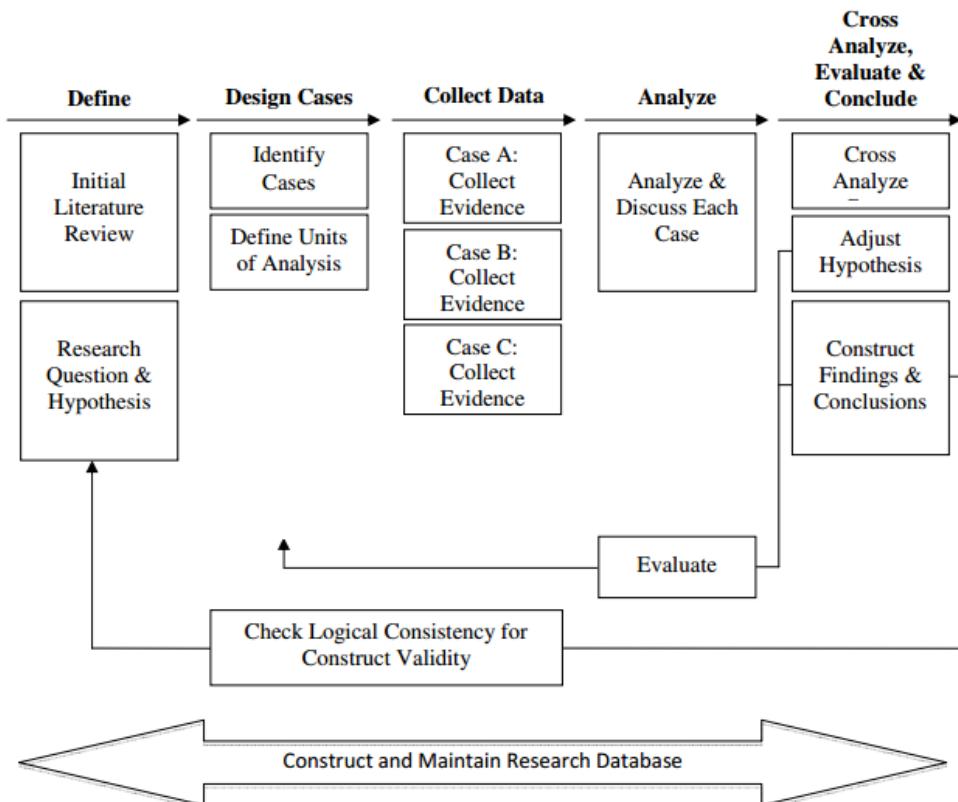
As to answer the RQ1 on platform typologies, it is important to look at the company's value proposition, both through the official statement and through product/ service description, marketing tagline or perception by early adopters during the examining period. To answer RQ2, the narrative approach will be targeted to reveal the storyline or process. Then theoretical framework will be taken into account to making sense of the storyline or process which may help to construct the unique sequence for this specific type of business. The collected data should be able to reveal what types of platform the case companies were trying to build initially and how it

took action to overcome the chicken and egg dilemma, aka dilemma of getting both sides of the market on board.

Data was collected mostly from widely available information on case companies' websites, reports, articles on interviews with founders, white papers, and social media discussion. Secondary data is the main source of data for this research due to several reasons. First, the case companies are successful and well-known which minimizes the possibility of my access to their original founders and empirical data. Thus conducting interviews or sending out a questionnaire to relevant personals comes as a challenge. Moreover, regarding the fact that the studied topic concerns the pre-growth phase of each case companies, founders or early employees might encounter difficulties recalling the past. On the other hand, written sources contain fresh viewpoints and analysis considering past events being discussed. Finally, secondary data on the concerned topic are available, detailed and reliable enough to form analysis.

3.3 Research process

Figure 3: Research process



The research was commenced by forming main research questions and expected outcomes. Later on, I familiarized myself with related concepts and literature focusing on platform business, platform strategy, user acquisition, value proposition and so on. The purpose of this process was to determine the research gap and build a theoretical framework for further analysis.

The next step was to choose a methodology for the research: From which viewpoint I want to approach the research and which method to be deployed to best explore and understand the phenomenon. The case study was selected to collect data for the research considering the complexity of the research construction. Multiple case studies help to yield rich qualitative data from different sources and provide an in-depth description of the interrelationship within variables of a single case as well as cross-case. Primary data and secondary data were to be considered as well. Considering the fact that the research cases should be the companies who are leading the market and their success in overcoming the dilemma should be recognized, getting access to those key managers and employees (especially the ones involved in the starting days) would be huge challenges. Fortunately, it seems that there exists valuable data on the matter in reliable papers, magazines, and books that make up the big enough database to put the research forwards. Thus I decided to rely on secondary data as the key resources.

3.4 Data analysis

Data analysis is the most complicated process in case study approach. Treating each case as separated entity and combining them later is one way to simplify the process. In this situation, it is important not to miss any evidence that helps to answer the research questions.

As for the first step, a thematic approach was deployed to sort out collected data. I search for peer-review journals and online articles using and the case companies' name and at least one of the following keywords: *user acquisition, customer retention, chicken-and-egg, freemium, marquee user, subsidy, getting first users, launch, partnership, value proposition, liquidity, critical mass, strategies*. The keywords were selected according to reviewed literature and their synonyms. The results were later screened and narrowed down to contain only information relevant to the first five years of the concerned companies and to its operational process. Some information can be quickly matched to related themes as it directly answer the research question.

However, some piece of data needs more careful analysis to determine whether it is meaningful to the research. At this stage, this piece of data became a new keyword and also a temporary new theme. A narrative approach was used to form a story around the new theme: why the company did what they did, how it influenced the company's early days and so on, who these functions were dedicated to, which side of the market would acknowledge this value. If the story's conclusion reveals that this piece of data belongs to the existing themes, it will be merged into correspondent category, otherwise, it will be marked as unexpected elements for the theoretical framework revisit. Any new themes emerging from the data collected is definitely valuable to the study as it is the foreign factors in reflection of existing general proposals. All the data collected are mostly quotes from companies' founders/ users or extracted content from journals or articles, thus using thematic and narrative approach give flexibility to in realizing, analyzing and revealing pattern (Braun & Clarke, 2006, p.4). All collected information (quotes, extracted contents) were filed and sorted into MS Word's tables with references (see table 9, 10, 11, 12, 13 and 14). Once the process of sorting and filling data according to defined themes which are key elements presented in theoretical framework, the data analysis process automatically finishes.

After each case has built a consistent story of what happened, the cross-case analysis is employed next to further understand the process as a whole. The cross-case analysis is one way to avoid the bias in processing the collected data (Eisenhardt 1989). Depicting differences and similarities in three cases selected will make sure that the cases are best presenting defined typologies and that the cases bear no reason to operate in an unconventional manner.

3.4 Research validity and reliability

Yin (2013, 45-49) has proposed four tests that qualitative researchers can employ to establish the validity and reliability of their research: constructing validity, internal validity, external validity, and reliability. The tests were used to guide case selection and data collection from secondary sources.

Table 8: Research validity and reliability design parameters

Test	Purpose	Parameters	Applying phases
Construct validity	Measure data consistency	<ul style="list-style-type: none"> • Data collection and references from multiple sources 	Data collection Research refinement
Internal validity	Establish the causal relationship between variables	<ul style="list-style-type: none"> • Relationship examining between sources • Draft reviewed by founders of similar businesses 	
External validity	Examine the possibility of generalization	<ul style="list-style-type: none"> • Pattern matching • Rival explanation justification 	Data collection Data analysis
Reliability	Ensure replication in research process and data configuration	<ul style="list-style-type: none"> • Theoretical framework as base in singular case • Same logic application in multiple cases 	Research design Data collection Data analysis

Considering that I chose multiple case studies with secondary data as the main source of information, it is important to avoid the bias in data collection and interpretation. The sources of evidence were mostly documented by a newspaper clipping, articles, archive reports, and formal

studies, which make the database unobtrusive, stable and reliable with clear references and broad coverage over time. Data interpretation in each case should strictly follow research protocols to ensure consistency and be reviewed in the cross-case analysis as well as by a relevant platform practitioner and a researching fellow for the purpose of generalization and replication. Reliability of the research is tested successfully when the results are consistent, representative and reproducible when being analyzed by researchers with similar methodology (Golafshani, 2003). Since the study is based on publicly available data, it is evident that the data can be accessed as well by other researchers and replicated if following proposed research process.

4. Finding and discussion

4.1 LINKEDIN

4.1.1 Case background

Established in December 2002 and launched in May 2003, LinkedIn is a social networking service focusing on the professional networking level, which makes it different from alike services such as Facebook, Twitter, and Instagram. LinkedIn has become the world's largest professional network service with about 433 million members and has been recently acquired by Microsoft for 26.2 billion US dollars (Forbe, June 2016). LinkedIn has become the world's largest professional network that set the foundation for the whole human resource industry. LinkedIn has transformed the traditional paper-based industry into an innovative digital market that aid 98.3% of recruiters worldwide to find suitable candidates (Bullhorn, 2015).

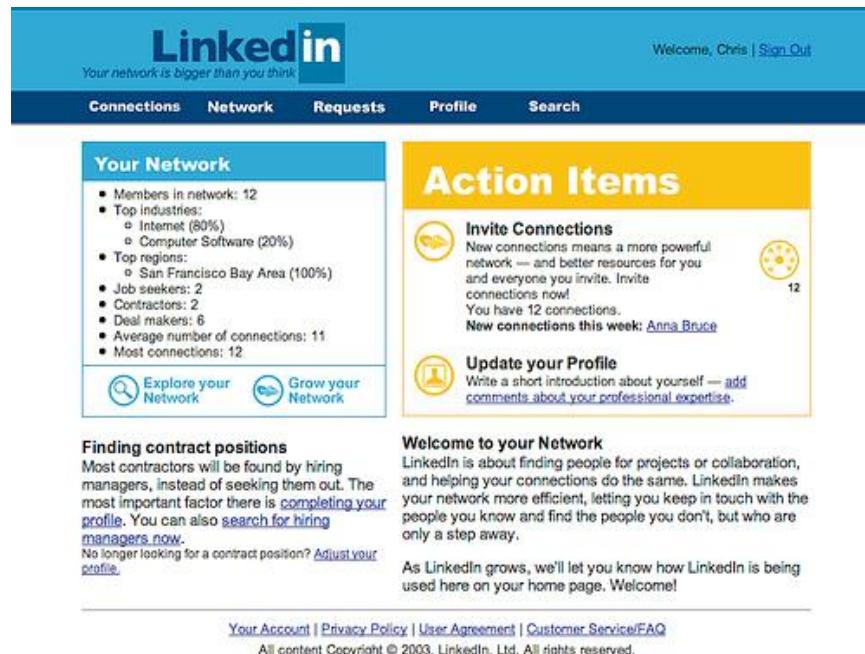
The founder of the company Reid Hoffman began his entrepreneurial career with Socialnet - an online dating and partnering network. Although Socialnet raised a fairly good amount of venture capital, it failed to attract millions of users to survive. Hoffman took the hard-earned lesson from Socialnet, together with his valuable experience in Paypal to develop LinkedIn in 2002. LinkedIn was rolled slowly as Hoffman quoted:

“We had this initial challenge of, “How do you get a million people?” The first challenge was getting enough people so that functions, like searching for people or sharing information, had enough people in it to be valuable. The year 2003 was all about tuning and viral growth.”

(CNN, June 2009)

Thus, the very first challenge acknowledged by the company’s founder was how to acquire enough users to create network effect. As stated by Hoffman, until 2005, LinkedIn had focused on the sole goal before working out a business model.

Figure 4: LinkedIn user profile in 2005



4.1.2 Growth platform analysis

What type of platform LinkedIn is?

From 2002 until the end of 2005 when LinkedIn introduced its first business line targeting the charged side of the platform, it had already secured about 4.8 million members with a clear value proposition:

“With LinkedIn, you find people, jobs and services you need through the people you know and trust, while and strengthen and extend your existing network”

-LinkedIn, 2015-

Figure 5: LinkedIn's homepage in 2005

LinkedIn

Already a user? [Sign In](#)

[Lost your invitation?](#)

Find People
Clients, partners, sales leads and experts [Find out more](#)

Find Jobs
Top jobs and the most reputable candidates [Start searching now](#)

Find Services
Recommended services and new customers [See how it works](#)

And find them through the people you know and trust

With LinkedIn, you find the people, jobs and services you need through the people you know and trust, while you strengthen and extend your existing network. [Take our tour](#)

LinkedIn is free
Join over 3.8 million other professionals now [Join Today](#)

From LinkedIn's value proposition, it was very clear that LinkedIn was trying to connect professionals with job/ service advertisers. The values delivered to each side of the participants at the early stage of LinkedIn will be evaluated in the following table:

Table 9: LinkedIn's values to users (Own analysis)

	Efficiency Maximization indicators	Cost/ Expense Minimization indicators
Buyer's side (Professionals)	<ul style="list-style-type: none"> - Find people, jobs, and services that you need - Strengthen and extend existing network - Save time 	
Seller's side (Job/ service advertisers)	<ul style="list-style-type: none"> - Employer branding - Wider reach to relevant people (candidates, partners, ...) 	<ul style="list-style-type: none"> - Save time, money and unnecessary spending on recruitment by reaching relevant candidate through single channel at faster speed - Active sourcing solution

On buyer's perspective, LinkedIn helps professionals to stay updated with relevant people and industry trend while showcasing their knowledge and experience in the field. LinkedIn, as a result, is a personal advertising page that leverages one's network. Thus the values to buyers are more related to increase efficiency than saving cost. For sellers' perspective, LinkedIn serves two main purposes: organizational branding and recruitment. LinkedIn gives an organization ability to increase brand recognition and visibility to different stakeholders as new business opportunity or new resources can be acquired as a result. Therefore, LinkedIn also gives companies (sellers) efficiency in brand management and greater reach to correspondent personals. However, the emerging benefits are that company will save a substantial amount of time and money in comparison to traditional methods. Thus the economic benefits are more striking to sellers during their adoption decision process. Moreover, LinkedIn communicated its value proposition to professionals (buyers' side) up front based on the fact that once the site

gains enough traction in the human resource industry, the buyers can be converted into sellers, which means that the company successfully solve the dilemma of chicken and egg. On the other hand, the cost maximization benefits brought to users by LinkedIn is not fulfilled until the efficiency values are big enough to attract users.

According to the platform typologies as described in the literature review, the LinkedIn platform in its initial days bears the following characters based on its value proposition:

- Connect professionals with organizations/ recruiters
- Values to Buyers: Efficiency > Cost minimization
- Values to Sellers: Efficiency < Cost minimization

Thus it resembles the description of Growth Platform

How LinkedIn solved chicken and egg dilemma?

LinkedIn focused its resources on building a great product in the era that many companies offered some kind of social or business networking. However, it took LinkedIn less than 3 years to make it to the top of the category with 4 million users, competing with other 50 comparable businesses (Seba 2016, 127). How can LinkedIn do that when a number of its developers outnumbered the sales and marketing forces? Secondary data collected from stories told by founder and CEO of LinkedIn Reid Hoffman with several magazines and book authors has revealed interesting information. More archives were also gathered from the company's website as well as article's discussion on LinkedIn's successful journey. The following table gives a summary of discussion on the matter

Table 10: LinkedIn's strategies

Tactics/ Strategies	Sources of reference	Illustration/ Explanation
Marquee users:	Seba (2016, p.127)	<i>92% of LinkedIn users were brought in by current 8% users as a result of personal invitation.</i> (Seba 2016, p.127)
Direct invitation	Thew (2008) Hoffman (2002) Kidder (2012, p.173-176)	<i>“Invite someone into the network”</i> is the crucial feature for launch – Note from Reid Hoffman (CEO of LinkedIn 2002) <i>“Part of how we solve the critical mass challenge ... That (address book and sending out invitation) worked well enough that it changed the growth curve”</i> – Reid Hoffman, cited in Kidder (2012, p.173)
Influencers: Famous profiles	LinkedIn Corporation (2015)	LinkedIn promote the profile of Kelly Perdew, who won The Apprentice Season 2 – LinkedIn Corporation (2015) in Our Story
Freemium: Free service	Thew (2008) Kumar (2014, May) Choudary (2015) Waters & Lester (2010) Lacter (2009, May)	<i>“LinkedIn was the first freemium company to go public”</i> – Kumar (2014, May) <i>“This (freemium) ensured that LinkedIn targeted the entire market and built out the network”</i> – Choudary (2015) in Platform Thinking <i>“I received an invitation to join LinkedIn. I did not know the person inviting me, and I still do not, but it was a free service (at the time) and looked to be a useful vehicle for getting</i>

introductions and referrals.” (Thew 2008)

Strategic Partnership:	LinkedIn Corporation (2015)	<i>“LinkedIn introduces new features like Groups and partners with American Express to promote offerings to small business owners.”</i> – LinkedIn Corporation (2015) in Our Story
American Express	Hoffman (2004)	

LinkedIn went slowly after its launch and gradually built its early user base by direct invitation system. Direct invitation system means that each user of LinkedIn will invite their acquaintances to join. It was estimated that in the first half year since launch, 92% of LinkedIn users were brought in by current 8% users as a result of personal invitation (Seba 2016, 127). What made users referred the services to other people?

“I received an invitation to join LinkedIn. I did not know the person inviting me, and I still do not, but it was a free service (at the time) and looked to be a useful vehicle for getting introductions and referrals.” (Thew 2008)

- David Thew (joined 2004) -

Giving free service as a start lowers the entry barrier of new participants. LinkedIn was trying to build a valuable product so that the product would market itself. In fact, in the early days, the company did not pay to promote the service except for hiring a small public agency to gain attention.

Besides invitation system, in 2004, LinkedIn introduced a new feature like Groups and formed a strategic partnership with American Express to promote its solution to this entrepreneur community. Clients who signed up through this partnership would enjoy the benefit of co-branding with American Express’s small business network AMEX. The idea of targeting small business owners came from the fact that LinkedIn’s initial geographical focus was Silicon Valley where entrepreneurship emerged quickly resulting in the large demand of smart recruitment. Partnership as a part of marketing strategy is a win-win game for both LinkedIn and American Express’s members. Reid Hoffman’s pitching deck in 2004 has cited American Express as the

exposure tactics to expand the reach and as a part of brand endorsement that LinkedIn was planning.

Figure 6: LinkedIn partnership with American Express in 2004



Last but not least, LinkedIn promoted profiles of famous people such as Kelly Perdew, who won The Apprentice Season 2 - a famous American business gameshow with 16.4 million views in 2004 (Yahoo Archive, 2004).

The company did not work on a business model until 2005 when its user base grew to 2 million. Several business lines were established such as job posting, Inmail, Premium, and Pro service, marking the company's tremendous success of achieving its milestone of hitting a million users

that create values to both sides of the LinkedIn platform. The company first claimed profitability in 2006.

4.1.3 Discussion

LinkedIn's strategy was to focus on the buyer side of the platform to generate enough users in order to create values for both sides of the market. In Kidder (2012, p.175), Reid Hoffman reconfirmed the company's strategy path to focus on user growth before monetization. Its launching value proposition indicated a clear target towards general users, who later would side up based on their demands. From 2002 to 2005, besides having a well-built product that served that hit the market gap, LinkedIn successfully applied several strategies to grow its number of users.

Using marquee users or influencers contributes greatly to the success. Aligning with LinkedIn's value proposition of "*finding...from people you know and trust*", the introduction of the address book and invitation system literally lower the skepticism of new users joining the network when receiving referrals from their own circle. The famous figure also helps to draw attention to the site, especially if that public figure is well known in the professional world. In fact, address book and invitation system are not a just marketing strategy, they are embedded in the code as a critical part of the LinkedIn product, which still continues nowadays. LinkedIn has taken advantage of its crucial features to grow users and continue to do so for greater impact. One can say LinkedIn is fortunate enough to be able to incorporate the marketing tool in its body, I myself believe it is not necessarily the unique case. Dropbox also grows its user base by letting its users acquire more storage space by inviting their network to sign up. Uber gives free rides or money rewards to both inviters and invitees. It is important to design the referral system that fit your business nature which should not bother the potential customers.

Freemium model for LinkedIn in these early days serves the function of expanding user base rather than a monetizing strategy. Academicians and practitioners often emphasize freemium as a method of making revenue. Nevertheless, the role of freemium in attracting new users needs to be addressed properly as well. LinkedIn started out as most social networking site: providing free service/ product. The free service and product should be attractive enough to draw potential

users' attention but still leaves space to upgrade further to even irresistant premium level. Freemium helps LinkedIn to grow, however, it can be leveraged better for the company's income (Kumar, 2014 May).

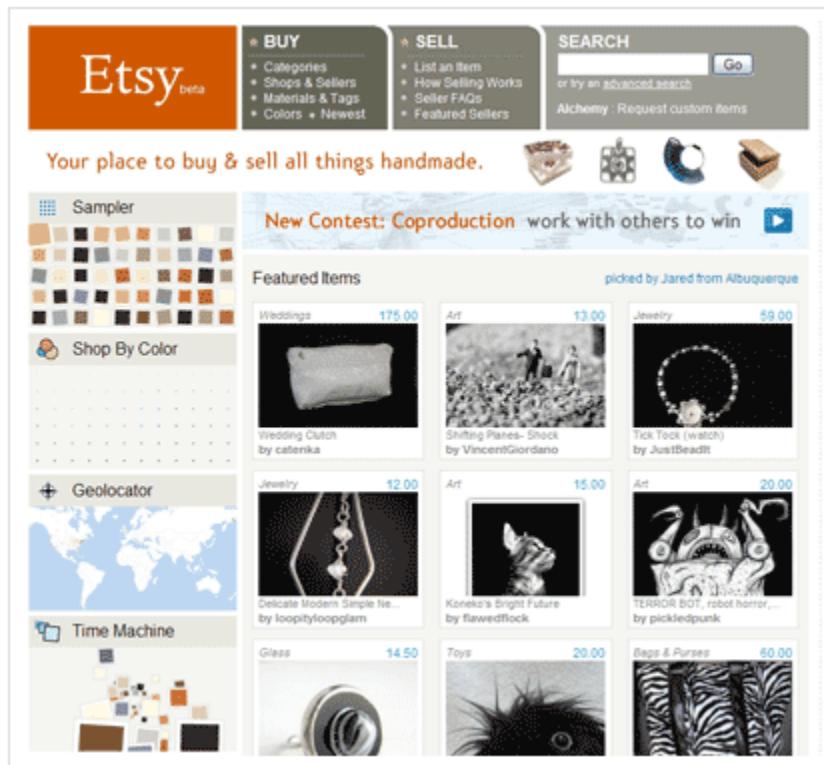
Although there is no clear explanation on why LinkedIn chose to partner with American Express but not other organization, some details might help to reveal. LinkedIn began its service in Silicon Valley where entrepreneurship was blooming and recruitment was more dynamic than ever. Thus getting in contact with those small business owners would give the company big traction and American Express' OPEN network of those targeted users is exactly the organization to be partnered with. There was no impact evaluation on the partnership, however, since LinkedIn has mentioned the partnership as a big part of its history, the partnership clearly made a great influence on the company's growth path.

4.2 ETSY

4.2.1 Case background

Etsy is an e-commerce platform for handmade and craft goods as well as unique items manufactured by factories. Their trading products include a variety of categories ranging from valuable art works and jewelry to small decorating items such as frames, lights, and toys. Vintage goods should be at least 20 years old in order to be traded. Etsy sellers can also provide materials and tools for handmade products. Developing from the concept of traditional craft fair, Etsy allows sellers to set up their online business with ready-made structure template where they can list products for a fee of US\$0.20 per item (Walkers, 2007, December 16). Nowadays it has become the "*global commerce for creative entrepreneurs*" (Etsy 2017). By the year 2017, the platform has grown into 1.8 millions of active sellers and 29.7 millions of active buyers with an annual turnover of 2.84 billion dollars.

Figure 7: Etsy's homepage in 2005



Etsy was born during the surge of DIY/craft/handmade movement trying to change the way people consume those kinds of products and help independent artists and artisans to earn a living from what they are good at doing. Operating in a sensitive market where the monetary motivation for business is not comfortably appreciated, Etsy needed to come up with a careful approach to sustain the business while keeping the dignity of the market in general. First, the website is strictly regulated to certain portfolios so that it maintains the core businesses and competitive advantages over other services such as Ebay or Amazon. Second, Etsy really cares about how the virtual storefronts are properly and artistically displayed. Etsy is not just an e-commerce trading website but also the inviting face where Etsy's sellers can present themselves and their products in the most dedicating manner. It is the company's goal to change the culture of buying and help the community of individual artists. Although the company has faced criticism of letting mass-manufactured products being traded on the platform since 2013 (Shewan, 2017, March 27), threatening its core values of staying loyal to small independent artists and artisans, Etsy still made a successful story of growing its unique network of sellers and buyers in this niche market.

4.2.2 Added value platform analysis

New platform has always faced the first obstacle of acquiring customers. It is even more challenging when platform needs to attract both sides whose benefits are dependent of each other's existence in the market. Etsy did not stand out as an exception. The company needed to prioritize their effort in getting one batch of users as it is simply impossible to get everyone at the same time. For the first five years of operation from 2005 – 2010, Etsy remarkably announced itself of 1.3 million users in 2008 (Guardian, 2008, October 15) and rocketed to 7 million registered users (Wortham, 2010, December 26). For a marketplace like Etsy, who should they convince first and how?

What type of platform is Etsy?

First and foremost, it has to be clear who are the sellers and buyers on Etsy. Being restricted to handmade goods and craftsmanship, sellers on Etsy are individuals or small vendors who produce handmade/ tailored goods in selected quantity while buyers could be any online shoppers who are in need of or prefer selective items rather than mass-produced ones. The following table will summarize Etsy's values communicated to and perceived by its buyers and sellers.

Table 11: Etsy's values to users (Own analysis)

	Efficiency Maximization indicators	Cost/ Expense Minimization indicators
Buyer's side	<ul style="list-style-type: none"> - Find unique items easily - Lifestyle reflection 	<ul style="list-style-type: none"> - Price level - Bargaining power due to concentration of similar products
Seller's side	<ul style="list-style-type: none"> - Business advice - Wider reach to needed buyers - Branding - Showcase - Tagging for experience optimization - Ready-made storefront with unique identity - Flexibility in pricing and payment - Online marketing support - Be part of a community 	<ul style="list-style-type: none"> - A free ready-made storefront - Lower cost of listing and commission compared to competing websites.

Etsy stands out because of its dedication to craft and anti-corporate movement. Upon creation, Etsy's ultimate goal was to “*create an online platform for homemade goods that would allow independent artists to expand their selling networks and increase their customer bases*” (Reader 2015). Thus obviously the values provided by Etsy to its sellers are the possibility to let them set up their own store online and sell their products to a larger number of customers. Support in marketing has been the major selling point to Etsy's sellers. Moreover, Etsy offers them the flexibility in pricing and payment, support in marketing while charging them the lower cost than competing services. It has always been the core of Etsy to expand the online space beyond its

trading functionality to a true community of artists (Evans, 2012). Etsy also positions itself as the supporter of the community. *“The company has long positioned itself as serving the community, and with that comes the benefits of having an incredibly loyal community,”* says James Cakmak, an equities analyst at Monness Crespi Hardt & Co (Alba, 2017, September 5). By educating its sellers on doing business online and offline as well as focusing on service design, Etsy helps its troop members showcase their art work and earn a living without scarifying too much of resources. During an interview with Techcrunch, Etsy’s founder Kalin emphasized on the company’s low entry cost (especially lower than Ebay) as the direct competing strategy to win over sellers (Arrington, 2009, February 1). Many of its sellers admitted that low margin and support in marketing are the main reasons why they quickly decided to join Etsy.

For Etsy’s buyers, the obvious value is that they can easily search and buy unique handmade items with the specialization of Etsy store as well as its tagging system (Etsy, 2017). Etsy co-founder has collaborated on the company’s success by pointing out the fact that nowadays, people associate purchasing habits with the values that they appreciate. The increase of interest on local farming products and clothing designs reflect such trend (Wortham, 2010, December 26).

“It’s not just ‘you are what you eat’ anymore,” he said. “You are what you buy, and these things define you.” – Rober Kalin (Etsy’s CEO), 2010 –

But the greatest attraction point must be the price level. Although Etsy does not directly communicate this advantage to its buyers, it implies in the website announcing its listing and commission fee which assumingly are sellers’ responsibility but in fact fall under the buyer’s wallets. In comparison to the 15% commission fee by Amazon and 10% by Ebay (Pilon, 2016, June 26), Etsy only charges 3.5% which make less add up to its sellers’ pricing point. (Etsy Discussion, 2013)

So which type of platform Etsy belongs to? Looking at the table summary, although the comparison of values is hardly made in the buyer’s side, I would conclude that the pricing would be of vital importance considering the nature of action made by buyers. For Etsy sellers, Etsy brings about not just an overall and cheap solution for their business but also a community of artist and artisans growing together and supporting each other. According to the platform

typologies as described in the literature review, Etsy platform in its initial days bears the following characters based on its value proposition:

- Connect artists and artisans with handmade buyers
- Values to Buyers: Efficiency < Cost/ Expense minimization
- Values to Sellers: Efficiency > Cost/ Expense minimization

Thus it resembles the description of Added Value Platform

How did Etsy solve chicken and egg dilemma?

Etsy made it very clear at the beginning of its journey that the “egg” should be the ones to be hatched first. Looking for the right sellers to join and advocate for the company was crucial at that point. Until now, Etsy primarily depends on its users to spread the words and bring more users. The company had taken advantage of social media to create the buzz and attract users even before it was launched. The following table will summarize all the business tactics and strategies applied by Etsy in that early phase.

Table 12: Etsy’s strategies

Tactics/ Strategies	Sources of reference	Illustration/ Explanation
Marquee users:	Teixeira (2016)	Touring craft exhibition and trying to acquire key players in their fields. (Teixeira, 2016)
Offline invitation	Mcguire (2011) in reply to “How did Etsy build its brand name among independent sellers early on?”	

Aggressive Marketing/ Buzz	Choudary, <i>Put the market before product</i> Evans (2012, April 25) Wortham (2010, December 26) Mcguire (2011) Etsy News (2007, July 24)	Create interest in craft community through getcrafty.com and Craftster.org before launch Focus on community with social media strong engagement Words of mouth marketing: online seminars, book sales, craft fair, event sponsorship, ... Sewing contest in partnership with Instructables
Subsidization	Mcguire (2011) in reply to "How did Etsy build its brand name among independent sellers Evans (2012, April 25)	Free listing for first few months Subsidized marketing program

Etsy had pursued a combination strategy of creating buzz and offline marketing at the very early phase of its operation. Kalin, one of the founders used to be a member of getcrafty.com with his small project. Thus it is natural for him and the team to start getting in touch with the ready like-minded community in getcrafty.com. The team built a message board of 100,000 members from Getcrafty and later on reached to Craftsters's founders to promote their idea and get the community's members acquainted with the new service as well as target them to be the first users and promoters (Mcguire, 2011). The Etsy team also toured weekly around the USA for any craft fairs and pitched the idea of Etsy to most reputed vendors as they believe once those leading artists and artisans join, other will follow suit (Teixeira, 2016). As a result, by the time Etsy launched its website, thousands of people were already waiting to try and the ball kept

rolling like that. As reported by Kalin, one thing that Etsy tried to do better than its major competitor Ebay was to foster a sense of community. They took use of social media such as Facebook, Twitter, and Youtube to share blog posts, podcasts and craft tutorial videos from both Etsy team and its sellers. The company still maintains good engagement on social media nowadays. Twitter ranked Etsy 59/500 for its popularity on this social media network (Evan, 2012, April 25).

Although Etsy did not technically hold any official marketing strategy, it was obviously the team effort to leverage worth of mouth marketing method. Etsy organized its own craft fairs, online seminars, local event sponsorship to get people acquainted with the new brand and service. In 2007, Etsy also partnered with Instructables to hold a sewing contest which also helped Etsy to spread their name further (Etsy News, 2007).

“We find these grassroots things are better than a \$4 million advertising campaign”

- Matt Stinchcomb, Etsy VP of Communication, 2007 –

Stinchcomb estimated that word-of-mouth has accounted for 80% of Etsy's marketing results, helping the site to attract 1,500 to 2,000 followers daily (Evans, 2012, April 25).

Another reason for Etsy's first sellers to happily jump on board was that the company made it free to list on its website for several months before billing system started to work (Mcguire, 2011). Then, later on, Stinchcomb revealed that it also launched several subsidized marketing programs for sellers, keeping up its promise of marketing support to valued users (Emarketer, 2009).

4.2.3 Discussion

Basically, Etsy tried its best to get valued sellers to their site and use the power of worth of mouth marketing and social media to boost the reputation further and grow the user base. The company had successfully applied several strategies mentioned earlier in the theoretical framework such as marquee users, buzz marketing, and subsidization. Getting the first tier of users from existing similar community helped Etsy formed a group of early enthusiasts who

subsequently would become the service advocates. Etsy always puts their market and users first and redefine the products to fit the demand. To attract buyers, Etsy engaged heavily in social media and content marketing, using their tag system to make the service stand out from any possible touch points that a new customer might look for.

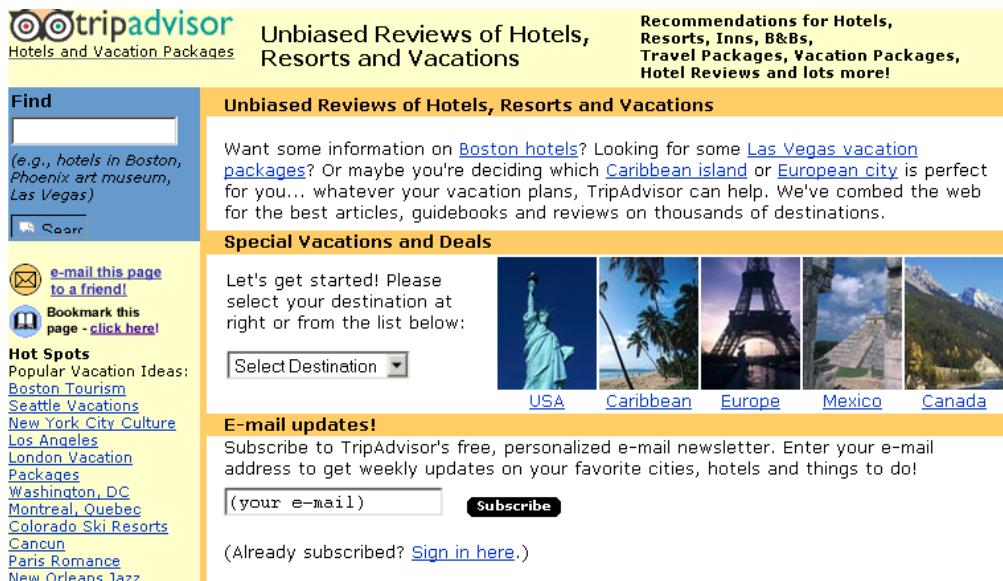
Bringing the human intimacy into the business make Etsy members make Etsy stand out from Ebay. Kalin commented: “They looked to maximize profitability over the community.” (Wortham, 2010, December 26). In an article on Worth of Mouth Marketing Association, Kalin described how Etsy led its community to do the marketing work for them, which best represent the values that Etsy hold since inception. In fact, sellers stay loyal to Etsy also because Etsy dedicated to small individual artists, artisans, and vendors. Yet until 2013, the change in Etsy’s policy allowing manufactured items to be traded in the market disappoints many of its sellers. Growing with sellers, actively presenting to buyers and finally convert them into promoters are what make Etsy achieve its current success.

4.3 TRIPADVISOR

4.3.1 Case background

TripAdvisor is an ultimate travel site helping consumers to plan their trips. Back to 1999, the company founder Steve Kaufer was looking for an accommodation for his family trip to Mexico when he faced the frustration in finding an authentic feedback on the hotel options. As a computer science graduate, he applied the Boolean logic into the search engine in order to eliminate advertising posts, leaving him with access to one review from real traveler’s personal homepage. The experience, alongside with his wife’s suggestion of making the search for travel easier, made Kaufer to establish a 7 people company working the vertical search engine for travel planning. The company’s approach was twisted after two big pivots, landing it pursuing the path of review site for tourist destinations.

Figure 8: TripAdvisor's homepage in 2002



TripAdvisor is an outstanding example of great investment as the company raised US\$ 4 million in the capital and built the US\$ 4 billion valued world's largest travel site (Bussgang, 2012, October 2). TripAdvisor was clearly an innovation for the old travel industry relying heavily on agencies for information. Although there was at that time search engine like Google, it was very unlikely that you will find specifically what you want among those thousands of pages. TripAdvisor nowadays is a collection of reviews, booking, and recommendation of hotels, restaurants, and destinations. According to TripAdvisor's annual report in 2016, TripAdvisor-branded websites have an impressive conversion of nearly 390 million average monthly unique visitors. They provide platform for 7 millions hotels, restaurant and tourist destination to exhibit themselves and attract customers. (TripAdvisor Annual Report, 2016). TripAdvisor is a class case of multisided marketplace changing and serving the entire hospitality industry.

4.3.2 Innovation platform analysis

What type of platform is TripAdvisor?

TripAdvisor has gone through a very “unique” journey of changing their business model very early in their operation (The Harbus, 2013). In fact, it might not be the only one taking a life-changing decision that builds a successful technology company if considering Twitter, Instagram, and Pinterest. Although the business model was completely altered, the values that the founding team wishes to deliver to their users are hardly modified. Being created out of the founder Kaufer’s ambition to make authentic travel information easily available, the team built a vertical search engine for scanning personal travel experience and recommendations. TripAdvisor’s values have been realized not at once but rather accumulated over its development. The following table will summarize its values considering the change in its business approach.

Table 13: TripAdvisor’s values to users

		Efficiency Maximization		Cost/ Expense Minimization	
		indicators		indicators	
2000 - 2002	Vertical Search	Buyers	- Search for traveling useful and authentic content easily	- Choose the best deal in the market	
		Sellers	- Wider reach to concerned travelers	- Marketing cost reduced through linkage between content and corresponding website	

2002 – 2004 Unbiased Review System	Buyers	<ul style="list-style-type: none"> - Search for travel useful content easily - Book hotels instantly with one touch point - Unbiased reviews for good recommendation 	<ul style="list-style-type: none"> - Best deals for hotels
	Sellers	<ul style="list-style-type: none"> - Wider reach to concerned travelers - Showcase best services among competitors 	<ul style="list-style-type: none"> - Marketing cost reduced due to word of mouth marketing

It might be unfair to conclude whether buyers (travelers looking for a recommendation) or sellers (hotel owners, travel site) benefits more from TripAdvisor at that time as TripAdvisor had been evolving to become the ultimate travel site globally. From 2000 until 2002, the company pursued a B2B business model by building a massive database of travel information which can be licensed to travel site as add-on white-label search engine. After 18 months of zero profit, the company switched to TripAdvisor which was built as an example of how the search engine can work as the site started picking up traffic (Zelman, 2011, December 12). Then later one, TripAdvisor decided to shift its focus after witnessing the popularity of user reviews in comparison to professional travel articles. The company's success starts ever since. It is noticeable that even though the company has gone through several changes, its core values of making authentic travel information easily available remains the same. TripAdvisor is clearly an innovation in the travel industry, considering its impact on how people look for and perceive traveling information (William, 2013, April 2). Along with its development, several functions and services have been added such as reviewing and booking restaurants, tours, tourist destinations, and activities. It does not simply connect service users and service providers. The advantage of TripAdvisor comes from big data (Roush, 2010, February 8). TripAdvisor has emerged into the travel dictionary for any travelers around the world.

According to the description of Innovation Platform, TripAdvisor might closely resemble its characteristics, especially with its independent plugin search engine in the first two years and its tremendous benefits presented in the later period.

- TripAdvisor benefits the whole tourism industry by creating massive travel data
- TripAdvisor created innovation in the way people look for and perceive travel information
- TripAdvisor serves multi parties including travelers, hotel owners, travel sites and later on restaurant owner, tour operator and so on.

How did TripAdvisor solve chicken and egg dilemma?

Moving from a B2B business model to a consumer – facing product, TripAdvisor had tried different pivot and strategies to make it work. It is not just about getting the traffic and the network effect, the company also wanted to solve the monetization problem at the same time. The following table will summarize TripAdvisor's strategies used at that early phase.

Table 13: TripAdvisor's strategies

Tactics/ Strategies	Sources of reference	Illustration/ Explanation
Remora	<p>Zelman (2011, December 21)</p> <p>Roush (2010, February 8)</p> <p>Bussgang (2012, October 2)</p> <p>Bennetts (2010, October 17)</p>	<p>“we realized that if we linked our content to the respective web pages on Expedia.com, Expedia would pay us for that click”</p> <p>Link to quality content of other web sources.</p>

Aggressive	The Harbus (2013, April 1)	Search Traffic
Marketing/ Buzz	Bennetts (2010, October 17)	Word of mouth
Freemium	Stimmller-Hall (2016, February 26)	Hotel owners are free to join but pay for a more presenting profile.

At the beginning of the journey with the idea of creating a massive database of travel information, Kaufer and the founding team hired editors to scan all professional travel content and add them the database. The original plan did not work out but the great content was still there to be used. Those contents have become the first magnet to attract new users to TripAdvisor in the later phase. The company was still using expert reviews on destination and hotels at that time, yet after witnessing how user review got more attention, the strategy changed. User review has become the new magnet and also the new source of content for TripAdvisor. New users come to TripAdvisor because they can have authentic unbiased opinions from travelers like them.

TripAdvisor also tried to make their service more attractive while making good money by linking their content, especially content about hotels, to respectful websites such as Expedia and Travelocity. Users who are satisfied with any reviews on hotels in TripAdvisor can now be immediately directed to book that hotel on Expedia. In return, Expedia will pay for such transition per click. While making a financial improvement, TripAdvisor obviously acquired more users because of its convenience and link to reliable and well known Expedia.

Kaufer admitted on that search traffic played a vital role in driving the traffic. The company has done an excellent job in SEO and producing quality travel content collection that no other competitors could match.

“Customer acquisition is driven mainly through natural search thanks to the huge volume of great content and long history and brilliant manipulation of Google’s search algorithm.” – Bussgang, Harvard Business Review 2012

It did not take so much of marketing effort to push word of mouth marketing as the content and its website functions were already doing the job. This was explained later by some business expert in user-generated reviews that there is a psychological incentive for users to gain prominence as a travel expert and thus sharing their content is the best way to do that, plus helping TripAdvisor to get more attention. (Fishkin, 2010, November 14).

The strategy towards hotel owners was straightforward: offering a place to market themselves for free. Hotel owners paid nothing to be listed on TripAdvisor unless they want more of their information such as contact number to be presented. The strategy is maintained until now although there is evidence that TripAdvisor is biased in serving those who pay and do not pay (Stimmler-Hall, 2016).

4.3.3 Discussion

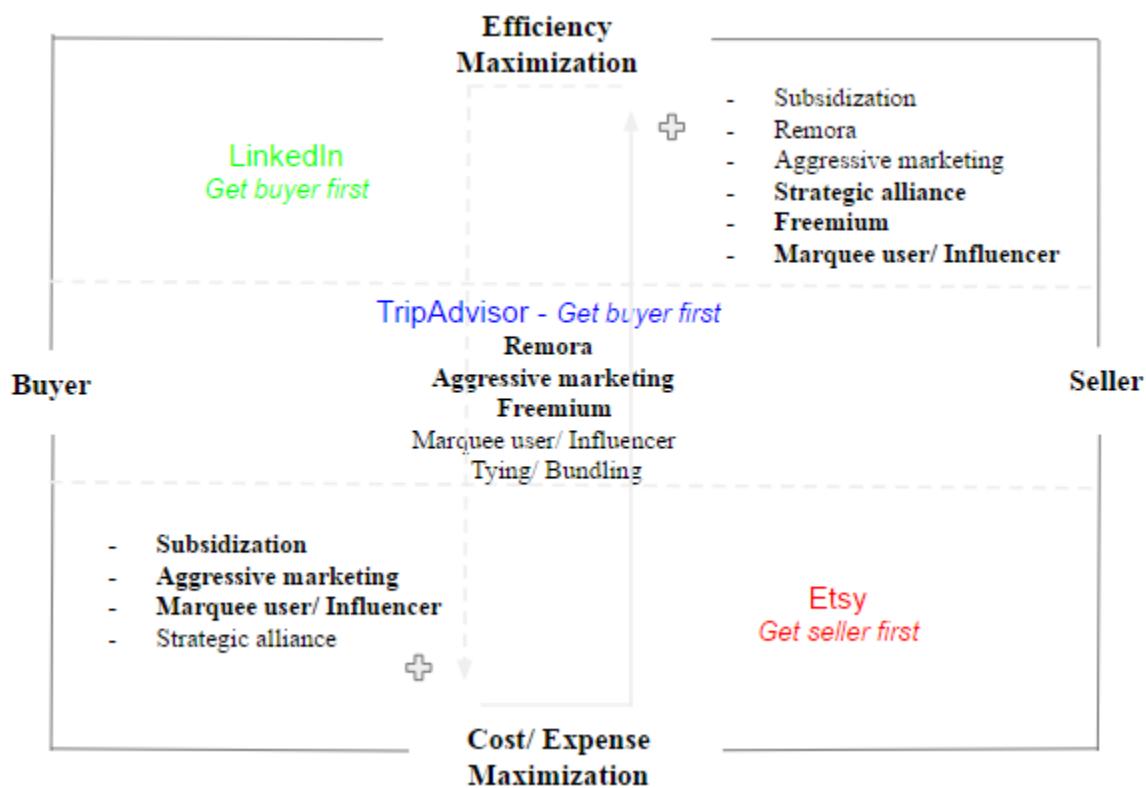
First mover advantage made TripAdvisor gain success in the days when there are few websites enabling real experience sharing from travelers. The company’s greatest resource is huge travel database both from travel professionals as well as its users. TripAdvisor might not be the typical case for Remora but its strategies show indicators of leveraging reputation and resources from existing entities to drive traffic as well as monetize. The company also took advantage of Google search to promoting great content that links to TripAdvisor, which at the same time brought in new users.

The freemium model is a very common way of user acquisition in a crowded marketplace and TripAdvisor also adopts this strategy. In fact, they try to balance their two main functions of providing content and making the business work. Thus freemium fits completely.

4.4 Cross case analysis

This section mainly focuses on linking and comparing the data gathered from all three case platforms. In other words, I am going to explore if the cases share any common characteristics in their early behaviors although being classified in a different type of platforms. Second, a discussion is going to be made on whether the classification stays static across development phases and if there are unexpected features that are not being discussed in the theoretical framework. The following figure will summarize the findings in light of the proposed theoretical framework. Strategies that were used by each case are marked in bold.

Figure 9: Finding summary



4.4.1 Portrayal of early behaviors

Looking at the finding summary, it is evident that all the case platforms had used a combination of strategies and business tactics to solve the chicken-and-egg dilemma instead of focusing on

only one option. But does the order of those strategies matter? LinkedIn started out as a trial error learning organization by releasing a very strong value proposition but with limited features. Marquee users were brought in first by personal invitation to collect feedback on functionalities. Considering the fact that the founding team had built their reputation ahead of LinkedIn and had their own circles of professionals with valuable opinions, personal invitation increased the chances of receiving high quality responses (even recommendation) for the new service. Strategic partnership came next as a way to quickly expand the user base and freemium follows to monetize the service while developing the scale of its impact.

Etsy also actively searched for marquee users not to test out the platform but mainly to create early enthusiast group for platform advocacy. Their value proposition was not strikingly described at early days just because it was obvious considering its business model. People at that time were familiar with Ebay and Amazon, thus the concept of Etsy was definitely of no confusion to its users. Thus Etsy focused on emphasizing on its niche market and bringing in users-influencers-sellers to attract other sellers as well as buyers. Subsidization played a role of extra encouragement while creating buzz through aggressive marketing aimed to prevent its competitors from taking responding action soon enough.

TripAdvisor started out to lead in the era of underdeveloped information distribution by the Internet and Google search on specific industry which is traveling. The greatest resource of TripAdvisor was its content which helped the new service attract first tier of users while discovering the next big step of user review focus. Thus remora was implemented by leveraging existing data from other websites as well as linkage to respectable Expedia. Then the user base was expanded substantially by search traffic and word of mouth marketing.

The order of strategies is well aligned with lean approach for customer development. In lean approach, “The Pivot” is a common term defining company’s strategy constantly changed according to customers’ feedback and behaviors (Borsch et al., 2013). LinkedIn and TripAdvisor set examples for this. While LinkedIn’s employees used their close circle to test out the service, TripAdvisor did a major shift in product development based on feedback and examination of customers’ activities. In fact nowadays, lean startup has become hot trend in entrepreneurial world (Allen, 2015, p.22). New companies are in favor of customer feedback, experimentation and agile approach in comparison to traditional up-front planning. Thus, it is under the shadow

of no doubt that inviting selected users (marquee users) for product testing seems to be the first step of platform business trying to bring the best to the both world.

Tying/ Bundling is the only strategy that was not applied by any platform. Although Choi and Stefanidis (2001) indicated incumbents as likely implementers of this strategy to retain monopoly position, reality has proved that new venture can also take advantage of low entry cost and network externality generated by tying and bundling. Paypal is a good example for such approach. Paypal attached itself to Ebay, which is highly successful e-commerce platform, to leverage its existing user base. Sellers who want to join Ebay need to have Paypal account as part of their accepted payment methods. Thus Ebay has bundled its service with Paypal to sellers, making Paypal facing less difficulty in getting the one side of the market.

4.4.2 Platform transition

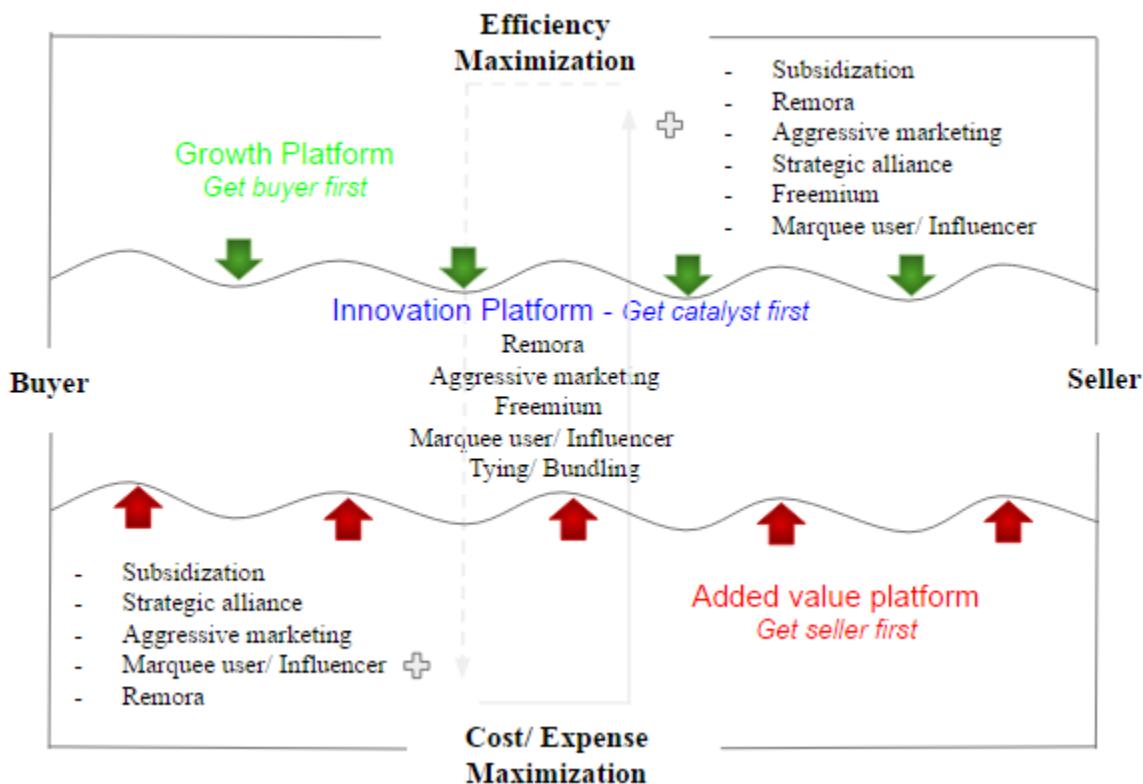
The three platforms LinkedIn, Etsy and TripAdvisor are highly successful cases of platform economy, thus learning from their best practices will make a great benchmarking for similar early stage startup. By comparing what the companies aimed for and how they have become has triggered the conclusion that one platform might move from one type to another type of platform in different stages. For example, so far LinkedIn has introduced multiple platforms to its core such as Social Media Platform, Publishing Platform, and Recruiting Platform, moving from a Growth Platform to Innovation Platform that serves the entire human resource industry which barely took off since 1999. TripAdvisor, if only for its function of connecting hotel owners and customers, would only be the Add value Platform like Etsy. However, TripAdvisor has its competitive advantage of massive travel content which brings more values to its buyer side (customer - user), thus the company innovated the whole hospitality industry. TripAdvisor keeps its positioning until now by introducing more services concerning tours, activities, restaurant, flights and so on, expanding its impact to several groups of business operations and at the same time bringing more values to its users. The boundary between platform typologies is not completely separated, especially in its early days when the concepts and strategies are still evolving. For example, TripAdvisor could function as Growth Platform due to its aim of getting big fast. However, TripAdvisor could also be Added Value platform based on its early enthusiasm in acquiring a monetization model and getting payer side. The reasons for TripAdvisor to stay in the middle of these two types of platform are that TripAdvisor

simultaneously pursue multi-dimensional values in order to innovate and lead the whole industry involved.

4.4.3 Revisit of the theoretical framework

The following figure illustrates what have been discussed earlier in term of platform transition and boundary. Innovation platform might bear similar characteristics to Growth Platform or Value Added Platform in its beginning, yet the way it presents the values and potential impact, as long as the targeted aim makes it stand in different categories than those two. A Platform might transform from a Growth Platform or Value Added Platform to Innovation Platform in later phase of its development as LinkedIn. Thus the figure will more fully represents the complex relationship between those platform categories and its corresponding approaches.

Figure 5: Theory framework revisit



5. Conclusion

5.1 Research summary

The booming of platform business has become a rallying attempt for every new startup hoping to build the next big thing. Yet among those, only a few make it to the turning point of growth. The ultimate benefits of such business depend largely on the interaction between multiple sides of the market through a common platform. How to drive initial liquidity to the marketplace and get both sides (buyers and sellers) on board have been an aching question to all platform practitioners (Bruun et al. 2002, Muztaza et al. 2004 and Salminen 2014) and the very first challenge to any platform startups. The problem of attracting buyers and sellers to new platform venture is called the chicken-and-egg dilemma. Many strategies have been discussed by academic reearchers and practitioners in order to solve the dilemma. However, online marketplaces should not be treated as one single business model as different types of marketplaces may encounter different strategy orientation (Stockdale & Standing 2002). Classification of the platform will assist new platform ventures to pick the best practices in their own domain. The research gap has identified the lack of buyers and sellers' roles in platform categories while they are the sole target of platform business. In addition, no studies have systemized strategies to solve chicken-and-egg dilemma in such a way that new platform owners will make easy benchmarking. Thus, value proposition is chosen as the criteria for my research based on the fact that it is the first and foremost communication from the new platform to its potential users answering question: why should they join the platform?

The research findings have categorized platform businesses into three categories: Growth Platform, Value Added Platform and Innovation Platform. Each of these platforms corresponds to a set of business tactics and strategies that help it to overcome the initial user acquisition problem based on extant literature review. Case study is chosen as the main research method with three successful platform companies representing three types of platforms. Most of the findings from the data analysis support existing literature. Furthermore, the findings also reveal interesting insights. Regardless of its categories, the three cases used a combination of strategies and gave high priority to testing out its services with marquee users which is in agreement with the lean methodology that has become popular among startups as well as incumbents towards

innovation. In addition, the research finds out that platform transition is possible between the three categories in different phrases or expectedly with different values brought to users.

5.2 Managerial implications

First and foremost, the research filled the gap in existing literature by driving platform businesses owners' attention to value proposition when they are trying to solve chicken-and-egg dilemma. The importance of value proposition in user acquisition or retention has been examined by many researchers with the same or similar concepts such as "customer value" (Woodall, 2003).

"The means of customer retention is via the development, communication and delivery of value propositions that meet or exceed customer expectations. Value propositions are those multi-faceted bundles of product, service, price, communication, and interaction which customers experience in their relationship with a supplier. " (Buttle, 1999).

Value proposition is likely to be looked at first by potential users and influences whether they decide to join the new platform. Thus it is important to highlight the values up front at least to one side of the market which can be acquired in mass and play a strategic roles in attracting the other side to join.

This study has also provided new platform owners a window for benchmarking to best practices from successful precedents. Although new platform can compare whether if they offer the similar kind of products/ services or if they targeted the same customer segments as the thriving companies, it is the value proposition that they communicate will boost the customer retention. Forming the starting point based on value proposition will help company to find the best comparable model to learn from its practices. It is notable the following the roaring cases will not guarantee the success, however, it increases the efficiency of learning curve both by trying best practices and avoiding mistakes.

5.2 Limitation and future research

The findings of the study and the accompanying model provide a benchmarking system for new platform companies to compare its model and apply the most suitable strategies to overcome chicken-and-egg dilemma with the value proposition in focus. However it does not take into consideration other factors that might greatly influence the choice of strategy like contextual attributes, especially company's resources. The study is conducted based on the presumption that new ventures are capable of following any strategies that they found suitable and useful. However, in reality, most of the startups face difficulty in early days for financial and human resources. Therefore, those startups might need to give priority one strategy over the other to keep cost down and workload reasonable.

A significant boundary for the study results from inaccessible primary data which might reveal more insights into what actually happened. However, based on the amount of available secondary data, I believe that the data is candid enough to form a meaningful result. In term of sampling, it is only reliable if the cases selected are representative of its category. Although a preliminary analysis has been made in order to ensure the best example, chances are that I might unintentionally neglect better sampling combination. Nevertheless, the selected cases are among the leaders in their own field and they have attracted media and academic discussion which give the study a multidimensional perspective on past events.

Finally, it is important to restate that the study does not attempt to yield new knowledge but rather rearrange and systemize what have been put forward by previous researchers as well as business experts. Future research might take a quantitative approach to further test the findings in larger scale, removing the sampling limitation of this study. Another consideration might take the new platforms as the main studied group and explore how they single out which strategy to be made to overcome the dilemma in order to determine the most popular method of benchmarking in this context and other factors that affect the decision making process.

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