

**SERVICE COMPREHENSIVENESS:  
ANOTHER PIECE OF THE TECHNOLOGY ACCEPTANCE MODEL**

*Qiunan Zhang, University of Memphis, qzhang4@memphis.edu*

*Xihui Zhang, University of North Alabama, xzhang6@una.edu*

*Tao Hu, King University, thu@king.edu*

*Chi Zhang, Kennesaw State University, chizhang@kennesaw.edu*

**ABSTRACT**

*Based on a case study of Tencent, Inc., the largest Internet company in China, this article proposes the conceptualization of “service comprehensiveness” to be included as an additional construct to the well-known technology acceptance model (TAM). We examined the key factors of Tencent’s business model, and discussed the theoretical implications of the construct of “service comprehensiveness” in the context of TAM as well as the practical implications of the Tencent case.*

**Keywords:** Tencent, Internet, Viral Marketing, Value-added Service, Technology Acceptance Model, Service Comprehensiveness, Convenience, Usefulness.

**INTRODUCTION**

As the Internet has become an integral part in our professional and personal lives, we spend a considerable amount of time browsing news and searching information on the Internet, keeping in touch with friends and family on social networking sites, watching online videos, and playing online games on a daily basis. As a result, companies that provide online services have become more and more important to us. Tencent Inc. (Tencent henceforward) is one of such companies.

Tencent was founded by Huateng Ma and Zhidong Zhang in November 1998 with financial investments from venture capitalists (Li, 2005; Zhang & Alon, 2009). Headquartered in Shenzhen, China, Tencent is a public owned holding company that provides Internet-enabled services including online media, the largest web portal in China, QQ.com; instant messaging service, Tencent QQ; wireless Internet value-added services, such as Tencent’s mobile phone portal website, 3G.QQ.com; interactive entertainment service, Tencent Games; Internet value-added service, including club membership, avatar, personal spaces and communities, online music and dating services, among others; mobile chat service, Weixin/WeChat with more than 400 million users, and Weixin/WeChat related services, such as WeChat payments and online-to-offline services; and online advertising service with more than 700 clients including many multinational companies such as Coca-Cola, HP, Nissan, and Nike (Tencent Inc., 2016a).

In 1999, Tencent launched QQ, an instant messaging (IM) software based on ICQ, which became an immediate success. Note that ICQ is an open source instant messaging software, and its name stands for “I Seek You” (“ICQ,” n.d.). As of December 31, 2015, there were approximately 853 million active Tencent QQ IM user accounts, and its peak concurrent users reached 241 million. The number of combined monthly active users of Weixin/WeChat was 697 million (Riaz, 2016). Note that WeChat was re-branded from Weixin for the international market in April 2012 (“WeChat,” n.d.). All these have made Tencent into one of China’s and the world’s largest and most used Internet service portal and online community (Tencent Inc., 2016b).

Tencent provides a comprehensive set of services. In addition to the above well-known services, Tencent also offers social networks (Q-zone), web portals (SOSO, QQ mail, etc.), e-commerce (PaiPai and TenPay), and multiplayer online games (CF, DNF, etc.). As of May 2015, the company is regarded as the 5th largest Internet company in the world in terms of its market capitalization with an amount of \$190 billion, just behind Google, Alibaba, Facebook, and Amazon (Statista, 2015).

### TENCENT’S SERVICES

The competition is fierce on the Internet market and China is believed to have more competitive Internet markets than the U.S. (Vellanki, 2015). About a third of the top 20 Internet companies in the world by market cap are now China-based. Business models are significantly connected with business strategy and innovation management (Teece, 2010). An analysis of business model differences between Tencent and its major competitors is essential in evaluating and understanding Tencent’s business strategies. Table 1 provides a comparison of services provided by Tencent and other major Internet companies. It shows that Tencent provides a more comprehensive set of services than Yahoo, Google, and Amazon, respectively. For instance, Tencent provides Q-zone, the largest online community in China (Einhorn & Stone, 2011), as the core of its social network services.

**Table 1.** A Comparison of Services

|                                     | <b>Yahoo</b>          | <b>Google</b>        | <b>Amazon</b>      | <b>Tencent</b>              |
|-------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|
| Non-embedded instant messenger (IM) | Yes (Yahoo Messenger) | No                   | No                 | Yes (QQ)                    |
| Search engine                       | Yes (www.yahoo.com)   | Yes (www.google.com) | No                 | Yes (www.soso.com)          |
| Email service                       | Yes (Yahoo mailbox)   | Yes (Google mailbox) | No                 | Yes (QQ mail)               |
| Social network sites (SNS)          | No                    | Yes (Google+)        | No                 | Yes (Q-zone)                |
| Cloud computing                     | Yes                   | Yes                  | Yes                | Yes                         |
| Online retailing                    | No                    | No                   | Yes (Amazon)       | Yes (PaiPai)                |
| P2P online streaming video          | No                    | No                   | Yes (Amazon Video) | Yes (QQ live)               |
| Large online games                  | No                    | No                   | No                 | Yes (Cross Fire, DNF, etc.) |

Findings of a 2010 research study also confirmed that Tencent provides more comprehensive services than its competitors to its Social Networks (SNS) users (iResearch Consulting Group, 2010). The Tencent SNS is a comprehensive system that includes a wide range of useful software, enabling services more convenient and making users feel more comfortable. These services cover almost all the needs that people request (iResearch Consulting Group, 2010). A user only needs to have one account to enjoy all the services that Tencent provides.

### TENCENT’S STRATEGIES AND TACTICS

A company’s success also depends on establishing and executing its appropriate strategies and tactics. Unlike Google and Yahoo, the majority of Tencent’s revenue does not come from its online advertisements, but from its value-added services such as QQ Show and QQ VIP, as indicated in a report (Tencent Inc., 2016d) as follows (all for the year of 2015):

- Total revenues were Renminbi (RMB - Chinese currency) 102,863 million (USD 15,841 million), an increase of 30% over the year of 2014.
- Operating profit was RMB 40,627 million (USD 6,256 million), an increase of 33% over the year of 2014.
- Profit for the year was RMB 29,108 million (USD 4,483 million), an increase of 22% over the year of 2014.

The mission of Tencent is “to enhance people’s quality of life through Internet services” (Tencent Inc., 2016c). To accomplish this mission, Tencent has established the following strategies:

- Treat the Internet like electricity: a reliable service that makes life easier and more enjoyable.
- Address the diverse needs of different regions and consumers by offering differentiated services.
- Build a healthy and win-win Internet ecology based on open collaboration with partners.

### **Viral Marketing**

Specifically, Tencent has transformed its afore-mentioned strategies with the following tactics. At the very beginning, Tencent did not provide a wide variety of services to its users. It only focused on QQ, a piece of Instant Messaging (IM) software, to meet with the users' basic communication needs. Many anecdotes have indicated that QQ users liked it because it was very easy to use and had many useful functionalities. As a result, they often recommended it to their friends so that they could keep in touch with each other through QQ. This is called viral marketing, also known as word-of-mouth (WOM) marketing. Toubia et al. (2011) refer viral marketing as "a set of promotional tools whereby companies seed services with [selected] groups of consumers in the hope that they will spread WOM about these services, and in turn increase awareness and sales" (p. 44). Using viral marketing, Tencent was able to make every user a brand promoter to other potential users, just like the spread of viruses, but in a good way. When the users got used to all the services and liked their usefulness and convenience, they felt comfortable and satisfied with Tencent's services and they started to spread the word to their connections. Little by little, Tencent has expanded its services to more users.

### **Value-Added Services**

Tencent provides most of its services free to users. As mentioned above, given that the online advertising fee is not its major revenue generator, how does Tencent make money? The answer lies in Tencent's value-added services, which are able to retain users and increase their service consumption. As mentioned before, Tencent's value-added services include club membership, avatar, personal spaces and communities, online music and dating services, etc.

While social networking plays a vital role in broadening social connections, the influence on the social networking users is inevitable. For example, you have been using the free basic functions provided by Tencent for a while. Then one day you find out that one of your friends has a more lovely QQ show, more beautiful Q-zone, and faster leveling-up privilege; and you want to have all of those, too. Aiming at the peer comparison and the human nature of envy, Tencent encourages service consumption by its users. Tencent's success has proved that this approach is effective and efficient. This is how the value-added services make money for Tencent.

Furthermore, Tencent is good at using the right technologies to satisfy its users' needs. For instance, Web QQ and other software applications that Tencent provided are really convenient to their users (<http://baike.baidu.com/view/497315.htm>). They have well-designed user interfaces. With a single QQ account and a single sign-on, a user can enjoy every service that Tencent provides: IM, WeChat, SNS, streaming videos, music, online games, online storage, etc. The technologies used by Tencent may not be the most advanced, but each of them is used in the right place and for the right purpose. Tencent's user interface (UI) design is also intuitive, tendering better user experience than its major competitors such as Skype and MSN, especially to its users in China (<http://www.iresearch.com.cn>).

## **KEY CHARACTERISTICS OF TENCENT'S SERVICES**

The business success of Tencent can be attributed to the following three key characteristics of its services: comprehensiveness, convenience, and usefulness.

### **Comprehensiveness**

Tencent provides a comprehensive set of services to users. As such, Tencent can fulfill all its users' online needs and there is no need for them to go to other competitor companies to seek unfulfilled services. A similar example is Microsoft Office Suite, a package of office productivity software, which includes Access, Excel, Groove, InfoPath,

OneNote, Outlook, PowerPoint, Publisher, and Word. This service comprehensiveness helps with customer retention and service consumption, leading to more customers, increased service consumption, and increased revenue.

### **Convenience**

Convenience can be considered as “perceived ease of use” in the initial technology acceptance model (Davis, 1989). Tencent has shown its services are convenient, especially its QQ and WeChat. QQ, a piece of IM software, is easy to use and users prefer it more than other IM software once they get used to it. Furthermore, with a single account and a single sign-on, Tencent’s users can conveniently access a variety of different services that are offered.

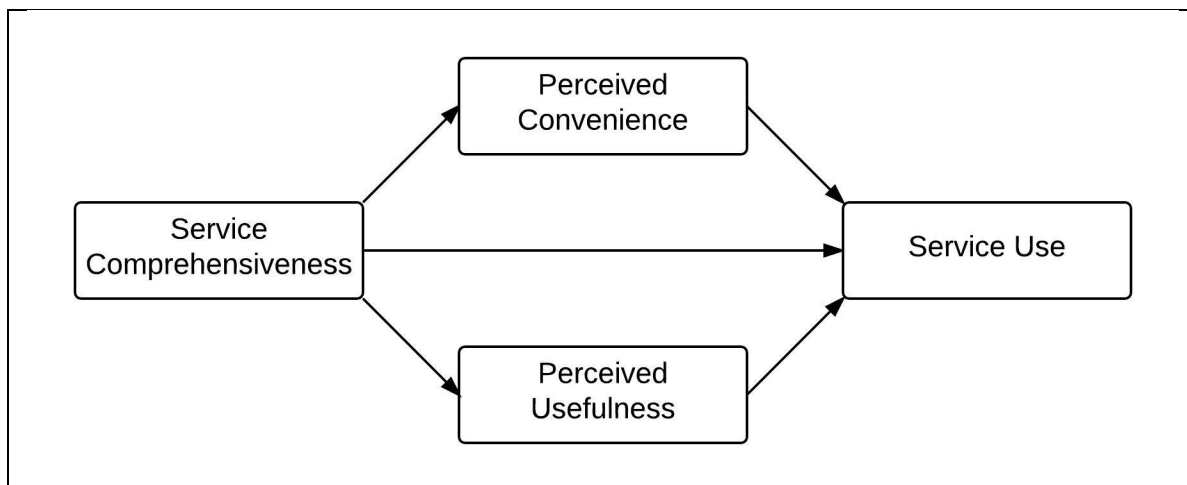
### **Usefulness**

“Perceived usefulness” (Davis, 1989) is a basic required characteristic of a service. Tencent’s users like all its services because they can help them fulfill their needs: QQ for instant messaging, WeChat for combined instant messaging and social networking, QQ mail for emails, SOSO for information seeking, and Q-zone for social networking, just to name a few. Users find these services very useful and they are especially willing to use them, and use them again and again.

## **DISCUSSION AND CONCLUSION**

### **Implications for Theory**

The major factor that makes Tencent successful lies on its service comprehensiveness. The perceived service comprehensiveness leads to increased perceived convenience and increased perceived usefulness. From a theoretical perspective, the construct of “service comprehensiveness” can be a major antecedent to “perceived convenience” and “perceived usefulness” in the technology acceptance model. All the three factors, i.e., service comprehensiveness, perceived convenience, and perceived usefulness, can impact the end user’s service use, as shown in Figure 1 below.



**Figure 1.** Service Comprehensiveness in the Technology Acceptance Model

The findings and the theoretical framework we proposed above suggest that the construct of “service comprehensiveness” is another, but missing, piece of the technology acceptance model. Our theoretical contribution to the IT field is twofold. First, we proposed the construct of “service comprehensiveness.” Second, by using a case study of Tencent, Inc., we showed that this construct could be added as another piece into the theoretical framework of the technology acceptance model.

### **Implications for Practice**

Tencent is not only an Internet service provider, but also a platform organizer for millions of people. Everyone can use its services to chat, listen to music, play games, shop online, watch movies, attend hobby groups, and browse news, among others. By establishing, maintaining, and improving its “service comprehensiveness,” Tencent has captured consumers’ intent successfully, which, in turn, has stimulated its users’ willingness and desire to use, consume, and enjoy its services.

As the technologies advance, the competition for the Internet market will become more and more intense among companies providing similar or comparable services. The factors that make Tencent successful may not work for other companies. However, providing services that are comprehensive, convenient, and useful is critical for these companies to succeed.

From the practical standpoint, the findings and the theoretical framework we proposed above capture the importance of service comprehensiveness to service use, and may offer guidelines for IT companies to improve service comprehensiveness. By doing so, their respective organizations may be able to retain a critical mass of active users of their services for long-term survival and marketing extension. At the minimum, we hope that the findings and the theoretical framework we proposed in this paper will make IT companies to start thinking whether the concept of “service comprehensiveness” fits their business model and how they can integrate it into their businesses to increase effectiveness, efficiency, and profit margins.

### **Future Research**

The addition of “service comprehensiveness” to the technology acceptance model introduced in this study provides many opportunities to future research. One, by examining more cases, the theorization of the concept “service comprehensiveness” can be further formulated. Two, a measurement instrument can be developed to assess “service comprehensiveness” and measure how it impacts the constructs of perceived convenience, perceived usefulness, and the actual service use. Next, an empirical study can be conducted using the developed instrument to validate whether “service comprehensiveness” is an integral component in the technology acceptance model. The measurement instrument can also provide guidance for IT service companies to evaluate their service use so that they can make better and quicker decisions on adjusting their business models to improve the bottom line.

## **REFERENCES**

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Einhorn, B., & Stone, B. (2011). *Tencent: March of the penguins*. Retrieved from <http://www.businessweek.com/magazine/tencent-march-of-the-penguins-08042011.html>
- ICQ. (n.d.). In *Wikipedia*. Retrieved May 3, 2016, from <https://en.wikipedia.org/wiki/ICQ>
- iResearch Consulting Group (2010). Shanghai social network user research report 2010, Shanghai, China. Retrieved from <http://wenku.baidu.com/view/62e5f3c75fbfc77da269b10e.html>
- Li, J. Y. (2005). *Investing in China: The emerging venture capital industry*. London, UK: Kogan Page.
- Riaz, S. (2016, March 17). WeChat nears 700M users. Retrieved from <http://www.mobileworldlive.com/apps/news-apps/wechat-hits-697m-users/>

- Statista (2015). *Market capitalization of the largest internet companies worldwide as of May 2015*. Retrieved from <http://www.statista.com/statistics/277483/market-value-of-the-largest-internet-companies-worldwide/>
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2-3), 172-194.
- Tencent Inc. (2016a). Tencent - Products & services - Instant messaging service. Retrieved from <http://www.tencent.com/en-us/ps/imservice.shtml>
- Tencent Inc. (2016b). Tencent - About Tencent. Retrieved from <http://www.tencent.com/en-us/at/abouttencent.shtml>
- Tencent Inc. (2016c). Tencent - Corporate culture. Retrieved from <http://www.tencent.com/en-us/cc/culture.shtml>
- Tencent Inc. (2016d). Tencent announces 2015 fourth quarter and annual results. Retrieved from <http://www.tencent.com/en-us/content/ir/news/2016/attachments/20160317.pdf>
- Toubia, O., Stephen, A. T., & Freud, A. (2011). Viral marketing: A large-scale field experiment. *Economics, Management, and Financial Markets*, 6(3), 43-65.
- Vellanki, M. (2015) Does China have more competitive Internet markets than the US? Mahesh VC, June 18. Retrieved from <http://www.mahesh-vc.com/blog/does-china-have-more-competitive-internet-markets-than-the-us>
- WeChat. (n.d.). In Wikipedia. Retrieved June 8, 2016, from <https://en.wikipedia.org/wiki/WeChat>
- Zhang, W., & Alon, I. (2009). *Biographical dictionary of new Chinese entrepreneurs and business leaders*. Northampton, MA, USA: Edward Elgar Publishing.