

# **Grabber-Holder Dynamics: A Framework for Creating and Shaping Innovation**

by

Edison Tse

Department of Management Science & Engineering

Stanford University

Stanford, CA 94305

## **Abstract**

Blue Ocean Strategy advocates firms should create new market instead of competing on the old market. However, it is important for a firm to know not only how to create a new market, but also how to sustain its first mover advantage to derive long term economic benefit generated by such creation. In this paper, we introduce Grabber-Holder dynamics as a fundamental analytical framework for a firm to successfully create and shape the diffusion of innovation to maintain first move advantage. A Grabber grabs people's interests, and appeals to human's emotion and imagination, but not to his rationality. The Holder of a grabber vision is the collection of economic agents, infrastructure, processes, knowledge, and skills that enables those who were grabbed by the excitement to realize value from embracing it. In the creation of new business dynamics, it is the strong grabber that triggers the innovation and change; but it is the dynamic formation of the holder structure that shapes the forces driving the innovation dynamics. By breaking down and analyzing the dynamic holder structure, we develop a procedure that a firm can follow in order to increase its chance of deriving long term benefits generated by its innovation.

**This paper is suitable inclusion in the BrightHouse Distinctive Advantage Track**

Key word: Blue Ocean Strategy, disruptive strategy, new market creation, ecosystem, innovation, first mover and follower advantage

## **Introduction**

Recent years, companies are interested in developing strategic that would enable them to move out from the traditional competition space and create a new niche market where there is no competition. Kim and Mauborge (2005) called this the “Blue Ocean Strategy”. Then there are disruption strategies described by Christensen and Raynor (2003): new market disruption and low end disruption. All these various strategies have one thing in common: it focus at creating a new market for the firm to enter by introducing an innovative product or service. Typically, this kind of innovation would require a new value chain to support its value proposition. Then the question is who can build a stronger value chain faster to support the innovation: the innovator or followers. Apple is a very innovative company. It successfully broke open the personal computer market by Apple II, but lost its dominance in the PC market to IBM then to Compaq and Dell; it introduced an exciting Graphical Operating System but lost out to Microsoft in the Operating System market. Sony is another innovative company that created the VCR market in US only to lose out to JVC in a few years. Then look at Microsoft, who played the role of a follower in PC software market disruptions, but managed to overcome others’ first mover advantage and extract higher long term economic benefit even though the first mover was financially at a stronger position. In fact, there were various discussions on first mover advantage vs. follower advantage. See Lieberman and Montgomery (1988, 1998), Barney (1986, 1991), Peteraf (1993), Teece (1986), and Wernerfelt (1984).

Tse (2002) argued that even though an innovative idea is initiated by a person or a firm, the successful commercialization of such idea is the result of actions by a group of uncoordinated economic agents responding to an exciting new possibility. In this sense, the outcome of an innovation or new market creation is exogenous rather than controlled by a firm. Therefore regardless of who initiate the innovation, the firm that can manage its internal resources properly to steer the exogenous forces in shaping the innovation dynamics to its favor would be the beneficiary of such innovation. In this paper, we introduce grabber-holder dynamics as a fundamental analytical framework that can provide guideline for a firm to increase its chance of success in creating and shaping the innovation dynamics that would give the firm long term benefit. Contrary to what many believe, we show that creating a new market does not “kill off” competition, it just shift the competition from the “front end” product market to the “back end” resource market.

This type of competition differs from the traditional competition model, but it resembles a dynamic two-sided market<sup>1</sup> competition model introduced by Sun and Tse (2007). Using this modeling framework, we explain why innovators like Apple and Sony lost out to followers. We also provide some explicit guidelines for firm to maintain first mover advantage in creating new market.

### **A Basic Analytical Framework: Grabber-Holder Dynamics**

Between the years 770 to 476 BC, China was in a long period of chaos where many war lords continuously fighting among each other. Because of the political and social unrest, people were facing frequent disruptions. Many wise philosophers emerged to teach people how to deal with such externality. Two of the most influential thinkers are Confucius and Lao-tzu. Confucius and his students' teachings emphasized self-control and learn how to live harmoniously within an unpredictable dynamic environment. Lao-tzu taught one to align one's action with the powerful force of nature. Taoism, a school of thought found by Lao-tzu, studied the law of natural world dynamics with specific emphasis on the "creation of something from nothing." It introduced the notion of *Wu-Chi*, or the ultimate nothingness. As explained by Jou (1981): "Before the creation, there is nothing, yet certainly there is something. We do not know what that something is, nor do we know what that something comes from; but certainly something is there." Students of Taoism and Tai-Chi, a branch of Taoism, studied how this something can come about from the ultimate nothingness. They articulated the two polarities of something and nothing as *Yang* and *Yin*. They advocated that the creation of any dynamic movement is the synergistic interaction of these two polarities. They called it the Yin-Yang dynamics. Many western studies also support the premise that dynamic motion is created by the interaction of action (*Yang*) and reaction (*Yin*). For example, Newton's law indicates that dynamic motion is caused by action and reaction. Many studies in psychology reported how human relationships change as a result of the interaction of action and reaction.

---

<sup>1</sup> *Two-sided market* is a recent development in the field of economics with early contributions coming from Armstrong (2006), Caillaud and Jullien (2003), Rochet and Tirole (2003) and Schiff (2003) among others. In such a market, two groups of agents interact with each other via a common network platform and the value of participating in the network for agents in one group depends on the number of participants from the other group. Examples of two-sided market include VCR, PC operating system, credit card, yellow page, department store, and video game.

In the economic decision making context, the two extreme polarities are rationality and emotion. I define the notion of a “**Grabber**” as anything that can grab people’s interest. It does not have to be real, but it must have a “cool factor” that appeals to one’s emotion and imagination. A “**Holder**” is the collection of economic agents, supporting infrastructure, processes, knowledge, and skills that enable those who were grabbed by the excitement to realize value from it. The holder provides realized rationality for people to embrace the grabber. In the creation of new business dynamics, it is the cool grabber that triggers the change; but it is the formation of holder that shapes the change dynamics. This is the fundamental framework of grabber-holder dynamics. Before a grabber is articulated, all the elements constituting the holder exist in different forms that may not be easily identified by most people. In the spirit of *Wu-Chi*, the elements constituting the holder are “something,” but before the entrepreneur articulates the grabber vision, these elements are not in a form that supports the vision, and thus there is “nothing.” It is the grabber vision that triggers the motion of converting the “nothing” (which appear in a different form) into “something” (appear in the form that can support the vision). Grabber is *Yang*, and holder is *Yin*. Grabber is easy to create, but it would take a time for the holder to form. So pushing the grabber too hard before the holder is in place would only lead to downfall: the higher you go, the harder you fall. Having the holder but no grabber, there is no motion and things would remain static.

### **Grabber Vision**

What would grab people’s interest and attention? Imagine at the time that car was first introduced. Telling people about the car’s acceleration performance, miles per gallon, etc. would be meaningless because they could not drive the car very far in the absence of paved road across town. What trigger the excitement was not the detailed specific car attributes but the notion of a “horseless carriage”. When Sony brought VCR to the home market, its exciting vision was time shift: “watch your favorite TV program at the time you want”. Later, Hollywood introduced the vision of “watch pre-recorded movies at home”. When PC was introduced, the exciting vision was “Computer for everyone”. When discount store was introduced, the vision was: “Every day low price”. An exciting vision must be new and different, yet simple enough to appeal to people’s imagination and emotion. Here are some approaches to create a cool grabber.

- ? ***Add and subtract of what we are familiar with:*** For example, the “horseless carriage” is derived from taking away the horse and adding an engine to a carriage. The “watch pre-recorded movie at home” is derived from watching movie not in the theater (subtract) but instead watch it at home (add). This kind of grabber vision can easily trigger one’s imagination that appeals to one’s emotion.
- ? ***A mix of what we know:*** For example, “computer for everyone” is a mix of a computer that is big but can do general computation and a personal calculator that is small but can only do limited computation. A vision derived from mixing more than two things that we know would trigger us to image what it would be like if we can bring together the strong attributes and reduce the undesirable attributes of these things. Again, it is the imagination that triggers one’s emotion.
- ? ***Appeal to our inspiration:*** Horse carriage had been the traditional mode of transportation. When the holder infrastructure was in place to support car as an alternate mode for transportation, many people aspired to own a car. “Car for common people” was a grabber vision that triggered people’s imagination how life would be if they could go around riding a car. People had been communicating with others at home or office via telephone, many would aspire to would be the ability to “communicate with anyone, anywhere, and anytime” According to Maslow’s model of hierarchical needs (Maslow (1943)), this type of vision is created by appealing to one’s next level of needs when the current level has reached saturation.
- ? ***Go against what is commonly known:*** To be different can create cool factor. New generation always considers things that go against the old generation cool. When all department stores had the practice of seasonal sales every year, the notion of “everyday low price” would capture people’s imagination and emotion. When everyone is buying computer based on its functionalities and performance, a cool-looking iMac would trigger one’s emotion. This type of grabber usually forces the market to split: one favors the commonly known, and the others go with the opposite.

A vision created using any one of these approaches would be broad, simple, powerful and not very specific<sup>2</sup> that would induce cool factor to quickly grab people's attention. The vagueness of a vision would allow different interpretations by different entrepreneurs promoting the vision. A grabber vision would not only "grab" customers, it would also "grab" entrepreneurs to participate in providing products or services to make the vision a reality. These customers and entrepreneurs are economic agents acted based on the excitement and emotional desire to engage in promoting the vision, rather than based on rational cost benefit analysis. However, whether these people will continue to promote the grabber vision depends on whether the exciting grabber vision can induce the development of necessary supporting elements that would enable the customers and entrepreneurs to derive tangible benefit from continue promoting the grabber vision. We shall refer to the collection of all these supporting elements the "holder" for the grabber vision.

### **Holder Measure of a Grabber Vision**

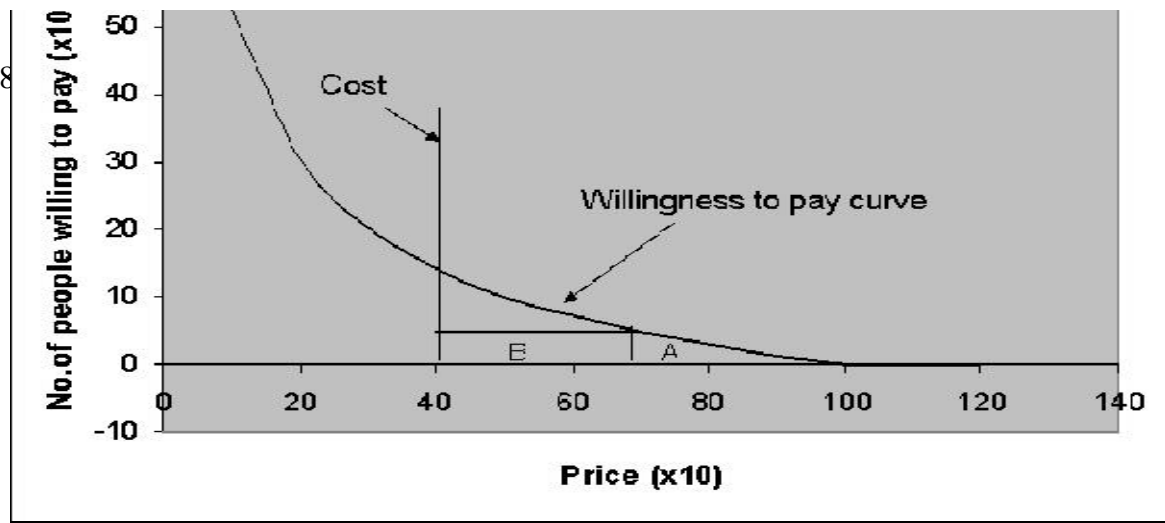
Associate with a grabber vision is a value proposition. We shall use a simple example to illustrate the benefit of a value proposition associated with a vision. When Sony first introduced the VCR to the home market, it promoted the "time shift" concept: "watch your favorite TV program at the time you choose." So the value proposition was: "You do not have to be at home when the broadcasting station schedules to air your favorite TV program, you can record it and play it at the time of your choice." How can one assess the benefit of such value proposition? Also, benefit to whom? One might say that it is the benefit to the consumer. However, the consumer cannot benefit from such value proposition if the producers, distributors and component suppliers cannot derive economic benefit from offering their products and/or services to enable consumer to derive such benefit. Therefore the benefit of a value proposition must incorporate the benefits that consumer and these economic agents can derive from promoting the vision.

For a person who is very busy with unpredictable schedule, Sony's time shift vision would appeal to his/her emotion. If the recording machine was below a certain price (say \$1,000), was small enough that it could fit into one's living room, have

---

<sup>2</sup> Once it is too specific, then one would get down to the details and start seeing the inadequacy. This would drastically reduce the level of excitement. To be effective, a vision must only appeals to ones emotion and not ones rationality

reasonably good recording and playback quality and could record at least up to one hour recording time, then the proposition would start to “grab” someone to buy Sony’s VCR. However, after they bought the VCR, they found that they needed to program the recorder to do auto-recording in order to fulfill the time shift vision. This task was relatively simple for one group of customers but rather complex for another group of customers. Thus for a fixed set of attribute values {size of machine, recording and playback quality, length of tape, ease of auto-recording setting}, different consumer would be have a price level that he/she is willing to pay for the grabber vision based on rationality. In figure 1, we have a graph that represents the distribution of consumers’ willingness to pay based on rationality for a specific set of attribute values. Note that if the price of the machine is more than \$1,000, then based on rationality, no one is willing to buy. If the total unit cost of producing and delivering a machine to a consumer is \$400, and the price of the machine is set at \$700, then the area A represents the total benefit derived by the consumers, while B represents total profit that can be shared among the Sony, and all the agents in the supply chain. So the area A+B represents the total benefit that would “hold” the consumers and all the economic agents in the supply chain by providing them positive value in embracing the vision. We shall refer this as the holder measure (HM) representing the realized value proposition projected by the grabber vision. If the cost is greater than \$1,000, then the HM is negative and the vision cannot become a reality if consumers and economic agents are all rational. Even if HM is negative, a grabber vision might “grab” some customers and economic agents to engage in promoting the vision, but the grabber effect will die out in time. The more exciting the grabber vision, the more people would be grabbed by the vision and the longer it would take for the initial grabber effect to die out. In this case, we say that there is no holder. This would be the situation in the early stage of any emerging market where the necessary infrastructure to support the grabber vision is not yet in place, and that even though a strong grabber would creates market buzz, the market would die quickly.

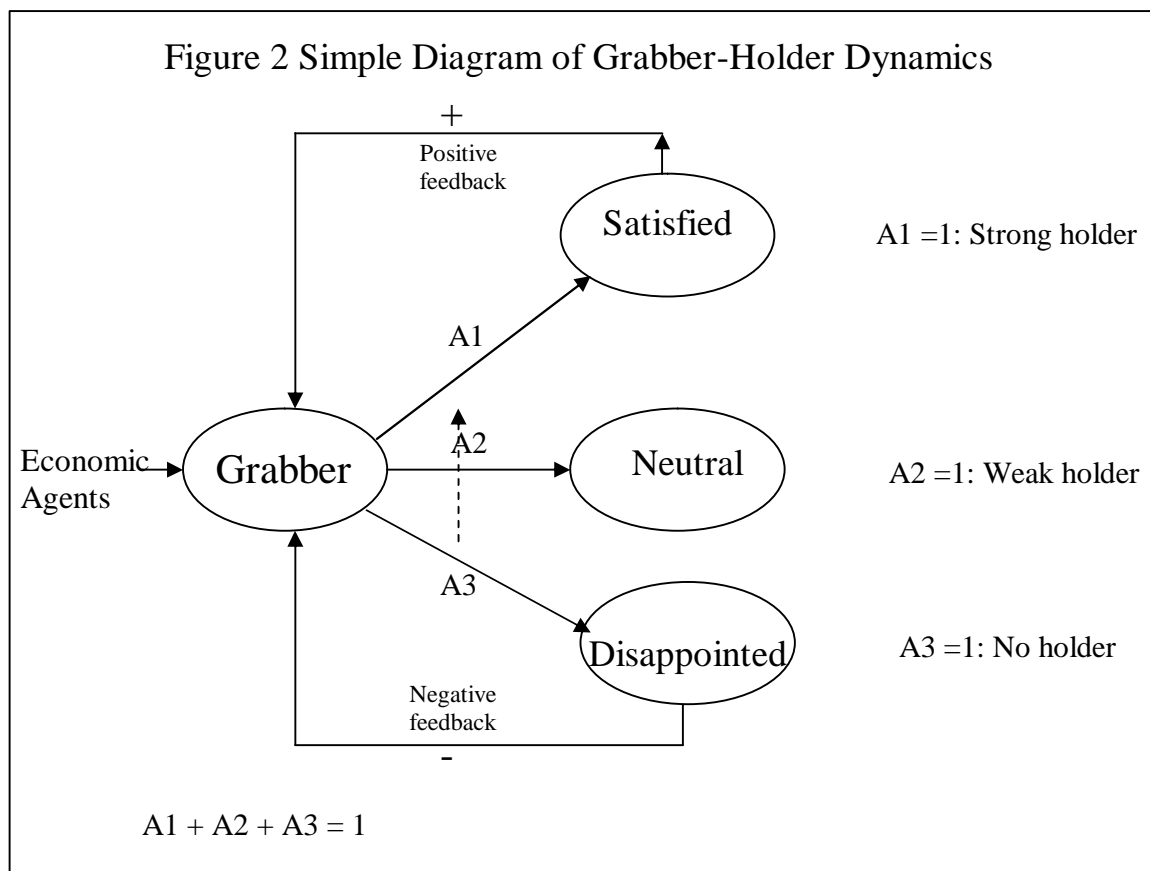


If HM is positive but small, then the realized value proposition may not be enough to attract new customers and agents to participate in promoting the vision based on rationality. In this case, we say that we have a weak holder. If HM is positive and large, then the realized value proposition would be strong enough to attract new customers and agents. More customers would induce economy of scale to reduce cost, more economic agents engage in supporting the vision would result in better infrastructure to reduce cost and better product and services that would push the rational willingness to pay curve up. The result would be an increase of HM. In this case we say that we have a strong holder.

### **Grabber-Holder Dynamics and Vision Competition**

The distinction between a grabber and a holder is that grabber is some sort of cool factor that appeals to human's emotion and imagination to participate in promoting the vision while holder is the supporting elements that enables people that embrace the grabber to realize benefit. The collection of consumers, economic agents and their internal assets, as well as the infrastructure developed that provide the holder for a vision is referred as the business ecosystem supporting the vision. A simple description of grabber-holder dynamics is illustrated in Figure 2. An exciting grabber would grab a group of economic agents to participate. If there is no holder, then we have negative feedback cycle that would die out the grabber effect. If the holder is weak, then we need to continue pushing the grabber to maintain the growth in the ecosystem. If holder is strong, then the ecosystem would provide a rational base for more customers and economic agents to participate and induce a self propelling growth dynamics. Very often, in the creation of a new business dynamics, there is no holder in the beginning and thus it is the strong grabber that triggers the disruption. Whether this would create a sustainable

new market hinges on whether the strong grabber can induce enough economic agents to allocate their resources to bring HM to a high enough positive value that would cause a self propelling growth dynamic that would develop a strong ecosystem. This is represented by moving the arrow in Figure 2 from  $A_3$  to  $A_1$ . If the HM can only move the resulting on how fast a could shape the ve  $A_3$  to  $A_1$ .



Suppose there are two visions drawing the same pool of economic. Some economic agents in the pool could allocate their resources to develop an infrastructure to support both visions, while others have to decide allocating their resources among the two visions. Then the two visions are competing on these agents' resources. We call this vision competition. We shall use the case of VCR war between Sony and JVC to illustrate how vision competition is different product competition, and also what would the factors that determine the winner in a vision competition.

**The VCR War: Sony vs. JVC**

Sony introduced Beta format VCR as a device to fulfill the “time shift” vision. When Sony broke open the US VCR consumer market, the HM became positive. As a first mover and with a strong brand name, Sony quickly dominated the market with close to 80% market share. However, close examination of its market penetration would reveal its limitation for growth. In order that a consumer can derive the benefit of time shift vision, he or she must be able to handle the auto-recording setting mechanism. For those people who are technology savvy, he or she would find the auto-recording setting function easy to handle, but for a majority of consumers, this was not very easy.<sup>3</sup> Thus “easy to set auto-recording” is the important attribute that would limit the penetration of VCR into the general mass market. To engage in product competition, VCR producers would compete in developing new technology that could drastically improve the ease of self auto-recording attribute. This was a technical bottleneck that Sony, or other VCR manufacturer, could not remove easily. This constraint had put a damper in the VCR market growth. Interestingly enough, the VCR market finally exploded not by Sony or another VCR producer solving this constraint problem, but by a non-VCR producer who introduced a totally different grabber vision.

When Sony introduced the Beta format VCR, Hollywood movie producers sued Sony for intellectual property infringement. Sony fought the legal battle and won. In the mean time, movie producers introduced a new grabber vision: “Watch your pre-recorded favorite movie at home.” This proposition did not require consumers to do any recording at all, so the attribute of “ease of auto-recording” became irrelevant. Also, to make the proposition more valuable, movie producers would roll out new movie titles a few months after the movies finished their first view cycle in theaters. When Hollywood movie producers first put their movie titles in VCR tape, the price per movie title was about \$90, which was much higher than the price that people were paying to watch a movie in theater. So consumers’ decision to buy a VCR was primarily based on realizing the “time shift” vision. When the movie producers had put enough new and old movies into pre-recorded tapes, and sold them at about \$90/title, a new group of entrepreneurs

---

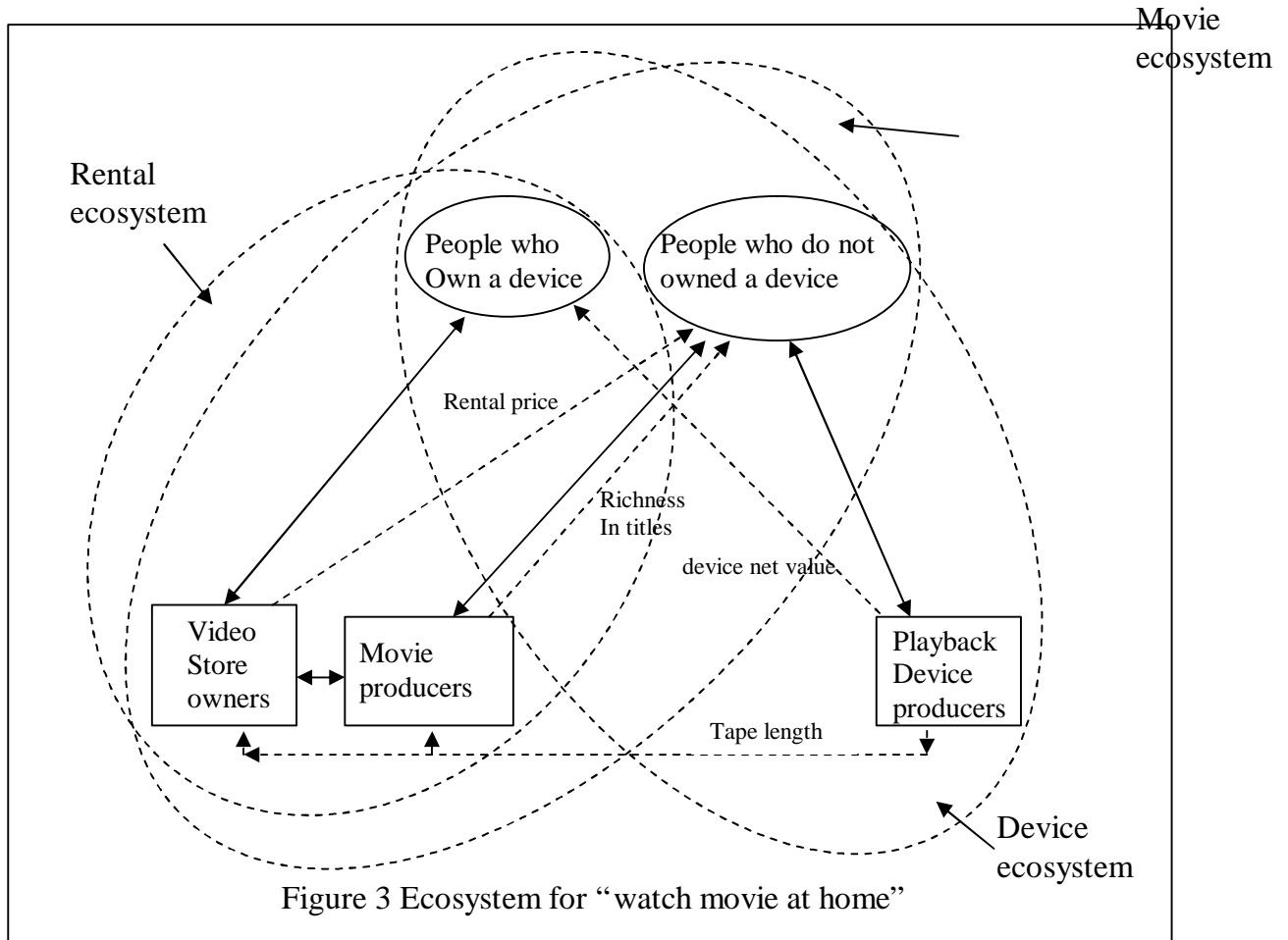
<sup>3</sup> Even up to 90’s, there were services that provide a 1-8 code for specific program auto-recording setting. Each code was attached to a specific TV program and was published in TV Guides to help general public in setting auto-recording easily.

created a pre-recorded video movie rental market. Video store owners used volume purchase to cut down the unit price for pre-recorded movies and rent them at about \$9.90 per movie title per day, which was lower than \$12.50 that people paid to watch a movie in theater. Since a rented movie could be enjoyed by the whole family, usually more than two persons, the emergence of video stores made the value proposition of “watch pre-recorded movie at home” much more attractive to their neighborhood consumers as compared to the “time shift” vision. So the willingness to pay curve for VCR would shift up a lot with entrepreneurs opening new video stores, increasing both A and B even with the same price and cost for the device.

Note that when movie producers first promoted the “watch pre-recorded movie at home” vision, there was no video store. With a pre-recorded movie priced at \$90, it was not clear whether there would be a market. Similarly, early video rental store owners had to make upfront commitment to set up a store and bought enough movie titles before there were enough people in the neighborhood owned a VCR. Many VCR producers had already invested in VCR technology before it was introduced into the market. Early consumers purchased a VCR before there were enough video stores in the neighborhood. We refer them as **committed agents** for the “watch pre-recorded movie at home” vision as their decisions to participate were based on their emotion to promote the grabber vision. They believed that the grabber vision, if actually realized, would give them great benefit; but they did not know whether the vision would come true, or whether they could realize worthwhile benefit even if the vision would come true. However, whether they will remain enthusiastic to continue embracing the vision would depend whether their uncoordinated actions can shape the formation of a strong ecosystem that would enable them to derive positive benefit.

The ecosystem supporting this grabber vision comprises of three ecosystems: an ecosystem for the playback device, an ecosystem for the rental service, and an ecosystem for movie production and distribution, and the HM for the grabber vision is the sum of the HM for each ecosystem. The larger is the HM for the vision, the stronger would be its ecosystem. These ecosystems have overlapping agents, and the decision of an agent in one ecosystem will have impact on other ecosystems. See Figure 3. For example, video rental store and movie producers are not in the device ecosystem, but when a video store owner opens a store in a crowded neighborhood, it would influence people in that neighborhood in device purchase decision; it could further increase demand for the

device by reducing the movie rental price. Movie produce can also influence people's device purchase decision by enriching movie titles. These are represented by dashed arrows in Figure 3. Similarly, a device producer can drop price, design product with higher value to increase demand for device which would make the rental store and pre-recorded movie businesses more attractive and thus drawing more entrepreneurs to enter the rental ecosystem and induce movie producers to further enrich movie titles. Again, we indicate this by dashed arrows in Figure 3.



The necessary condition for a grabber vision to survive is that each of the attributes {device compactness, playback quality, rental price, richness of movie quality, tape length, video rental store coverage} must exceed a certain threshold level such that all committed agents within the ecosystem would derive positive benefit. We refer these attributes as **supporting drivers** for the “watch pre-recorded movie at home” vision as they collectively provide **support** to for the vision to be possible. These drivers are controlled by different agents and thus it is not clear when the threshold would be

reached or whether it would be reached at all. Before the threshold level is reached, the committed agents are grabbed by the excitement of the vision, believing that the threshold level would be reached in near future. If the threshold is not met in time, these committed agents would abandon the vision and engage in other economic activities.

We had Sony and JVC as two device producers, each with a different format and different convenience level in playback. Sony was promoting Beta format that had a one-hour tape length, and JVC was promoting VHS format that had a two-hour tape length. Beta had a slightly better picture recording quality but both have similar playback quality. A 90 to 120 minutes movie would have to be pre-recorded in two Beta format tapes but only one VHS format tape. We can associate each format an ecosystem, each representing an interpretation of the vision {watch pre-recorded movie at home}: Beta interpretation and VHS interpretation. Consumer would have to decide to buy a Beta or a VHS to fulfill the vision. Movie producers and video store owners would have to decide how to allocate their resources among the two ecosystems.

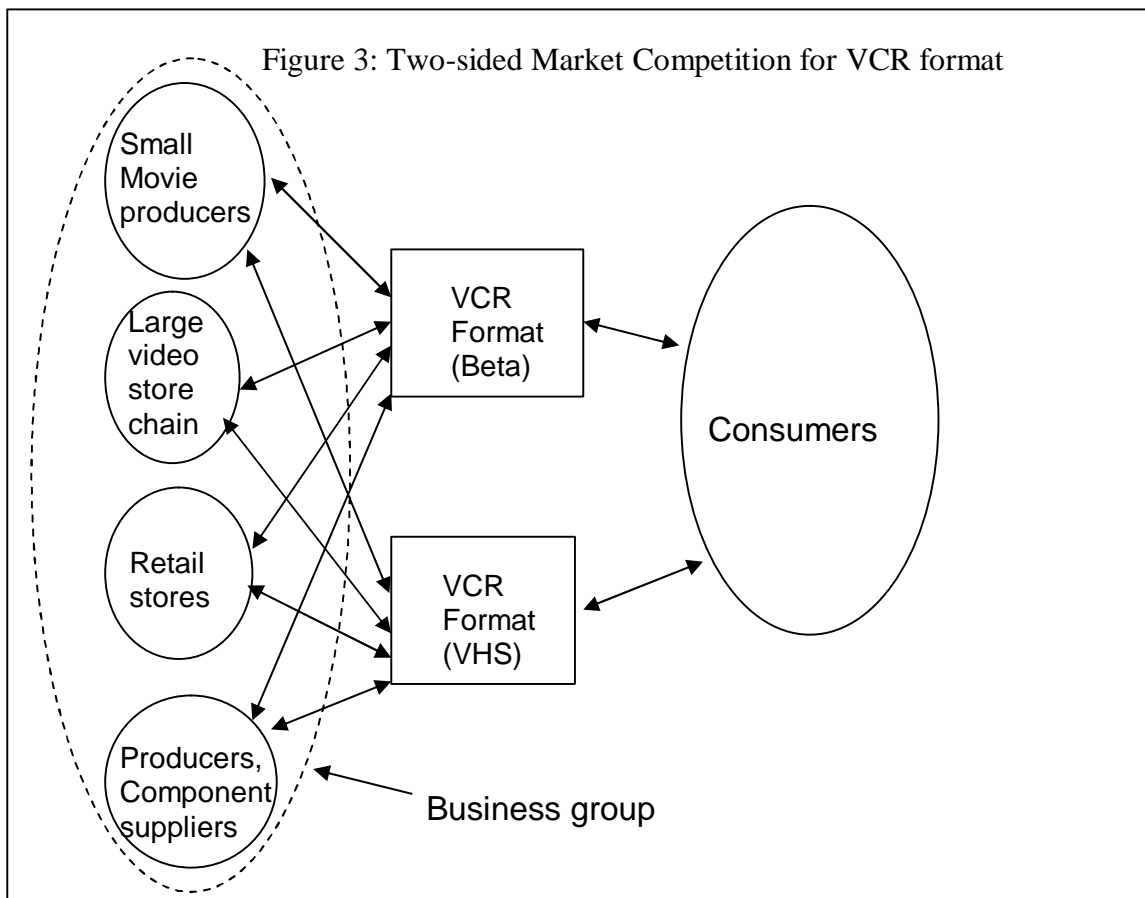
To fulfill the “watch pre-recorded movie at home” vision, consumers would prefer the format with more movie titles. Early video store owners were committed agents who would select a vision interpretation that could give them higher profit. With a fixed store space, a video store owner could hold more VHS movie titles than Beta movie titles. Thus, these store owners would have a higher preference to be a committed agent for the VHS ecosystem. However, if there were a lot more people having Beta device, they would hedge their bet and bought movies in both formats. They would switch to VHS entirely if the percentage of people owning Beta is slightly less than 50%. In the early period, most of small video stores in US had movie titles in both formats, but within a year, many of them only carried VHS titles. For quite sometime, large music and video stores had movie titles in both VHS and Beta format, with slightly more titles in VHS format. Hollywood movie producers would respond mainly to video rental store demand. Therefore the format difference would induce more video store in VHS ecosystem, which would drive more people to buy a VCR with VHS format. Movie producers would follow the trend and put more movies titles in VHS format. So collectively, these economic agents would push the supporting drivers for VHS interpretation to exceed its survival threshold faster than that for Beta interpretation.

After it has exceeded the survival level, continue to improve the attributes {device compactness of VHS, VHS playback quality, rental price} would reach diminishing

return. When that was reached these attributes collectively provided support to the VHS interpretation at some positive level, and so we still refer them as supporting drivers. To further improve benefits beyond this level, we need to improve the attributes {richness of movie titles in VHS, video rental store coverage for VHS}. We call these attributes the **key drivers** for VHS interpretation. As the {rental video coverage for VHS} attribute reached a certain level, extending coverage would have little additional benefits to VHS ecosystem's members. This attribute would become a supporting driver while {richness in movie titles in VHS} would remain as the only key driver for VHS interpretation. Similarly, we can define supporting and key drivers for Beta interpretation.

If only one interpretation could pass the survival threshold, then it would be the winning interpretation, if both interpretations could pass the survival thresholds, then we would have a dynamic platform competition based on rationality instead of emotion. Suppose both interpretations exceeded the survival thresholds and further improvement in the key drivers brought both interpretations to a level higher than the industry average, then it would trigger other more risk adverse economic agents who were in other businesses to enter and embrace either one (or both) of the vision interpretations. For example, many new independent film producers would find business opportunities in making small-scale movie productions that appeal to small niche segments and market them via the video rental store channel. Investors would see the rental stores had good earning potential and would invest large amount to consolidate small video stores and establish new stores to form large video chain stores. Also, large retail stores would find new business opportunity by allocating some retail space for video movie rental. With fast penetration of VCR, many electronic products producers would want to license the technology and produce VCR, and many small component suppliers in countries with low wage would shift allocate their production capacities to provide low cost quality supply components to VCR manufacturers. All these economic agents decide to embrace the vision because, as compared to other opportunities, they can derive higher benefit by joining the ecosystem. We refer these agents as **opportunistic agents**. Each of these agents would provide exogenous factors improving the HM for the ecosystem. We shall refer these factors as **superfluous drivers**, as it exceeds what would be necessary for the vision to become a possibility. However, the ability to shape these exogenous factors to support one interpretation would strength the ecosystem for that interpretation.

A VCR format can be viewed as a platform that links two groups of opportunistic economic agents together. One group is consumers that would buy a particular VCR format to realize the “watch pre-recorded movie at home” vision. The other group consists of business subgroups who decide to allocate their resources to embrace either one or both of the VCR formats. As more customers embrace a particular VCR format, it would offer more economic opportunities and thus would draw more new business subgroups into its ecosystem, and vice versa. In Figure 4, we illustrate a two-sided market competition for the Beta and VHS formats. Since most consumers and video store owners would only embrace one format standard, it was shown by Sun and Tse (2007) that with this kind of market characteristic, the format that could provide more value to both sides of the market would eventually induce a stronger spiral and draw all the opportunistic agents to its ecosystem as having a “winner takes all” situation.. Since VHS’s 2-hour tape length format would provide more value to both consumers and business subgroups than Beta’s 1-hour tape length format, VHS displaced Beta as the VCR standard even though Beta had a first mover advantage.



### **A New Paradigm in Dynamic Competitive Analysis and Strategy Formation**

If one views the competition between Sony's Beta and JVC's VHS as product competition, then there is no good explanation why JVC, an unknown home electronics producer, could quickly overtook Sony, a brand name home electronics producer who had already captured more than 50% of US VCR market share, and dominated the US VCR market in a short period of a few years. In terms of attribute comparison, Sony had better recording quality, a much stronger brand name in the consumer electronic market in US. Sony's price was higher, but Sony's product had always charged premium as compared to other Japanese consumer electronic products and had never experienced similar situation as in the VCR case. The only noticeable attribute difference is the length of the tape. If, however, people were using VCR mainly for recording and playback programs, then it is hard to conceive that it would be the key factor that could tip the balance.

So we may say that Beta and VHS were actually not competing in the "same product space" but competing to fulfill different grabber visions with different value proposition. By introducing a new value proposition, consumers and economic agents were sensitized to a different set of attributes thereby requiring a different set of holder elements to support the new value proposition. In Sony's original "time shift" vision, the key attribute that determine its value proposition is "auto-recording setting". And the major player that could influence this attribute would be the VCR producer. By introducing the new grabber vision "watching pre-recorded movie at home", the auto-recording setting attribute became irrelevant while the other attributes "timely availability of movie titles, convenience, and length of tape playtime" became important. Moreover, different group of players would influence these attributes: movie producers made decision to influence the "richness in pre-recorded movie titles" attribute, video store owners made decision in store location, stock inventory and rental price to influence the "convenience" and "price per view" attributes; and the VCR producer made design decision to influence "device compactness, playback quality, length of tape playtime" attributes. This implies that no single firm could support the "watch pre-recorded movie at home" vision. Instead, it would require a business ecosystem that consists of three overlapping ecosystems to support the vision. In the vision competition between "watch your favorite TV program at the time you want" and "watch pre-recorded movie at home", the ecosystem that supports the first vision consists mainly VCR producers, its

distributors and consumers; whereas the ecosystem supporting the second vision consists of Hollywood movie producers, VCR producers and their distributors, movie rental shop owners and consumers. So JVC won because it had a better design that induced a superior interpretation of the “watch pre-recorded movie at home” vision as compared to Sony’s Beta interpretation. As a result, VHS ecosystem grew into a stronger ecosystem even though it started late. From the resource point of view, JVC was weaker than Sony in supporting the “time shift” vision, but Hollywood, rental movie stores, and JVC collectively were stronger than Sony in supporting “watch your pre-recorded movie at home” vision.

### **Procedure in Shaping the Grabber-Holder Dynamics**

In the VCR case example, we see that by analyzing the grabber vision statement we can identify two different groups of economic agents. One group we call the **committed agents** and the other group the **opportunistic agents**. These agents can be individuals, firms, or organizations. The distinction between these two groups is that the committed group would participate to promote the grabber vision before there is a clear indication that the vision will come true, whereas the opportunistic group would only participate after they see that they can derive higher benefit than what they have been doing by embracing the vision.

The committed agents could collectively control the set of attributes that increase the value proposition of the grabber vision to all agents within the ecosystem, but they act independently to improve these attributes in an uncoordinated manner. In the process, they built up infrastructure and other holder elements supporting the vision. In order that the vision can survive and become a possibility, a set of attributes must be improved to reach a certain threshold level that would enable all committed agents to derive positive benefits. These set of attributes is referred as **supporting drivers** as they would “support” the grabber vision as a possibility. Further increase in HM is controlled by improving certain attributes that we referred as the **key drivers** for the grabber vision. In the above example, {richness in movie titles, video rental store coverage} were two key drivers. Sometimes these key drivers are interdependent in the sense that improvement in an appropriate combination of them is necessary to yield increasing benefits to all committed agents in the ecosystem. Very often, when a key driver is improved up to a saturation level, it will lose its key role in influencing the increase in holder measure and

become a supporting driver. In the VCR example, “video store coverage” lost the effect as a key driver when most of the densely populated regions had video rental stores.

As the ecosystem’s holder measure is high enough such that the committed agents are making higher than average return, this would trigger more risk adverse consumers and business entities to enter and participate in promoting the vision because they would get a better return by participating in the ecosystem. We refer them as opportunistic agents. Their participation would provide additional attributes or improve certain existing attributes. Each of them may have little impact, but collectively they would greatly improve benefits to all agents in the ecosystem. We refer their activities as superfluous drivers since they are not essential for supporting the vision and each of them would provide “superfluous” value to those who had already embraced the vision. The emergence of opportunistic agents would induce a two-way positive cross-network effect where more opportunistic consumers would draw in more opportunistic business entities, and vice versa. This would induce a self perpetual growth that builds a strong ecosystem. As the economic agents allocating their resources to support the ecosystem, specific infrastructure would be built up to form the value chain structure for the new vision.

Building of the ecosystem for the new vision is “path dependent” in the sense that the order how each attributes are improved in supporting an interpretation would lead to different ecosystem with different strength in supporting that interpretation. Sony and JVC selected different path in developing its VCR format. Sony first pushed to achieve compactness and recording quality then later increase tape length to two hours, whereas JVS first design the product to have two hour tape length and then later improve recording quality and compactness. They both end up with a product with similar attributes, but the different improvement paths that these firms took resulted in two different ecosystems, with one much stronger than others.

If the ecosystem exceed the survival level but the key drivers are not effective enough to bring the ecosystem to the next level that would trigger opportunistic agents to enter, then we have the situation where the arrow in Figure 2 moves from  $A_3$  to  $A_2$ . In this is the case, then the so called new market is just new, but committed agents are getting less than average return, and it is hard to draw in new resources to support its growth. The success of a grabber vision hinges on whether the committed agents can the ecosystem to the level that would trigger opportunistic agents to particiapte, moving  $A_3$  to  $A_1$  in Figure 2. In this case, small efforts from the committed agents can induce spiral

growth in return and thus all agents in the ecosystem would be getting higher than average return. The level of success is proportional to the amount of resources that the opportunistic agents would allocate to support the ecosystem. Since these agents are drawn from other established markets, the grabber vision is competing with other established visions in drawing these resources. If there are more than two interpretations of the same vision, then each interpretation is competing with each other and other established visions in drawing the opportunistic agents. So the success of implementing a particular interpretation of a new grabber vision hinges on whether the firm promoting the interpretation can create a more conducive environment as compared to other competing interpretations that would enable it to win out in drawing resources from opportunistic agents who had been supporting old established visions.

### **Other Examples Cases**

Apple successfully built an ecosystem for Apple II that started to draw in small opportunistic agents into its ecosystem. IBM entered the market with an open system and drew in Lotus Development Corporation, Intel and Microsoft as committed agents to support its vision. Instead of continue promoting Apple II interpretation, Apple diverted its resource to create another interpretation: Macintosh. Apple attracted a few committed agents (e.g. Microsoft and Adobe) to promote Macintosh, but its closed architecture made it hard for third party software developers (opportunistic agent) to participate. This gave IBM the opportunity to quickly draw in opportunistic agents to support its interpretation. In a short period of two years, IBM dominated the PC market. However, IBM committed the same mistake that Apple did. It abandoned its DOS OS platform and initiated a new OS2 operating system. Microsoft, Intel and Compaq (MIC) picked up where IBM left off and continued promoting the DOS interpretation and “inherit” the ecosystem abandoned by IBM. While IBM was busy in rebuilding a new ecosystem and Apple was spending a lot of its energy in developing software applications, MIC maintained the DOS ecosystem and further enhanced the positive cross-network effects between consumers and third party opportunistic vendors. MIC won the battle when most of the opportunistic agents were drawn into the DOS ecosystem.

Microsoft and Adobe played the critical role in Macintosh’s success by providing supporting drivers that push the Macintosh ecosystem to a high positive level. To further drive its value, Apple developed Apple Talk, Apple laser printer, and Hypercard. Instead

of devoting effort to set up environment to trigger third party software developers to participate in its ecosystem, it focused in profitability. It developed and sold software running in Macintosh and charged software developers for Macintosh development kits, thus raising the entry barrier for opportunistic agents. Microsoft entered the graphical OS market by introducing Windows that was compatible with DOS. In many ways, Windows was a creative imitation of Macintosh graphical OS, and many even regarded that it was not as good both in terms of functionality and quality as compare to Macintosh graphical OS. Microsoft ported its Excel and Words program from Macintosh to Windows with the hope of provide supporting drivers that would bring Windows interpretation above the survival level. Unfortunately, the power of 86 was not enough to take it above the survival length. It was not until Intel developed a faster 286 chip that Windows interpretation exceeded the survival level. Microsoft organized activities to provide free training to software developer to write software in Windows. It also provided software development kits freely to software developers and thus reduced the barriers for them to participate. Microsoft won the game by drawing most software developers to support its Windows interpretation even though it came in late with an inferior product. Steve Jobs seemed to learn the lesson, and in its introduction of iPod, it opened up opportunity for third party vendors to participate and built up a strong ecosystem.

Another interesting case happened in China. In early 2000 when dot com started to crash, many Chinese e-portals were in trouble. They started at the dot com boom and developed expertise in creating grabber that attracted people to the web, and they sold advertisement based on number of “eye-balls” browsing the site. However, the eye-balls model was not working, so many of them looked for different ways to generate revenue and profit. In around November 2000, China Mobile had attracted a large user group of SMS (Small Message Systems) users by charging 0.10 RMB (about \$0.012) per SMS to sender only. It had also built up an infrastructure to support mass distribution of SMS and so it desired to increase the SMS volume quickly. One way was to develop new exciting value added application using SMS. But China Mobile had little expertise in creating such applications so it decided to attract major e-portals in China like Sina and Sohu to participate. China mobile would do the fee collection and do revenue sharing only on the value added portion with them. What would be an appropriate sharing formula? China Mobile was in a monopolistic position while Sina and Sohu were in desperate situation.

So many China Mobile insiders argued a 70-30 split, with 70 to China Mobile. After extensive discussions and debates, they finally decided 85-15 split for the new value added services, with 85 to service provider (SP) like Sina and Sohu and 15 to China Mobile. All of a sudden, the big e-portals found a viable path for their survival. They exploited their competency to create new value added service on top of the basic SMS service, playing the role of committed agent and pushing the key driver to improve the holder measure of SMS ecosystem. The SMS infrastructure and its basic service acted as a supporting driver that enabled customers to use SMS as a media for convenient, intimate, and cost effective way of getting in touch with their family and friends. The revenue split model induced the e-portals to push the key drivers to provide convenient way for people to send short quote, humor, news title, stock quote, etc from their portals to their friends. China Mobile then opened its SMS platform to all SP. The success of the two major e-portals attracted a surge of new opportunistic SP to enter the market. By 2002, there were about 400 SP providing value added SMS services. In 2001, the total SMS message hit was closed to 16 billion, and in 2002, it reached 80 billion.

### **Guideline for Successful Creation of New Market**

When a firm creates a new market by offering a new value proposition, there are three possible outcomes: widely successful, mildly successful, and not successful. If it is mildly successful or not successful, then everyone would leave it alone; but if there is any indication that it would be widely successful, then many players would come in and offer similar interpretations of the same value proposition. Many of these new players may come from the most unexpected area. Since each interpretation of the new value proposition would require time to build up a new ecosystem to support it, it only gives the first mover a slight edge in building a strong ecosystem to support its interpretation. The players are competing to draw on opportunistic agents to allocate their resources to support its interpretation. So the competition is shifted from what we can see (the market) to what we cannot see (the backend resources). The path dependency nature in building the ecosystem also means that proper timing for the committed agents to improve the attributes would influence the structure and the strength of the resulting ecosystem. For a firm to retain its first mover, it must see the shift in competition space. Instead of engaging in product competition where the focus is market share and profit, the firm should engage in vision competition where the focus is in shaping the committed agents

to select the “right path” that would bring the ecosystem to a high enough level to trigger the opportunistic agents to enter, and at the same time create a conducive environment<sup>4</sup> that would induce strong positive cross-network effects among opportunistic agents. It is the positive feedback dynamics among the opportunistic agents that creates a strong ecosystem to support its interpretation. To convert the opportunistic agents to committed agents once they join the ecosystem, the firm must maintain a harmonious environment so that all agents within the ecosystem can benefit from the success. If it fails to see the shift and focus on the product market competition, then it may choose a path that would naturally lead to an inferior ecosystem. It would also tend to keep all the benefits and not sharing some of benefits with opportunistic agents, thus raising the barrier to entry by opportunistic agents. This would give a follower the opportunity to select the right path and develop an environment that would draw most opportunity agents and create a much strong ecosystem and replace the first mover as the dominant player.

If a firm selects a grabber vision where its unique strength can provide the supporting drivers for that vision, then the firm has the advantage of building up a strong ecosystem supporting its interpretation faster than its followers. If some of the supporting drivers have to come from external committed agents, then the firm’s relationship with these agents might give the firm similar advantage. For a firm to create a new vision that would enable it not to compete with its current competitor, then most likely it would have to leverage on external committed agents to provide some of the supporting drivers for it vision. Thus a firm should treat its relationship with consumers and business entities as valuable non-physical that would increase a firm’s ability to successfully create new markets. Conversely, if a firm creates a new vision where another firm has strong internal assets or strong relationship with the committed agents to provide supporting drivers for that vision, then that firm would have follower advantage to take over the leadership in promoting its interpretation of the vision. For example, Diner Club successfully introduced charge card for use in dining and entertaining, but later lost out to American Express who had strong prior relationship with all the players in the traveling sector that

---

<sup>4</sup> Determine the right pricing structure is very important in setting the environment. For example, Microsoft subsidized software developer to develop more application software running under Windows and thus making Windows more valuable to customers. Microsoft made up by charging customers high in Windows OS. However, business users are less sensitive to price and thus have a higher willingness to pay. Microsoft’s pricing structure create a conducive environment for the developers, Microsoft, and customers to embrace the Windows platform in a harmonious manner.

includes restaurant, entertainment, transportation, retail shops and customers who are traveling frequently.

## **Conclusion**

Cost of creating new market is very high, and thus innovative firm wants to assure that it can maintain first mover advantage while engaging in new market creation activities. In business history, we saw creative firms Apple and Sony that introduced new visions to break open a new market, but lost out to followers that came in late with creative imitations. We also saw a large established firm IBM that succeeded as a follower and overtook the first mover entrepreneur, but then latter lost out to smaller entrepreneurs who had played a supporting role for IBM's interpretation. Thus firm should realize that playing the "Blue Ocean Strategy" would incur a different kind of risk: when you are not successful you incur the cost, when you are successful, a follower can enter and take over your benefit. Also, this follower may come from your blind site and thus the firm cannot even do competitive analysis to assess its exposure to follower's attack.

In this paper we present a grabber-holder dynamics framework to explain ambiguity of first mover advantage in new market creation. The framework is derived from Eastern philosophy based on Taoism and Confucius, and Western economic theory based on rationality. The framework provides a model on how one can create a new market and how to induce external agents who are engaged in other economic activities to allocate their resources to participate in promoting the new market vision. Since in new market creation, a new value chain needs to be developed to support this market. According to our framework, this would take time and require many uncoordinated external economic agents to participate in building up a strong value chain structure. Therefore, this gives the innovator very little edge in first mover advantage. In building strong ecosystem to support one's interpretation, the competition is shifted from product competition to vision competition where the focus is in attracting external resources to build a strong ecosystem that supports one's interpretation of the new vision. We use this framework to explain why innovators like Apple and Sony lost out to followers, why IBM lost out to MIC in the PC market, how China Mobile created a strong value added market on top of SMS. Based on the framework, we also provide tow basic guidelines for firm wanting to pursue "Blue Ocean Strategy":

1. Have a proper perspective in vision competition where the focus is in building backend infrastructure and external resource support for your vision instead of too much emphasis in capturing market share and/or profit.
2. Select a vision such that your unique internal strategic assets or relationship with external economic agents can provide the supporting driver for your interpretation of the vision so as to ensure that you have a better chance of building a strong ecosystem to support your interpretation faster than your followers can.

The work here echoes RBV in that the source of competitive advantage rests in the effective use of unique and inimitable resources to achieve a grand business objective. However, the strategy we proposed here do not only focus on a firm unique internal resources and assets, but is similar in spirit to Tai-Chi where the focus is in applying one's internal resources and assets to establish a conducive environment that would draw in external economic agents and provide coordination to shape and guide external agents' resources to combine your internal resources to collectively move high barriers and big obstacles in order to achieve a "grand" vision that we cannot achieve by exploiting our internal resources alone. For this reason, we may refer this as Tai-Chi Strategy.

### **References:**

- Armstrong, M. (2006) "Competition in two-sided markets," *Rand Journal of Economics*
- Barney, J. (1986). "Strategic factor markets: Expectations, luck, and business strategy", *Management Science*, 32: 1231-1241.
- Barney, J. (1991). "Firm resources and sustained competitive advantage", *Journal of Management*, 17(99-120)
- Christensen, C &. Raynor M.( 2003) *The Innovator's Solution*, Boston, Mass. : Harvard Business School Press
- Caillaud, B., and B. Jullien (2003) "Chicken and egg; Competing matchmakers," *Rand Journal of Economics*, 34: 309–328.
- Jou, T. H. (1981) *The Tao of Tai-Chi Chuan: Way to Rejuvenation*, Edited by S. Shapiro, Tai Chi Foundation, Warwick, New York, 1981
- Kim, W.C. and Mauborge R. (2005) *Blue Ocean Strategy*, Boston, Mass.: Harvard Business Press

- Lieberman, M. & Montgomery, D. (1988). First-mover advantages. Strategic Management Journal, 9: 41-58.
- Lieberman, M. & Montgomery, D. (1998). First-mover (dis)advantages: Retrospective and link with the resource-based view. Strategic Management Journal, 19: 1111-1125.
- Maslow, A. (1943) "A Theory of Human Motivation", Psychological Review: 50, 370-396
- Peteraf, M. (1993). The cornerstones of competitive advantage: A resource-based view. Strategic Management Journal, 14: 179-191.
- Rochet, J., and J. Tirole (2003) "Platform competition in two-sided markets," *Journal of the European Economic Association*, 1: 990-1029.
- Schiff, A. (2003) "Open and closed systems of two-sided networks", *Information Economics and Policy*, 15: 425-442.
- Sun, M. C. and Tse E. (2007) "When Does the Winner Take All in Two-Sided Markets?", Review of Network Economics, March 2007
- Teece, D. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. Research Policy, 15: 285-305.
- Tse, E. (2002). Grabber-holder dynamics and network effects in technology innovation. Journal of Economic Dynamics and Control, 26, 1721-1738.
- Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 5: 171-180.
- .