



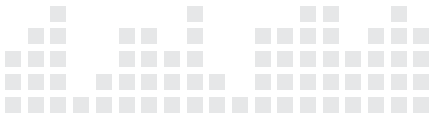
The video games market in China: Moving online

INFORMATION, COMMUNICATIONS & ENTERTAINMENT



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Introduction from David Collins



David Collins

The video games industry generates several billion dollars of revenue each year in Asia Pacific alone. Now, the development of online game play has the potential to drive even more dramatic expansion in the media and entertainment market. Video game companies are developing an ever-wider range of products that reach beyond the traditional teenage and twenty-something demographic. Video games are also integrating with mobile and social networking technologies.

China has emerged as one of the key markets in Asia Pacific and is increasingly playing a role in content development. It has recently seen some notable listings of software and video games companies on international and domestic stock markets.

We believe this report comes at a timely moment in the evolution of the video games industry. The jury is still out as far as evaluating the success of some of the business models and their ability to secure the revenue streams that will sustain the industry's future growth.

This report also fits within the broader theme of convergence, a theme which is currently driving KPMG's thought leadership in the Information, Communications & Entertainment (ICE) sector, both globally and within China. The expansion of multimedia capabilities and trend towards convergence of different forms of media mean that digital communications are now truly embedded within people's lifestyles. As such, video games and social networking have become extensions of, as opposed to replacements for, real-world activities.

I would like to thank the Telecoms Research Project team in Hong Kong and Singapore for their involvement in this latest report and we welcome the opportunity to discuss the issues it raises with you.

David Collins

Partner in charge,
Information, Communications & Entertainment
KPMG in China and Hong Kong SAR



Introduction from John Ure and Peter Lovelock



John Ure



Peter Lovelock

This report on online video games is the second of two papers produced by the Telecommunications Research Project in collaboration with KPMG. The first report was on mobile payments, a sector of rapid commercial growth in its own right and one of crucial importance to the growth and success of online games in a mobile environment. TRP Corporate is the consulting, services and training arm of the Telecommunications Research Project, based at the University of Hong Kong.

The online video games market is becoming one of the big drivers of telecommunications and IT services growth, particularly in China where the growth in subscribers is now paralleling the growth in the Internet and mobile subscriber markets. Online games are already one of the big drivers of the entertainment industry, and poised to be the big area of industry growth over the next decade. This combination is producing a profound set of challenges as well as opportunities as the industry struggles to find business models that work appropriately across the converging entertainment and communications sectors.

A key point that emerges from the research is the differing impact that convergence is having on the various types of online games. Large multiplayer online games, casual games, serious games, networked games and advergames all have different network requirements and, at a point where broadband networks are still being rolled out across the region, this is resulting in different rates of adoption and different models of revenue delivery. From traditional purchase fee models to subscription models, come-stay-pay models, in-game advertising models and merchandise schemes, the transition is proving to be fraught, but when a model works it can prove lucrative, as recent IPOs of Chinese game companies have shown.

Online games are making the transition to broadband delivery, both fixed and wireless, and in so doing are set to dramatically challenge the economics of telecommunications carriers, with the potential for thousands, if not millions, of players to be online simultaneously and for hours at a time. As online game worlds, irrespective of type, continue to adopt social networking tools, they will further move from the products they were, to the services businesses they are becoming. Understanding these trends and the market opportunities they give rise to will be the key to wise business investment.



Video games move online

The video game industry has grown strongly over the past decade. By 2011, the global market for video games is forecast to reach USD 48.9 billion, a 55 percent increase on 2006, making it one of the fastest-growing segments of the media and entertainment industry as a whole.¹ However, these predictions underestimate the true potential of the games market, due to the prospects for convergence to drive growth across the wider communications and information technology sectors.

The video games market represents a particularly strong driver for growth in Asia Pacific, where Japan, Korea, and increasingly China have a role, both creatively and in the development of new business models.

Game publishers in Asia have been particularly challenged in their efforts to build strong revenue streams. One reason for this is the high rate of piracy across the region. Many Western games companies have partnered with local companies, either to localise and distribute their product, or to build a base and help police the usage of their games. Ultimately, the difficulties in controlling piracy may drive the trends discussed in this report, namely the move towards online formats of video games with new revenue models.

Despite its size, the market for video games remains relatively immature in certain respects. The earnings of key players in the market have fluctuated, as they have struggled to adapt to new business models and competition.

Video games companies often rely heavily on blockbuster titles in much the same way as the film industry. However, there are some important differences. One is the length of the experience, both for developers and for participants — this is particularly true as the transition to online game play continues to gain momentum (see Figure 1 below). For developers, a game's success means that they may be working on it for several years, developing new storylines, characters and features. For gamers, participation is becoming more about the experience than the game itself — meeting up online with teammates and friends, and spending time with a community of like-minded individuals. Surveys show that as a game matures, this desire to spend time in a familiar, online environment tends to take over.

This trend towards community is increasing dramatically. As a result, game publishing companies have realised that retaining, as opposed to simply gaining customers, has become critical. These developments have been made possible by advances in broadband access and communications technologies (instant messaging, collaborative networking) as well as online video game technologies.

¹ 'Getting Serious About Gaming', *BusinessWeek Online*, 14 August 2007. See also, 'Gaming firm GigaMedia bets on Asia growth', *Reuters News*, 17 April 2007.





The development of online games has important implications for companies across the IT and telecommunications space. For example:

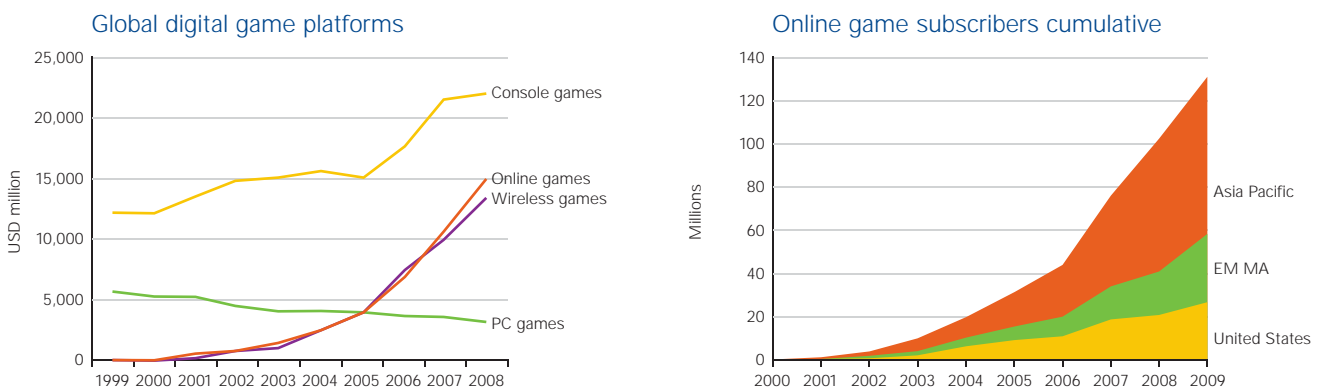
- Gaming platforms are big business for the likes of Microsoft, Sony and Nintendo, and they are driving the value-add prospects for telecom carriers and the new world of Internet Protocol TV (IPTV).
- The launch of Xbox Live in 2002 gave a push for console games to develop online elements, and since the launch of Xbox 360 all games developed for it are 'Xbox Live aware' with games allowing not only multiplay but voice communication through a headset. The latest handheld consoles also allow multiplayer gaming via a Wi-Fi connection.
- Price erosion, arising at least in part from piracy, has been one of the drivers for adopting free-play business models in Asia. These new business models require micro-payments and/or online transactions, which web and telecoms companies

can help to facilitate. As the development costs of games rise even further, syndication and merchandising will need to become more developed as key revenue streams.

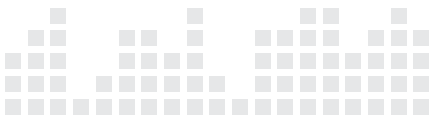
- Video games on mobile phones and devices remain rudimentary by comparison, but there are huge potential opportunities for development of social networking with game components to be applied to mobile devices. The more simple or "casual" genres of online games continue to gain popularity. In addition, the first multiplayer games on mobile networks are now being trialed in Asia. This development has the potential to dramatically change the economics of operating a mobile network, as it will entail people being on the network interactively for extended periods.

These issues reflect a shift from thinking about games as products, to understanding them as services. Users are becoming less inclined to bother with expensive boxed games and the burden of downloading and installation.

Figure 1: The rise of online gamers and their regional distribution



Source: RAND/OECD



From product to service

To understand the gaming industry, it is necessary to understand four trends. Each of these trends has required video games companies to re-evaluate their business model.

Trend 1: The globalisation of the value chain and the importance of licensing

Since the emergence of electronic games in the late 1970s, publishers have taken on an increasingly pivotal role. This role emerged as it became necessary to manage a catalogue of titles. Publishers found they could only survive by producing a portfolio of titles and maximising the probability that some of those titles would become hits. The control and distribution of this catalogue became the crucial factor, while much of the actual creative process and production was subcontracted to small independent production houses or freelancers.²

In the 1990s, licensing emerged as the key plank in the growth and control of gaming catalogues. Licensing provided a consistent source of revenue, a process of quality control and the geographical segregation of markets, usually split between the three major markets of Japan and Southeast Asia, Europe, and North America.

However, online gaming is now directly challenging the means by which games are financed, produced and distributed.³ With games distributed online, there has been a dramatic reduction in physical game production and distribution. This is proving to be the thin edge of the wedge. Finance is increasingly being made available from external sources, such as venture capital and even stock market listings. Business models reliant on selling game packages have given way to models based around advertising and merchandising. With a predicted 60 million users of online games in Asia by 2009, the region cannot be ignored despite problems with piracy and lower price points. Online distribution has had to be embraced by the big players at the risk of being made redundant.

Trend 2: The emergence of 'majors' and 'indies'

Over the last decade, three distinct types of gaming companies have emerged. The first type comprises the large console manufacturers, namely Sony, Nintendo and Microsoft. The second is the specialty game publisher, usually the arm of a larger media corporate. Examples include Electronic Arts (Vivendi), Gaming Disney (Disney), London Studios (Sony), Eidos (SCi Entertainment) and Ubisoft (independent). The third group comprises upstart games developers such as Netease, Webzen, NCSoft and Traveller's Tales.

² N. Garnham, *Emancipation, the Media and Modernity*, Oxford University Press, New York, 2000: 51-2.

³ 'Revisiting Globalisation through the movie and digital game industries', *Convergence*, vol. 9.



Until online began eroding their position, the 'big three' console companies had very effectively parlayed vertical integration into industry dominance. The reasons for this can be traced back to the 1980s, when the PC games market in the United States collapsed due to an oversupply of poor quality games from third-party developers. The Japanese electronics companies Nintendo and Sega used that development to aggressively expand their control up and down the supply chain so as to control both the quality and quantity of games developed for their consoles through strict licensing arrangements. In the mid-1990s Sega was surpassed first by Sony and then by Microsoft in the gaming console business. This was a logical step for Microsoft in particular, given the focus on vertical integration and global software distribution.

The importance of distribution was such that, by the late 1990s, a strong distribution position had become a greater source of dominance than content creation or strength in production. The need for scale as a prerequisite for successful and ongoing content creation has meant that independent games publishers have increasingly had to adopt one of two

strategies to survive: acquire other publishers or buy into development companies. The result has been the sharply demarcated emergence of the dominant 'majors' and the small, creatively-driven 'independents'.

Trend 3: The transition from subscription and sales to advertising and merchandising

The rise of online (and increasingly mobile) games is challenging not only the strength of the distribution model, but also the industry's revenue models. The traditional model for digital games has been the one-time purchase. However, the growing impact of Internet distribution has resulted in increasing numbers of games including free online play bundled into the purchase. Gamers pay a monthly fee for unlimited online gaming, or pay for access to other mini-games, new game content and features.

Convergence (with video-on-demand and other telecommunications services), along with the prevalence of cybercafé-based game play in Asian markets, has supported the growth of pay-per-play revenue models. Users pay either for the amount of time spent online or data they transfer across the network.

Online game distribution in China

One company aiming to move China's Internet game card distribution into hyperspace is Asia Virtual Payment (AVP). Its mission is to transform the current physical card distribution system into an electronic platform, eliminating the theft, fraud and inefficiencies which plague the existing model. The company has deployed point of sale machines in about 1000 cyber cafes in 12 major cities throughout China which it operates independently through transaction servers held in dedicated banking ISP facilities at China Netcom and China Telecom. AVP is presently processing over RMB 5 million per month in transactions through its payment clearing partners, China Union Pay and China Pay, and takes a fee for each transaction.



As an alternative to these revenue streams, online games are increasingly being supported either by advertising or in-game sales of 'goods' or merchandise. Advertisements can be through product placement or links to commercial websites. Portals which feature collections of games, such as Yahoo!, generate revenue through online advertisements including click-through listings and paid advertisement space.

This is not to say that the purchase fee has disappeared entirely. In September 2007 Microsoft released *Halo 3* for the Xbox, charging between USD 60-130 for boxed discs, and immediately generating more than USD 170 million in the US alone in the first 24 hours. Indeed, according to Microsoft, *Halo 3* is "officially the biggest entertainment launch in history", beating the biggest movie opening day totals, such as *Spiderman 3*, and novels such as *Harry Potter and the Deathly Hallows*. Over a million players logged into Xbox live during the first 20 hours of release. However, such fees are now only one stream of revenue, and an increasingly minor part at that.

Trend 4: The rise of social networking and communities

As online game worlds have emerged, players are increasingly spending time online simply to be there, developing their characters, studying strategies, as well as meeting friends. This makes intuitive sense with virtual worlds such as *Second Life*, but it is proving to be equally true for games such as *World of Warcraft* and *Lineage*.

This has compelled the gaming companies away from a charge-to-play model to a play-stay-pay model, where the objective is to get participants imbued into the world and then make available purchasing opportunities, or the opportunity for marketers to connect with their target demographics.

However, the rise of community is potentially far more profound than simple fee structures. A successful game platform with a built-in user base can cross-promote new games, taking its audience with it as it evolves — indeed, engaging the community in the very evolution of the new game or virtual world. With a successful game requiring thousands, if not millions, of participants, and significant time invested by many of those users, any platform that can build in such loyalty has a huge competitive advantage. It is this transition which is challenging everything about the existing industry structure. The potential for a company such as Tencent (China's largest instant messaging platform) or Google, with profound customer loyalty, to become dominant gaming platforms could be seen as a threat to the existing industry leaders.



The Asia Pacific market and implications for China

In 2005, the Asia Pacific online games market (excluding Japan) reached USD 1.45 billion and is expected to be at least USD 6 billion in 2010. Total sales for Japan's online game market reached USD 805 million in 2006, and is expected to be worth almost USD 1 billion in 2007.⁴

Over the past ten years, Japan and Korea have become established as two of the global centres for online game production. China has been a major consumer of games from these countries, but is now following a similar path of production development itself.

In 2006, Korea's online game market generated USD 960 million, while China's online game market was worth USD 970 million, exceeding that of Korea for the first time. This was a remarkable achievement of accelerated development, considering the early dominance of Korean games in the Chinese market. With the inclusion of Japan, Asia's online game market totaled around USD 3 billion in 2006; 32 percent from Korea, 33 percent from China, 27 percent from Japan and 8 percent from other countries.

Although Japan is the leader in the PC and console game market, the giant Japanese electronic game producers such as Square-Enix, Sega, Koei, and Konami did not invest heavily in online game production until 2002. Between 2002 and 2006, the number of producers increased from 68 to 128, while the number of online games jumped from 68 to 474 titles. Around 40 percent of these games were developed in Japan, 35 percent in the US and 23 percent in South Korea.⁵ A sharp increase in the number of free games being offered, saw the number of registered online gamers jump 50 percent between 2005 and 2006, to reach 42 million.

As Japan's early electronic games expanded around the globe, Europe and America became major markets. As a consequence, Japanese game producers invested heavily in games with Western characters and figures based on western stories. However, when demand for online games began to take off within Asia, Korea's online game producers responded more quickly, with games based on Asian culture, stories and characters.



⁴ Ministry of Economics.

⁵ Survey conducted by IT Venture Forum, supported by the Ministry of Economy, Trade and Industry.



Korea's online game industry can be traced back to 1997, earlier than that in Japan. The Korean government has also supported the online games industry by financing game research and development in universities and research institutes, while investing USD 1.5 billion in broadband infrastructure. By 2002, online games already accounted for 37 percent of gaming revenue — more than any other platform.⁶ By 2006, the online game market value had reached USD 960 million and gaming had become a national passion. Professional gaming teams emerged, competing in lucrative tournaments, with sponsorship from some of Korea's biggest companies.

Korean companies have had particular success developing multiplayer games, such as *Lineage* and *Lineage II*.

Impact on China

In 2006, China's online gaming industry generated USD 970 million in revenues,⁷ with more than 36 million people playing online games. The market for massive multiplayer games was worth USD 710 million, while the casual game market generated USD 188 million in revenues (see Figure 2). China-made online games held 65 percent of the domestic market and accounted for USD 20 million in export revenues — an amazing turnaround

and reflection of both the nascent opportunity and the government push to help build a competitive regional and global presence.⁸

The markets of the Yangtze River Delta region, Beijing-Tianjin corridor, and Pearl River Delta region together generate around 60 percent of these revenues. The western and northern parts of the country have yet to take off to the same extent, but all regions offer significant room for further growth and development.

Chinese game operators initially imported the majority of online games from Korea. It was estimated that at one time Korean online game developers took 40 percent of total annual revenues of the industry in China and 60 percent of the profits.⁹ Concerned about the dominance of Korean gaming companies, the Chinese government made it a policy objective to develop the local online gaming industry and to raise the standard of Chinese online gaming companies. These companies have benefited from government support and protection, especially from the Ministry of Culture (MOC) and the General Administration of Press and Publications (GAPP), with GAPP leading an inter-agency development programme for the gaming industry, including quotas and a preferential tax policy for domestic game developers.

⁶ Ministry of Culture and Tourism/ Korean Game Development and Promotion Institute (2003), *The Rise of Korea Games: Guide to Korean Game Industry and Culture*. Seoul: Ministry of Culture and Tourism/ Korean Game Development and Promotion Institute.

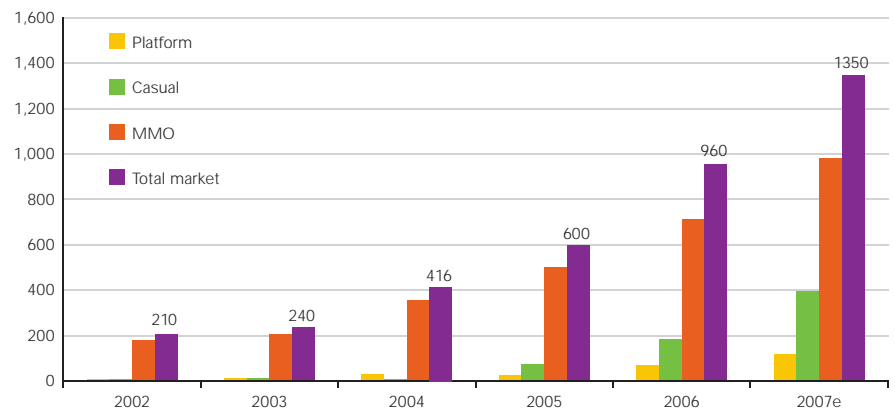
⁷ 'China's online game industry on a roll', *Xinhua News Agency*, 23 April 2007.

⁸ 'China's online game industry on a roll', *Xinhua News Agency*, 23 April 2007.

⁹ 'Business Models for Online Communities: The Case of the Virtual Worlds Industry in China', Ian MacInnes and Lili Hu, Syracuse University.



Figure 2: China's online game market 2002-2007 (USD million)








Source: CNNIC, iResearch

The Ministry of Information Industry (MII), meanwhile, is to begin providing funding for the industry from the ministry's IT and Electronics Fund, and the Ministry of Culture has issued a call for contributions to promote China's animated games industry.

Casual online games are also growing fast, with the percentage of total revenues increasing from 6 percent in 2003 to 18 percent in 2006.¹⁰ More companies are focusing on casual online games as they enter the market since they don't have the ability to invest and develop the more complex multiplayer games.

¹⁰ Note that we have separated out 'platform games' from 'casual games' here. 'Online platform games' refer to websites that provide casual games involving more than one player such as Chinese Chess, Poker, Arm Chess, etc. Typical online game platforms in China are Chinagames.net, Sohu Games Channel, and Sina Games Channel. There is some overlap between the two categories. If combined, the percentage of overall revenues is obviously higher.

Types of video game

	Description	Examples
 <p>Online multiplayer</p>	<p>The two key characteristics are the number of concurrent players participating in a single game (often in the thousands) and the persistent, open-ended nature of the games (play continues whether a particular gamer is participating or not).</p> <p>These games are a good example of the shift from product to service, as they are notable for their non-gaming social and community aspects.</p>	<p><i>World of Warcraft, Halo 3, Second Life</i></p>
 <p>Casual</p>	<p>Online versions of classic arcade, board or digital games, often made available free and used to promote 'stickiness', advertising revenue, or small fee/ high volume traffic.</p> <p>Together with trivia games — both recreational and educational — casual games make up the majority of online games played.</p>	<p><i>Snake, Solitaire, Tetris, Donkey Kong</i></p>
 <p>Serious/educational</p>	<p>Games developed for hiring and training purposes (corporate), learning and development (education), workflow and customer engagement (enterprise).</p> <p>According to IBM research, the skills honed playing massive multiplayer online games like <i>World of Warcraft</i> can be useful when managing modern multinationals.¹¹</p>	<p>Testing recruits for leadership potential</p> <p>Improving collaboration between geographically diverse divisions. (Royal Philips Electronics and Johnson & Johnson)</p>
 <p>Networked</p>	<p>Commercial games played in whole or part online, usually with a PC but increasingly via a console with Internet access. They cover the majority of game genres. Their popularity has increased with broadband diffusion.</p>	<p>The first game to exploit online play was the 'first person shooter' game <i>Doom</i></p>
 <p>Advergaming</p>	<p>Games designed to promote a particular product, company or political perspective. Advergaming will likely feature a company's new product prominently and either be played online at the company's website or made available for download. They are strongly linked to viral marketing campaigns, with the games attempting to spread product and company awareness by word of mouth, email and featuring in blogs.</p>	

¹¹ Ali McCannon, 'IBM's Management Games', *BusinessWeek Online*, 15 June 2007.



According to iResearch, the number of online game players in China reached 36.5 million in 2006, an increase of 40 percent from 2005. The number of online games produced increased to more than 290 titles.¹² However, of those, 250 games were developed by 5 percent of the companies.

Games companies have struggled to execute on their traditional subscription revenue models — a problem compounded by the fact that the online game industry is made up of few sizable operators, and the majority of sales are based on relatively few titles. In 2005, for example, China's top three online game operators, Shanda, NetEase and The9, posted approximately 70 percent of all game revenue. Intense competition among a handful of key vendors makes it very difficult for new vendors to penetrate the top tier. That is not to say that they can't. Publishers Tencent (*QQ Fantasy*) and CDC Games (*Yulgang*) gained strong market share through 2006 by using differentiated content and business models. What remains central to the economics of the sector is the fact that the introduction of a hit product can significantly alter market share. This was the case with the introduction of *World of Warcraft*, presently one of the world's most popular online role-play games.

Comparing business models in China

Develop and distribute

A develop and distribute model is characterised by healthy margins on individual successful games, because there are no upfront licensing fees. The game company retains a strong bargaining position with telecoms companies, Internet service providers, and Internet café operators. With control of the intellectual property, it is also in control of updating the content and publishing new releases — an important component of a successful game's lifespan.

In China, Netease has been the preeminent example of this model. Netease began offering online games in early 2000 and while it has both developed and licensed online games targeted to its Chinese user-base since the outset, it was the self-developed blockbuster, *Fantasy Westward Journey*, based on a well-known Chinese novel, that made Netease's success as a gaming platform. *Fantasy Westward Journey* has become China's largest multiplayer role-play game, boasting 120 million registered users by the end of March 2007.

¹² Based on a survey by *Computer and Games Magazine*. The online game industry directly employed more than 15,000 people in 2005 in China.



Licensing

With development costs increasing, many gaming carriers do not have the R&D capability to develop their own games and business therefore primarily focuses upon obtaining the license for operating online game titles, either from strong domestic online game developers or foreign online game distributors. This license and localise approach has been a key strategy for market entry.

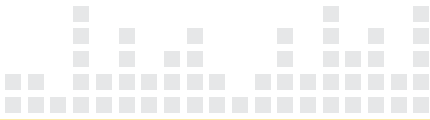
China's The9 initially began by offering its self-developed online virtual community game *The9 City* in 2000. Having struggled to develop momentum, the company decided to pursue licensing. In February 2004, The9 signed an agreement with Vivendi Universal Games to become the exclusive licensee and operator in China of *World of Warcraft*. In contrast to the Netease approach, The9 has little R&D cost to bear, and can import game titles with proven track records elsewhere,¹³ however licensing fees are high and margins are lower than those enjoyed by Netease.

Develop and license

A third model, a parallel develop and license approach, has been adopted by Shanda Interactive Entertainment. The motivation in pursuing this approach is to minimise the hits-and-trough cycle of content development while maintaining the opportunity for high margins on a blockbuster. The downside in this approach is the significantly higher operating and management costs in maintaining a development and production team, and running a far more complex set of processes.

If this approach appears to make business sense in a highly unpredictable environment, it is worth considering the parallels to the film business. The Netease approach of development is similar to a Miramax, seeking to build a stable of hit titles; The9's approach is similar to Golden Village, importing and distributing, while beginning to invest in local production; Shanda's approach is essentially to try and be an MGM/UA or Disney from the very outset, greenlighting expensive productions, maintaining star developers, and putting down money for the rights to distribute overseas successes.

¹³ Of The9's 1200 staff in Shanghai, only 60 are in R&D. 'China's The9 boosts staff at Beijing branch', *Reuters*, 11 July 2007.



Shanda was China's largest online game operator prior to 2005. After making most of its revenue from licensed games such as *The Legend of Mir II* and *Wool* (licensed from Korean developers Actoz and Wemade), Shanda began seeking to develop new games to offer its now substantial game community. These included *The Sign*, *The Age*, and *Haofang Online*. In 2005, Shanda achieved 500,000 concurrent online players from its self-developed game, *World of Legend*.

Shanda was also the first company to change its model from charging subscription fees to a 'come-stay-pay' model, where participants

play for free but are charged for in-game acquisitions such as weapons or outfits. Shanda's revenues initially flattened and its stock price subsequently fell dramatically,¹⁴ before the market fully understood the direction that the company was taking. However, the strategy has now been widely copied and, in an industry where only a few titles generate the vast majority of revenues, it is increasingly seen to be a more adept approach. To capitalise on this approach however, particularly in areas such as in-game advertising and merchandise auctions, the platform provider needs to be able to control development.



¹⁴ Shanda was listed on Nasdaq in May 2004 raising USD151.8 million.



Key players in China

In addition to the leading games companies, **Shanda**, **Netease** and **The9**, China's market for the video games market continues to deepen with the emergence of new players.

Founded in 2004, **Perfect World** is a Beijing-based online game operator which, following the Netease example, develops its own games such as *Zhuxian Online*. In July 2007 it raised USD 217 million from its IPO. The *Perfect World* game emphasises community building elements by allowing large groups of gamers to build cities, create weapons, allow clan battles, and develop unique personas that interact through a 'buddy system'. Perfect World drew on Chinese culture to create *Wulin II*, a 3D fighting game, for which it has signed distribution contracts in Malaysia, Singapore, Thailand, Taiwan, and Japan.¹⁵ It has innovated in the payment space by cooperating with China Post to launch the Post Udpay Card which lets *Perfect World* gamers purchase gaming cards from their nearest post office.

CDC Games has combined certain business model elements from Shanda and The9. Like Shanda, it has invested in a Korean game developer called MGame, whose title it licensed for distribution in China. It is also similar to Shanda in that it has sought to diversify its gaming portfolio by acquiring another Chinese gaming company, OPTIC. Like The9, it has launched a very popular free-to-play, pay-for-merchandise FPS game, *Special Force*, from Korean vendor Neowiz. CDC will also launch *The Lord of the Rings Online: Shadows of Angmar* in China.

Web portal **Sohu** has now also diversified into online gaming through the launch of *Tian Long Ba Bu* based on a famous kung fu novel. It is trying to capitalise on its brand recognition, large user base, and strong sales team. Shanghai-based **Zhengtu** Network Science Technologies Co. has upgraded its servers and is integrating its previous 81 online gaming zones into one big zone, bringing millions of players together. It is the operator of the game *Zhengtu Online*, with 32 million registered gamers and 2.4 million daily players. **Kingsoft**, a successful vendor of anti-virus and business software, has entered the gaming software market and developed in-house several war-themed online games. It sees online games as a key driver of growth in the coming years.¹⁶

Perhaps the most high-potential company in the space in China is **Tencent's QQ Game**, a casual gaming platform that includes games such as *R2Beat*, *QQ Tang* and its own multiplayer role-playing game, *QQ Fantasy*. It has plans to launch another self developed multiplayer called *QQ San Guo* (Three Kingdoms) by the end of 2007. While three-quarters of multiplayer online game users are usually male and nearly 50 percent in China are aged 20-24, QQ's gamers are 70 percent female and half fall into the 30-49 age bracket.¹⁷

Tencent is China's largest instant messaging provider and has a community of tens of millions of users. It also already has a well-developed virtual currency, QQ coins, used for real money trades. As the gaming world develops from single blockbuster hits to building communities of users, Tencent is one of best positioned companies in the world to exploit this trend. QQ has adopted a business model blending self-development, licensing, and partnerships with third party studios.

By late-2007, Shanghai-based **Giant Interactive Group** had become the third-largest developer and operator of online games in China. The group's IPO in November 2007 on the New York Stock Exchange raised USD 887 million. Its leading title, *ZT Online*, claimed 1.3 million active subscribers by the time of the listing, making it one of the most popular online games in China in 2006. The company markets itself through a network of sales representatives and has over 116,000 retail outlets selling prepaid game cards and game points.

Fellow developer and operator **NetDragon**, based in Fuzhou, also listed in November 2007, choosing Hong Kong's Growth Enterprise Market (GEM). It raised HKD 1.42 billion (USD 183 million).

¹⁵ In 2006, C&C Media Laboratories of Japan paid USD 2 million to license Perfect World in Japan.

¹⁶ Kingsoft's Net Swells, *Shanghai Daily*, 9 November 2007.

¹⁷ *China Economic Review*, 1 July 2006.



Investment issues

The online gaming industry is one of the fastest growing technology sectors available today. Online worlds, bringing together Web 2.0 technologies with convergent infrastructure and multi-access devices, are now a hot area of investment activity, in terms of mergers and acquisitions, venture capital investment and IPOs. Operators want to participate in the value chain, while vendors want to understand and encourage growth trends. Enterprises, large and small, want to make sure that they are not left behind if gaming is to be the next big thing.

But with economic frameworks and business models constantly changing, how should gaming companies be assessed? Shanda was China's largest gaming company at the time of its successful IPO, but went on to deliver negative profits a year later. One high-profile game developer saw profits fall 87 percent in 2006, in what was otherwise a bumper growth year for the sector.

The first response is the obvious one: approaching a gaming company as a traditional company will produce misleading information. Indeed, approaching a gaming company with the same approach as for a traditional content company will likely prove problematic at best. Two years of apparently healthy revenue and earnings growth could disguise the fact that the company is riding on the success of a single blockbuster.

The type of games

Investors need to determine what type of games the company is focused on and which types of games it makes its money from. While this may sound obvious, there are, as we have seen, many different types of games, often delivered by the same company. Large multiplayer online games, casual games, serious games, networked games and advergames are themselves each umbrella categories encompassing diverse arrays of games and gaming technologies.

Not only are the requirements (costs, network infrastructure, management) of each type of game substantially different, so too are the current growth trajectories, return on investment and the numbers of users required for success. Put simply, a company delivering *World of Warcraft* is very different from one producing a mobile version of Solitaire or Chess. In turn this will be vastly different to a company behind a virtual world such as *Second Life*.





Expectations for the different game types is important. While significant recent media attention has been focused on online multiplayer games and virtual worlds such as *Second Life*, it is casual games — sometimes even extremely simple games such as *Solitaire* and *Snake* — which make up the majority share of online (and mobile) games. Their share of the market is in fact increasing. Moreover, as the demographics of online gaming continue to broaden out from young males to encompass families and females, this growth trend is set to continue.

More serious or educational games allow for gaming companies to find attractive corporate niches and explore the business market. This is both an

underserved market and one that industry insiders expect to grow dramatically, along with community-building development efforts.

The video games industry continues to work out how best to deliver revenue from the different business models. The expectation has been to enable purchasing opportunities through a focus on either merchandise or advertising. Any gaming company capable of delivering convincing demographics can certainly sell their data and access to advertisers and marketers. However, the free-play models have been focused on attracting participants and building a user base, rather than delivering customers.

Beyond the normal gaming demographic

With immense opportunity for growth in the online games market, one way new entrants to the market can make inroads is by staying away from the mainstream and focusing on untapped market segments.

While Sony and Microsoft have targeting mainstream and hardcore gamers, Nintendo has sought to broaden its market. Many of the games on the new Wii console are designed to appeal strongly to females, parents and others who are typically non-gamers.

In addition to the franchise power of the Nintendo game characters such as Mario and Zelda, Nintendo has captured the heart of causal gamers with a collection of mini-games. These are the outcome of Nintendo's strategy of simplistic and fun game play. Some of the most successful and popular games developed for the Wii so far have been those that focus on mini-games including *Wii Sports*, a compilation of mini-games including tennis, baseball and pool.

In Japan, Nintendo's hand-held DS console has triggered an even more profound trend. People are using the DS not just for games, but also to keep a household budget, learn to play the guitar, or study Buddhist scriptures. Since its introduction in 2004, the DS has spurred software makers to fill the Japanese market with an array of reference guides, digital books and study tools.¹⁸ Of the several hundred DS software titles released to date, only around a half are traditional video games.

¹⁸ Beyond Pokemon: Nintendo DS Goes To School in Japan; *Wall Street Journal*, 11 July 2007.



This is not to say that the model is without success. Zhengtū, in China, for example, switched early on to a free-play approach, with revenue coming from player purchases of items such as virtual weapons, costumes, or experience points, rather than subscription fees. By mid-2007, Zhengtū was earning approximately USD 5.5 million per month. Average expenditure was USD 25 per month per player, with the number of concurrent players at around 600,000. Participation was forecast to hit 1 million by the end of 2007.

Nevertheless, free online multiplayer games have made it difficult for all but a few games to retain a subscription base. Thus, where there were three fee-based pricing models only a few years ago (subscription, one-time fee and pay-per-play), there are now effectively four service-based revenue models (pay-to-play, premium access, advertising, merchandise). A fifth revenue approach, data mining, will begin to appear very shortly, combining the behavioural analysis of marketing with the targeted delivery of Google.

The free-play model as it currently stands will not last long. The development costs required for online gaming will increasingly necessitate a predictable and foreseeable income stream. The film industry, by comparison, has three such streams: (i) cable rights (ie, syndication) and international sales; (ii) advertising, whether in-film or banner advertising (ie, delivering demographics); and (iii) merchandise. Hollywood may aim for the blockbuster, but production companies have covered their costs by the time a movie is released. Any game company not in the same position should be assessed carefully.



Multiplayer games go mobile

The Asia Pacific region dominates the mobile games industry, accounting for over 60 percent of the global market in 2006.¹⁹ This is driven primarily by Japan, South Korea and, increasingly, China, now by far the world's largest mobile market. The rise of the mobile games business in Asia has been supported by sales of higher end handsets. In turn this has fostered innovations in game development, ultimately creating a richer user experience.

In early 2005, Pan Asia Games launched China's first mobile multiplayer role playing game, *Age of Fantasy*, on China Mobile's network. This was followed in 2006 by *Zhan Guo* from local publisher, Gameislive.com. Both games received favourable reviews and local market buzz, attracting several hundred concurrent users at any given time. By late 2006 *Zhan Guo* claimed more than 200,000 registered users, with 1,000 concurrent users, all accessing and playing the game via handheld devices.²⁰

Glu Mobile, a leading Silicon Valley-based company providing games for cell phones, announced in November 2007 to acquire Mig, China's biggest mobile games developer and publisher to establish a mobile foothold in China. Mig will give Glu access to a portion of China's 500 million mobile subscribers and the local knowledge needed to succeed in an Asian games market. Glu expects the Chinese mobile gaming market would grow significantly as China Mobile has made games a priority and developed a new platform for downloading games to mobile phones.²¹

The transition to mobile multiplayer games is attractive not only to the games industry, but also to the network operators that will carry the online traffic. The high-bandwidth, always-on requirements of the game world will exponentially drive network usage. If mobile multiplayer gaming takes off, the growth in network operator revenues will be far greater than those realised by SMS and ringtone downloads.

Reports suggest that as multiplayer mobile games begin to take off in China alone, the revenues from mobile game downloads will grow yearly to USD 1.25 billion by 2010.²² The revenues going to the carriers from game *usage* will dwarf this number. Related revenue growth from online, in-game and location-based advertising will further this development, as will the migration of social communities to mobile networks, a logical consequence once the game worlds begin to transition. Chinese gaming giant Shanda, in particular, sees a huge future for its games once 3G networks are licensed and switched on in China. At that point, their vision is for players to be able to play online no matter where they are — on a train, at the workplace — and then to transition onto their personal computer without interruption when they get home.

¹⁹ Neil Haldar, 'Multiplayer mobile games poised for growth in US market', *GamesOnDeck*, 5 December 2006.

²⁰ ILL Corporate Profile, December 2006, www.illcorp.com

²¹ Chris Nuttall, 'Games developer makes China gambit', *Financial Times*, 29 November 2007.

²² Ori Elraviv, 'Rosy outlook for China's mobile games industry', *ZDNet*, 6 July 2007.

The valuation of online video games companies



Value drivers

The valuation of online video games companies relies heavily on the forecast performance of their existing games and development pipeline. This is offset by the associated ongoing costs of development, marketing and distribution.

Sales forecasts are driven by the expected popularity of the games, existing and to be launched, which is measured as peak concurrent users (PCU) or average concurrent users (ACU, usually 40 to 60 percent of PCU). This is reflected in the number of active player accounts, which is multiplied by average revenue per user (ARPU) to give forecast revenue.

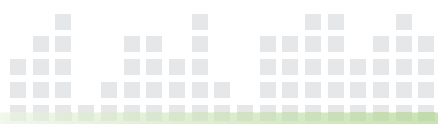
The popularity of a game is driven by the intrinsic game experience and its marketing and distribution model. A number of factors are assessed to determine the game's expected popularity, including:

- the performance of the beta test models (typically released two or three months prior to the full commercial launch)
- reviews by users on industry websites
- the reputation of the chief game architect
- the applicability of the story line to its target audience

- track record — which is especially true of sequels (there is also the possibility to migrate user data from earlier versions which could jump-start sales)
- the success of the game in other regions (where the product has been licensed from other publishers).

The marketing and distribution model's long term success will be driven by the stickiness the game has with the end-user. A strong distribution network and heavy advertising may deliver the initial market penetration but it is building loyalty, community and innovation into the offering which will determine how quickly it suffers attrition of the user base.

As well as standard upgrades and expansion packs, certain developers have adopted a novel approach to stimulate ARPU through identifying opportunities to create items to purchase during play. This is achieved by teams simulating their customer base by playing the games and identifying trends for R&D team members to develop. One such example was the "Angel Dress", developed by Shanda. When Chinese Valentine's Day approached, in-house gamers discovered that gamers wanted to send their in-game girlfriend or spouse a gift. One of the most popular items developed was the angel dress, which sold for RMB 180 each.



Valuation methodology

Discounted cash flow (DCF) will always form the fundamental building blocks for valuation, but it can be highly subjective and will be skewed by a publisher's blockbuster titles as it is difficult to predict the future performance of games in development. This is particularly true for smaller publishers which are more reliant on single titles. DCF is more applicable for subscription or pay-to-play revenue models, as it factors in the large

amounts of distributors' pre-paid deposits, one of the key sources of free cash flow where gamer access is through pre-paid cards.

With the wider adoption of free-to-play, however, there seems to be a polarisation towards the use of PE ratios as a proxy for the overall expected growth and opportunities of the online gaming market as the cash flow timing differences are less marked.

Current market valuations

Online videogame companies — valuation analysis

(in US\$ million)	2006			Market cap	Net debt / (cash) [#]	Enterprise value	Trading multiples		
	Sales	EBITDA	Net income				2007E	2008E	2009E
China online gaming companies									
Shanda Interactive-Spon Adr	212	68	68	2,616	(55)	2,740	16.6x	17.9x	14.3x
Netease.Com Inc -Adr	277	174	159	2,421	174	2,649	15.0x	14.2x	13.1x
The9 Ltd-Adr	126	56	40	929	(61)	988	24.4x	14.0x	14.7x
Giant Interactive Group-Adr	51	31	31	4,009	41	4,106	n/a	18.3x	11.6x
Perfect World Co Ltd-Adr	12	(3)	(4)	1,006	(4)	1,016	22.9x	11.5x	7.9x
Mean							19.7x	15.2x	12.3x
Median							19.7x	14.2x	13.1x

Source: Bloomberg, 16 November 2007

[#] Net debt / (cash) includes preferred equity, minority interests and other quasi-debt.



PE ratios in 2009 earnings are consistent at around 13x to 15x for the more mature online gaming companies. The younger competitors which are still in the midst of strong growth, often built around a single blockbuster title, show immediately higher share prices relative to their earnings, but this falls away by 2009 due to uncertainties about their future pipeline and earnings potential.

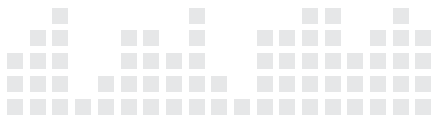
PE valuation ratios differ from one company to another according to differences in the management of risk issues, the lifecycle of their games and expectations about the success of future titles. Underpinning this is the need to keep a full pipeline to ensure that peaks and troughs are evened out, thereby providing continuity of profits (and hopefully profit growth).

For example, Netease's two existing blockbuster titles are coming to the latter stages of their lifecycle, evidenced by slowing growth in ACUs for one and even declining ACUs for the other, while its new games are not expected to be released until 2008. Shanda, however, has managed to smooth its profits and growth by:

- licensing products from third parties — these immediately enrich a product portfolio and provide growth while mitigating the risk associated with development cost and time to market

- diversifying its development expenditure across a series of projects, including cheaper-to-develop casual games. It has an existing portfolio of 17 games and a further 14 games in various stages of development. As such, it should also provide an investment choice which is more representative of China's online video game market as a whole. In addition, investors do not have to cherry-pick future blockbusters from smaller developers but can rely on the probability that there will be at least one in the pipeline
- offering products which appeal to a diversified group of gamers which operate on a number of different platforms
- launching in-game advertising
- licensing its in-house developed games to local distributors in other Asian markets.

The large investment in companies' future pipeline may raise the spectre of over-competition in years to come, but at least owning such a pipeline gives investors a level of reassurance that the company will be one of those well-placed to compete.



Revenue assurance in the world of online gaming

As we have seen, online gaming and digital content growth, particularly in China, is significant. Increasingly, organisations are recognising the potential opportunities for revenue, and hopefully margin, growth from digital content such as online games. The sale and distribution of this digital content brings with it new and often complex billing and pricing models, such as subscription, pay-per-play or advertising-based solutions that usually require a high level of billing flexibility. Often these new requirements also lead to increased billing complexity and the need to address new issues such as digital rights management and copyright protection. Each of these new business models presents potential risks and challenges related to revenue leakage and margin realisation, particularly since those margins often need to be shared between game developers, platform owners, content owners or advertisers.

Revenue assurance departments have traditionally focused their attention on devising control and measurement frameworks that protect and improve the margins around existing telecom revenue streams, such as voice, internet, messaging, roaming or interconnect. These frameworks are based upon a payment model that is well defined, where calculations are straightforward and revenue sharing is often minimal.

Only recently have organisations begun moving revenue assurance from the control and protection of revenue to the proactive enhancement of revenues and margins. The new demands created by online gaming and digital content growth now challenge revenue assurance organisations to rethink their approach to managing margins and in extreme cases may threaten the ability of revenue assurance organisations to evolve and enhance their roles.

Revenue assurance departments must not only be able to handle the existing business models and drive margin enhancement, they must also be capable of addressing the emerging types of revenue leakage and margin risks that arise from the downloading and distribution of content and the management of third parties.

In order to have a product portfolio that appeals to their target market, telecoms operators often partner with a large number of different content providers, who often have unique requirements. This use of content delivery partners is a relatively new concept for some operators or platform providers that have traditionally partnered with companies in the same, or related, business (i.e. overseas telecommunications companies to facilitate roaming and ease network congestion). Therefore, revenue assurance frameworks need to be expanded and adjusted to account for these new types of relationship and partnering arrangements.





The process of selling and providing content, such as online games, starts well before the actual download or usage of the content takes place. Acquiring the relevant content and service from the content owner is not simply a matter of signing a service provision agreement. New challenges arise as licensing and digital rights management controls need to be developed and implemented. Often this requires enhancements or the implementation of new technology solutions to manage licensing, pay the content owner and to protect the content.

Further downstream, controls need to be in place that allow requested content to be delivered and billed. Many operators have resorted to developing billing and reporting system 'add-ons' or using end user computing tools such as Microsoft Access databases to create a quick solution that is nonetheless only temporary and often characterised by weak automated controls and heavy reliance on manual checking.

This rather ad-hoc approach to content provision and billing occurs despite the fact that accuracy of charging and collection is naturally of great importance, especially where a percentage of payment needs to be passed on to third parties, creating a loss for the operator if revenues are not collected or billed accurately.

The industry models are still evolving and payments to third party content

owners — such as the gaming distributor or creator — are often self reported by the operator. Research by KPMG in the UK suggests that up to 70 percent of all self-reported statements may be incorrect, with errors often amounting to between 10-15 percent of reported values.²³ Therefore, the need to exercise rigorous control over this type of relationship is receiving more attention within new and traditional markets. On one hand, this will not be news to platform and content providers, as both industries have well established attitudes towards revenue assurance and governance. However, what is increasingly clear is that neither the platform nor the content providers may have considered or understood each other's differing perspectives towards governance.

Traditionally, platform providers have taken a pragmatic and more controls-based approach towards revenue assurance and audit, with revenue leakages suggested by some recent surveys to be up to 6-7 percent. Historically, the high volume low value transactional nature of the marketplace has allowed this "acceptable loss" attitude where organisations accept the premise that it is neither practicable nor financially prudent to target 100 percent revenue assurance.

The content industry comes at this problem from a different perspective, with third party audits that focus on the accurate sharing of revenues a standard practice. Furthermore,

²³ *Self-Reporting Relationships: a matter of transparency and trust', published by KPMG in the UK (2003).



content providers' solution to the problem of revenue leakage has been to make auditing a self-funding, cost effective and continual process. This then highlights the need for platform providers to protect their margins and reduce leakage in the billing and collection of content revenues that are later paid out to third parties. As a result, a process of familiarisation and re-education is required on the side of both parties. This is especially relevant where organisations are moving into new and emerging markets, when the need to enter a new market overrides or lessens the focus on prudent risk management or revenue assurance procedures. It is these procedures, and practices such as standardised contracting models, data retention clauses, right-to-audit clauses and distribution chain transparency, that are important to help attain and sustain revenues.

At a global level, KPMG member firms have observed a number of problem areas that frequently and repeatedly appear in the management of third party content and revenue sharing. These include:

- The retention of records
- Inability to prove historical billing trails to operations
- Audit rights to systems outsourced to third parties
- Different interpretations of revenue and deductible costs clauses
- Revenue shares dependent upon data which affiliates decline to provide

- Multiple systems infrastructures operating inconsistently
- Excessive time taken for content auditors to satisfy themselves on system integrity.

So could content providers and owners accept a revenue assurance approach, which recognised acceptable levels of inaccuracy, based on a one-off certification of a platform providers' integrity? This is the approach often adopted where companies' financial reporting depends upon outsourced service providers. Such one-off certification, delivered by an independent third party, could consist of some form of attestation type report, for example a SAS 70 report that provides a regular assessment of the strength of controls at the outsource organisation.

At this time, no one solution seems to be emerging, however, companies and sectors can learn from each other by sharing and comparing their approaches to these challenges and collaborating in the creation of new control frameworks and revenue assurance solutions. And in many cases, this collaboration and the existence of a robust controls framework will help to build and enhance trusted relationships between parties. Overall, companies engaged in the development, sale and distribution of content really have an opportunity to initiate and participate in a new dialogue on revenue assurance and be engaged in the continuous improvement and innovation of margin enhancing and protecting ideas.

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KPMG is a global network of professional firms providing audit, tax, and advisory services, with an industry focus. With more than 123,000 people worldwide, the aim of KPMG member firms is to turn knowledge into value for the benefit of clients, people, and the capital markets.

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In 1992, KPMG became the first international accounting firm to be granted a joint venture licence in China, and its Hong Kong operations have been established for over 60 years. This early commitment to the China market, together with an unwavering focus on quality, has been the foundation for accumulated industry experience, and is reflected in the firm's appointment by some of China's most prestigious companies.

Today, KPMG in China and Hong Kong SAR has more than 7,000 professionals working in 11 offices. These offices are located in Beijing, Shenyang, Qingdao, Shanghai, Chengdu, Hangzhou, Fuzhou, Guangzhou, Shenzhen, Hong Kong and Macau.

As organisations in China join the global economy and international companies seek to enter the domestic market, KPMG's blend of international experience and local knowledge ensures the firm is well-positioned to serve clients in an increasingly complex, but exciting market.

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Our Information, Communications & Entertainment (ICE) group operates globally and across Asia Pacific, and has worked with many of the region's largest electronics, telecoms, software and media companies. Industry knowledge and training are shared among member firms, enabling them to assist clients in recognising opportunities and implementing changes necessitated by industry developments.





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