

Research on Factors of Smartphone Diffusion Based on Innovation Diffusion Theory

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Abstract: During the past several years, the smartphone represented by Apple iPhone in China is like hotcakes. By examining the causes of smartphone diffusion in China, this paper seeks to shed light on how the innovational product could diffuse. This paper mainly uses the historical, the literature and logical analysis method. The research shows that the perceived innovation, celebrity and entertainment orientation of society are the key factors. It also suggests that marketer of future should pay attention to opinion leaders, 4E's of Marketing and social trend.

Key words: Innovation diffusion theory; Smartphone; Two-step flow model; Entertainment

1 Introduction

An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system^[1]. A smartphone is a high-end mobile phone that offers more advanced computing ability and connectivity; it runs an open and complete mobile operating system, where widespread examples are Symbian OS, Blackberry OS, Windows mobile, Apple iOS, Google Android and other embedded Linux distributions.

Compared with a feature phone which is a term used to describe a modern low-end mobile phone, the smartphone is an innovative product beyond all doubt. Taylor Nelson Sofres reported that the global average number of people who have a smartphone is 28%, based on 34,000 global responses from 43 countries in 2011.^[2] According to International Data Corporation (IDC), the worldwide smartphone market will grow 55% year over year in 2011. In China smartphone is the point for future development. Although only 21 million smartphones were sold in 2009, the number almost tripled to 62 million in 2010, according to Beijing-based research firm Analysys International. Smartphone sales in China are expected to reach 95 million in 2011.^[3] Despite the innovation is diffusing, current research on smartphone diffusion is limited. What kind of factors influence the diffusion of smartphone reached? Are the diffusion models in China and other countries the same? How could the corporations speed up the procedures of diffusion? We will try to answer these questions, focusing on iPhone, as a representative of smartphone.

2 Factors of Smartphone Diffusion in China

Rogers suggests that four main factors are involved in the diffusion of innovations process: the innovation, communication channels, time, and the social system. Robertson further perfect diffusion by adding two elements which make the theory more applicable to the marketing of new products: the adoption, of new products or services, over time, by consumers, within social systems, as encouraged by marketing activities.^[4] We argue that, on the basis of diffusion studies, three factors are crucial of smartphone diffusion according to Chinese's marketing condition.

2.1 Perceived innovation

Although Nokia is still the leader in the global mobilephone market, but iPhone is sought as a modern and fashionable symbol in China. According to Morgan Stanley's AlphaWise survey of China's handset market, demand for smartphone there is increasing rapidly and Apple is in a perfect position to reap the benefits. With interviewing 2,029 Chinese mobile phone users the research showed that 87 percent said the next phone they purchase will be a 3G device, and 30 percent of those said they expected that device to be an iPhone, even at its current price, which some feel is high. When price was removed as a consideration, the number rose to 53 percent.^[5]

Why is iPhone becoming so popular? The first answer is that iPhone has a perceived innovational trait. For many years Apple has continuously promoted its revolutionary characteristic, from the Macintosh, iPod, iPhone, Apple TV, Itouch to Ipad, even if not all these products are so original. During the Macworld 2007 keynote address Steve Jobs, the co-founder and chief executive officer of Apple Inc.,

declared that: “Today we are introducing three revolutionary Products...it is a revolutionary mobile Phone . Today apple has reinvented the phone”.

With respect to human behavior it doesn't matters whether or not an idea or product is objectively new that means it is first created or discovered. The perceived newness is more important even it is not really original.If the idea or product seems new to the audience, it is an innovation. Apple has cultivated the brand loyalty and become the synonym of innovation with long-term and unremitting efforts. The Apple fanaticists would meet at the European Apple Expo and the San Francisco Macworld Conference& Expo trade shows where Apple traditionally introduced new products each year to the industry and public until Apple pulled out of both events.

The smartphone require only a few years to reach widespread adoption because it has characteristics of innovation perceived by individuals which was stated by Rogers:

(1)Relative advantage is the extent to which an innovation is perceived as better than the idea or product it replaces. The smartphone is a little smarter and easy to use. Through millions of applications, it's got everything we need: Multitasking, networking, power management, graphics, security, video, graphics, audio core animation...

(2)Compatibility is the extent to which an innovation is perceived as made accordance with the precedent values, past experiences, and needs of potential adopters. Application software could be freely installed and uninstalled on smartphone just like on computer.

(3)Complexity is the extent to which an innovation is perceived as tough to understand and use. More complex the innovation is, more difficultly the innovation diffuses. For example, Iphone has created from a user's perspective, rather than from an engineer or a computer programmers' perspective. So Iphone's multi-touch user interface that it is so easy-to-use that even a one year old effectively uses the device, as it was claimed.

(4) Observability is the degree to which the results of an innovation are visible to others. Smartphone's diffusion is tied to celebrities in china. Chinese individuals saw the result of this innovation in celebrities' hand through mass media. The following analysis will demonstrate it.

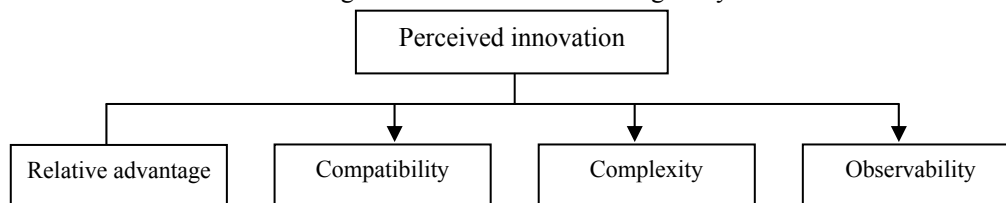


Figure 1 Characteristics of Perceived Innovation

2.2 The celebrity

Scholars have found that celebrity credibility has a positive influence on attitudes toward advertising, brands, and behavior intention of purchase^[6]. Celebrity differs from the famous. The numbers of celebrity are huge and fluctuate and their fame is transient. The majority of celebrities are entertainers but the celebrity status is open to many different occupations or callings: models and super models, fashion and interior designers, TV anchors, talk show hosts, athletes, beauty queens, famous hostesses and society ladies, members of the rich upper classes, occasionally a politician (or his wife)^[7].

The smartphone's spread like a two-step flow model. It first addressed by Lazarsfeld, Berelson and Gaudet based on a very famous panel study of 2400 voters in Erie County. By researching American Presidential Election and the influences on their voting behavior, the two-step flow model was shaped. It suggests that media propaganda does not affect the audience directly, but acts through a network of interpersonal communications. Between the mass media information and audience there are opinion leaders who are an important source of influence for more passive segments of the population^[8]. Although the two-step flow is not preferable to this situation, beyond all doubt celebrity is the opinion leader who could encourage or hinder the adoption of a new product. Rogers classified adopters within a social system on the basis of innovativeness to five parts: innovators, early adopters, early majority, late majority, laggards. The innovator is a deviant, being venturesome enough to stand out from common group practices. Celebrity, however, conforms to group norms and almost reflects the average group member enabling his fans to follow his behavior. So the celebrity belongs to early adopters, who is the first to adopt the new idea after its general release, they act as a source of influence for his followers providing a legitimizing source of reference.

Iphone was launched in China in the fourth calendar quarter of 2009, with the help of Unicom,

China's second-largest telecom carrier by subscribers. Since then more and more celebrities use Iphone to have fun. The celebrities suffer the great public attention. Their private life, their latest news or gossip, including their fashion sense, are the hot focuses. Millions of people concern with the celebrity who they never met and only know from the carefully orchestrated presentations of the mass media, or by attending his performances. Celebrities are often well-known for their fashion choices and complimented in their good taste in clothing and accessory in mass media. Fans wish that they could dress and look like one of their favorite celebrities. Smartphone now has become a part of fashion accessory, via Sina Weibo and other media channel, followers are aware that most celebrities use Iphone, so it became a fashionable symbol. If you don't own an Iphone, you are out.

2.3 Entertainment orientation of society

Smartphone can be used both as a mobile telephone and as a handheld computer, it is no longer the mobile operator who controls the applications, but the user. Smartphone allow users to install and use the applications on their own, based on their own needs and interests [9]. Smartphone technology becomes more affordable and pervasive. Vast number of applications make smartphone communication device, internet access source, camera, sources for coupon, and even device to render payment, and more important, entertainment device. Smartphone's application fitting to entertainment trend, account for the rapid diffusion of it.

The distinction between work and play communication is now blurred because technology allows us to work and play almost simultaneously. The coming of entertainment age means reducing our time to stop, reflect, and really think about what we have read, heard, or seen [10]. The "Pew Internet and American Life Project" has highlighted the increase in Americans' use of entertainment-related Internet applications. Seeking out information about a hobby, browsing the Internet for fun, downloading music viewing sports online and playing games have all increased [11]. Nielson reported that the number of playing games online has increased in Europe, arguably because of increased access and the affordability of Broadband. In china the entertainment trend has become increasingly apparent. By the pervasive entertainment orientation of Chinese society, smartphone which could be used anytime, anyplace, is becoming pervasive.

3 The Smartphone Diffusion Model

Perceived innovation is the basic property of smartphone diffusion. Without the perceived innovation the smartphone will not diffuse no matter how successfully the corporations implement marketing strategies. Eventually it is the product or service that consumer consumes whatever the corporations promote. The 3G Internet time accelerate the speed of word of mouth that means the bad product experience will spread more quickly than ever. Depending on the innovation property and the innovation perceived by consumers the diffusion could realize.

Celebrity supplies the driving force. The smartphone is the innovative product; the mass couldn't accept it immediate. The celebrities admire novelty and enjoy it; they become the opinion leader in consumption area. The mass follow them and copy their activity even their life style. When the use of smartphone becomes a kind of fashion with the push of celebrity, the smartphone has a lot of common user.

Entertainment orientation provides proper environment. Smartphone has a lot of open application programs which distinguish it from the low-end feature. Most of the users make it as not only a voice calls device but also entertainment equipment. With the extensive recreation to turn a tide the user accepted smartphone with peace of mind and even thought the possession of smartphone is necessary to their life.

To sum up, the perceived innovation, the celebrity and the entertainment orientation become the integrated force to push the diffusion of the smartphone. The smartphone diffusion model can be described as Figure 2.

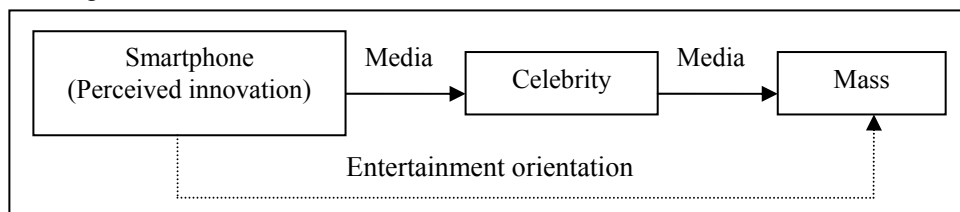


Figure 2 Smartphone Diffusion Model

4 Conclusions

In summary the factors of smartphone diffusion are the perceived innovation, the celebrity and entertainment orientation of society. Not only could the smartphone focus attention on these factors, but also else innovational product diffusion could learn from it.

(1)Innovational product must make the innovation perceived. In a revolutionary time that consumer has seized control and audiences have shattered into fragments and slices, the traditional 4P's of Marketing theory should be replaced by 4E's of Marketing theory according to Brian Fetherstonhaugh. These changes include four aspects: from product to experience, from place to everyplace, from price to exchange, from promotion to evangelism. As a marketer, he must think of the entire customer experience, convey his message: IM, SMS, countless social media websites, video games, product placement in places like TV, movies, internet video clips etc., describe how premium services pay for free, bring passion to the brand through engagement.

(2)Opinion leaders can play an important role in innovation diffusion. Sometimes opinion leaders are celebrities, sometimes are other individuals who are experts in particular field. The corporation must successful getting the innovational product into the hands of opinion leaders who influence the rest of the market. Marketer should seize these early adapters who adapt quickly with recommended vision and will help develop corresponding plans and promote their necessity.

(3)Diffusion occurs within a social system. The social trend of the system affects the innovation's diffusion in several ways. The social system constitutes a boundary within which an innovation diffuses. In a particular time there is a specific tide, marketer should be aware of it and go with it.

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