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## **Redefinition of the Role of Asia-Pacific Region in the Global Economy**

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## **DEVELOPMENT OF HUMAN CAPITAL AND GOVERNMENTAL SUPPORT AS STRATEGIC ADVANTAGES OF CHINESE HIGH TECHNOLOGY COMPANIES**

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**Abstract:** People's Republic of China is already the second global economic superpower, but Chinese enterprises rarely become world leaders in new technologies sectors. The aims of the article were to verify if Chinese high technology companies can successfully compete with global leaders in such sectors as information technology and to find out what strategic advantages can make it possible. The author states that availability of human capital and governmental support are strategic advantages of Chinese high technology corporations that can lead them to the world leadership. Thanks to the development of PRC education system local companies have broad access to qualified specialists who do not demand wages as high as in other countries. The analysis of case studies of Alibaba Group and Tencent Holdings proves that this kind of success is possible.

**Keywords:** China, human capital, human recourses, high technology, information technology, governmental support, education.

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### **1. Introduction**

During the last several years Asia-Pacific region has gone through deep changes and the process of fast economic development not seen before in any region of the world. Global role of the region have been redefined. The most important changes have occurred in the biggest regional economy – People's Republic of China (PRC) which, thanks to tremendous growth, has become the second global superpower. Chinese miracle was possible due to the partnership with western companies and countries that invested and imported goods from that emerging economy. Now the roles are changing. As PRC has become more powerful, and western economies went through a period devastating crisis that still influences many countries, the Middle Kingdom economy became a leading force in the changing world. Many people still believe that the development of China is only possible thanks to the influence of

western multinational corporations investing, producing, and exporting from PRC.<sup>1</sup> Certainly it is true that in today's global economy not countries but corporations play major role, but the situation of Chinese companies has also been redefined. In the 2009 Forbes' *The World's Biggest Companies* list there was no Chinese company in the top 10 at all.<sup>2</sup> Only five years later in 2014 Chinese companies dominated the top of the list with five corporations out of top 10, and holding three top positions.<sup>3</sup> Although Chinese companies are leading the ranking, it is mainly due to their operations on the local market. Three biggest firms in the world are Chinese banks which succeeded thanks to the effect of scale, government support and large share in PRC's market. Although they compete also on the international market, it is still not the major part of their businesses. On the other hand, Chinese technological companies, especially on a very competitive information technology (IT) market, are rarely world leaders in their sectors. Due to relatively low barriers of entry in comparison with other sectors on the IT market only the most innovative and competitive companies can become leaders. Only strong core competences like skilled labour force and technological superiority can lead to the supremacy on this kind of market. The aim of this article is to verify if Chinese high technology companies, especially in the sector of IT, can successfully compete with the global leaders in the sector. Another goal of the article is to identify strategic advantages of Chinese companies that can lead them to the global supremacy.

## **2. Skilled human capital as a core competency of Chinese high technology sectors**

The general view of Chinese enterprises is that their competitiveness comes from cheap labour,<sup>4</sup> and when inflation and wages will go up Chinese companies will lose international strategic advantage of their businesses. Some scientist claim that low salaries and savings on social benefits are only temporal sources of Chinese competitiveness, and they cannot last for long. According to them well qualified and effective labour has to be paid well and requires all social expenditures.<sup>5</sup> It is essentially true that in recent years the high growth has been accompanied by

<sup>1</sup> Y. Xing, *China's High-tech Exports: Myth and Reality*, ADB Institute Working Paper Series 2012, no. 357, p. 10.

<sup>2</sup> The global 2000 report, *Forbes* 2009, <http://www.forbes.com/sites/liyanchen/2009/05/07/the-global-2000-report> (retrieved: 08.06.2010).

<sup>3</sup> The World's largest companies: China takes over the top three spots, *Forbes* 2014, <http://www.forbes.com/sites/liyanchen/2014/05/07/the-worlds-largest-companies-china-takes-over-the-top-three-spots/> (retrieved: 20.06.2014).

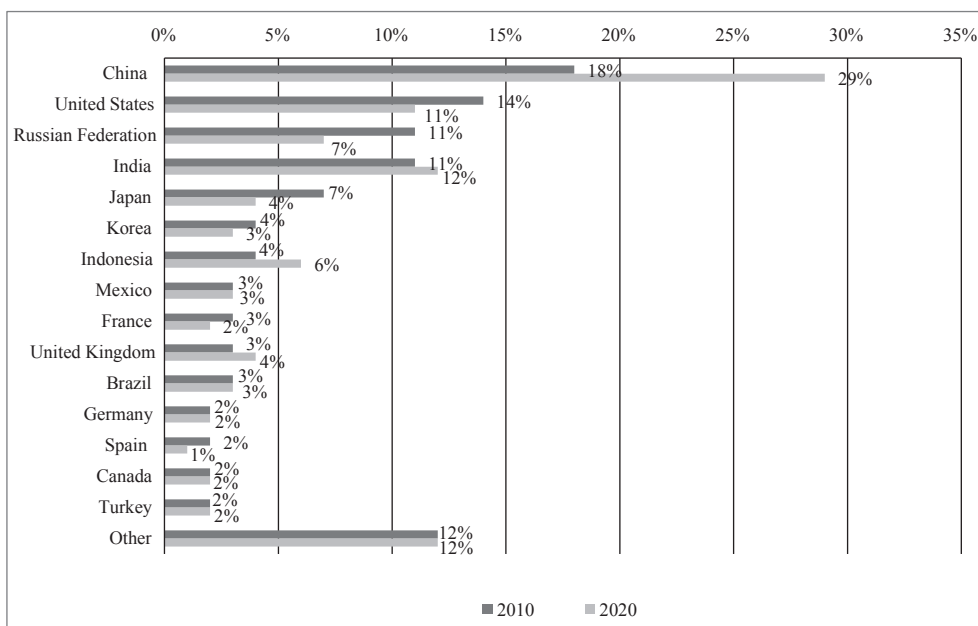
<sup>4</sup> M. Dilling-Hansen, S. Jensen, Lifestyle production: Transformation from manufacturing to knowledge based production using innovation, *International Journal of Economic Sciences and Applied Research* 2011, vol. 4, no. 1, p. 35.

<sup>5</sup> K. Żukrowska, Why are Asian economies competitive?, [in:] P. Skulski (ed.), *Competitiveness of Economies in the Asia-Pacific Region. Selected Problems*, Research Papers of Wrocław University of Economics no. 192, Publishing House of Wrocław University of Economics, Wrocław 2011, p. 18.



a significant increase in wages,<sup>6</sup> but development of Chinese human capital has potential to create high skilled workers maintaining relatively low labour costs. It will be possible due to tremendous change in Chinese education system.

In 2010 only 18% of global population of 25–34-year old people with tertiary education were Chinese. According to OECD estimations until 2020 around 29% of people with higher education aged 25–34 will be Chinese citizens (Figure 1).



**Figure 1.** Share of 25–34-year-olds with a tertiary degree across OECD and G20 countries in 2010 and 2020

Source: *OECD 2012 Education Indicators in Focus*, OECD, Paris 2012, p. 3.

It means that Chinese companies will theoretically have bigger supply of skilled and human capital than such innovative and competitive countries like the United States, Japan, South Korea, the United Kingdom, France and Germany combined. There may be doubts about the quality of tertiary education in PRC, but unfortunately there are no available methods or studies that can be used to verify what are the differences between educational systems. The numbers speak for themselves anyway. By 2020, PRC aims for 20% of its citizens, which is around

<sup>6</sup> G. Heiduk, A. McCaleb, Competitiveness of Chinese Mnes. Innovation versus imitation, branding versus price, acquiring versus developing?, [in:] B. Skulska, A.H. Jankowiak (eds.), *Faces of Competitiveness in Asia Pacific*, Research Papers of Wrocław University of Economics no. 191, Publishing House of Wrocław University of Economics, Wrocław 2011, p. 118.

195 million people, to have higher education degrees. If this goal is achieved, China will have a population of tertiary graduates that will be roughly equal in size to the entire projected population of 25–64-year-olds in the United States in 2020.<sup>7</sup> According to the OECD human resources in science and technology play a key role in innovation,<sup>8</sup> which is the major factor of competitiveness in IT.<sup>9</sup> Supply of human resources on the labour market will be crucial for the development of Chinese IT sector. New technologies businesses in the global economy often suffer from the lack of engineers that can carry on R&D processes and develop new innovative products. Fortunately for Chinese IT enterprises human capital creation in the field of engineering in PRC is very promising.

In the absolute numbers Chinese graduates in engineering long ago have become the most numerous in the world. In recent years situation has changed in favour of PRC's companies even in relative counts. Since 2010 number of graduates in Engineering in China divided by total employed population of the country became bigger than in Japan (Figure 2).

If the trend will sustain, Chinese human capital in engineering will soon be the biggest in the world. From 1999 till 2010 the number of Chinese graduates in Engineering, Manufacturing and Construction went up from 195 thousands to 2.11 million. In the same time the ratio of graduates in that field to total employed population went up from 0.3 to 2.8‰, which was higher than in Japan (2.7‰), the United Kingdom (2.1‰), Germany (1.6‰), and the United States (1.4‰). What is interesting, in France the number and ratio of graduates in Engineering has been also growing and in 2010 reached 3.8‰. The great number of engineers would not guarantee sufficient number of talents if they would not be specialized in appropriate fields of study. In China IT companies will not have problems with recruitment of graduates in desirable specializations.

Electronic information is the fifth most common field of study in PRC. In 2012 about 9.66% of all studying Chinese chose that major (Figure 3). IT labour market supply in 2012 was strengthened by 370 thousand of graduates and another 932 thousand people were studying Electronic Information. The sector will be supported also by other graduates like also very popular Art Design and Media. At least some of the 150 thousand 2012 graduates of this major can support IT sector by graphic design and other artistic skills.<sup>10</sup> It gives Chinese IT companies unique opportunity to choose from hundreds of thousands candidates every year entering labour market.

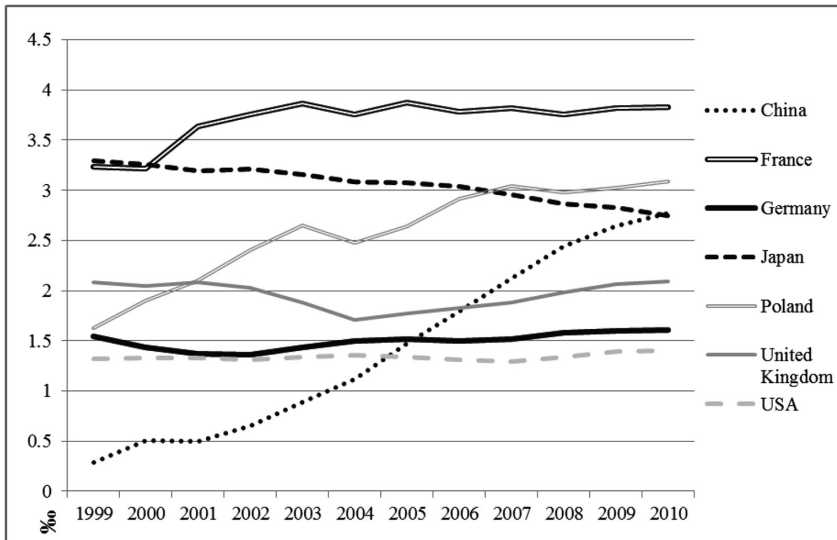
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<sup>7</sup> *China and India to produce 40% of global graduates by 2020*, ICEF Monitor, <http://monitor.icef.com/2012/07/china-and-india-to-produce-40-of-global-graduates-by-2020/> (retrieved: 18.06.2014).

<sup>8</sup> *OECD Science, Technology and Industry Scoreboard 2013 Innovation for Growth*, OECD, Paris 2013, p. 86.

<sup>9</sup> J.M. Carcillo, *Global Economic Studies: Developing Economies: Innovation, Investment and Sustainability*, Nova Science Publishers, New York 2011, p. 24.

<sup>10</sup> *China Statistical Yearbook on Science and Technology*, National Bureau of Statistics; Science and Technology Ministry, China Statistics Press, Beijing 2013, p. 132.



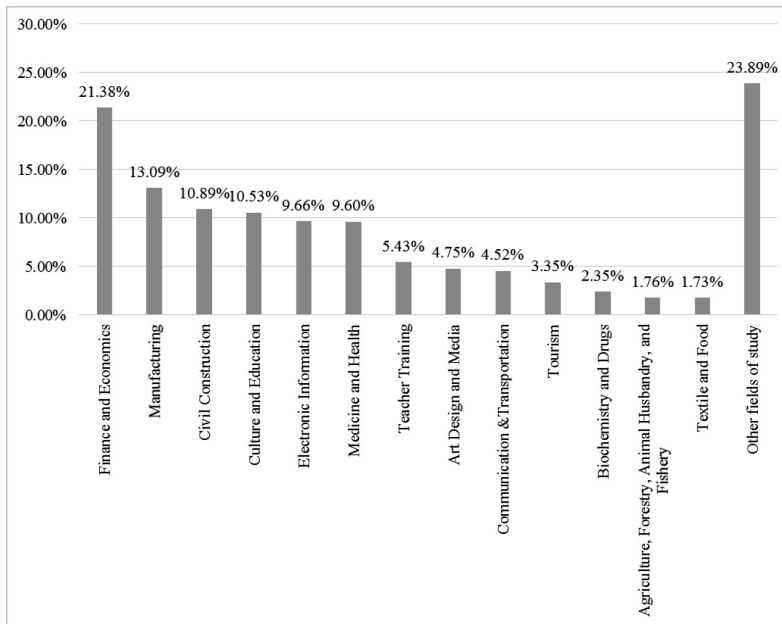
**Figure 2.** Yearly number of graduates in Engineering, Manufacturing and Construction ISCED97 Classification 5<sup>11</sup> divided by the total employed population of the country in %

Source: author's own work based on the data from Euromonitor International, <http://www.euromonitor.com/passport> (retrieved: 20.03.2014).

Under these circumstances, even if the overall quality of education in this field would be low, the number of talented professionals available for recruitment will be considerably big. There are also other benefits of the developed education system. Thanks to this big supply of engineers, programmers, graphic designers and other IT specialists wages in the sector can maintain on the relatively low level.

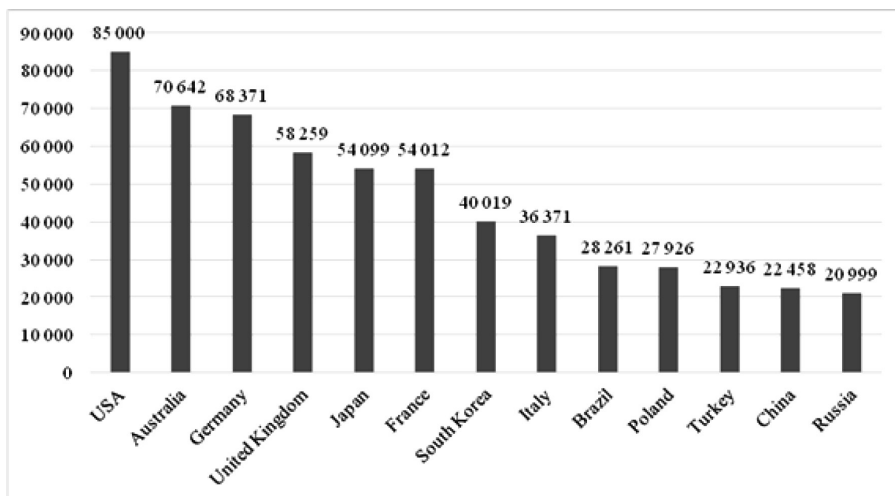
It is especially visible on the example of the software engineer salaries. These specialists are crucial for the development of IT sector, so costs of their employment affect all companies in the business. Wages of software engineers in PRC are much lower than in other countries, so Chinese companies have big cost advantage over the competitors from the other economies. In 2014 a software engineer in China earned median wage of 22.5 thousand USD, whereas in the United States mean wage was 85 thousand which was almost four times higher (Figure 4).

<sup>11</sup> ISCED97 classification 5 (Engineering, Manufacturing and Construction) includes: engineering drawing, mechanics, metal work, electricity, electronics, telecommunications, energy and chemical engineering, vehicle maintenance, surveying; food and drink processing, textiles, clothes, footwear, leather, materials (wood, paper, plastic, glass, etc.), mining and extraction; architecture and town planning (structural architecture, landscape architecture, community planning, cartography); building, construction; civil engineering.



**Figure 3.** Structure of the total number of student enrolled in 2012 by the field of study

Source: *China Statistical Yearbook on Science and Technology*, National Bureau of Statistics, Science and Technology Ministry, China Statistics Press, Beijing 2013, p. 132.



**Figure 4.** Software engineer salaries (median yearly in USD)

Source: author's own work based on: *Glassdoor 2014 Survey Results*, www.glassdoor.com (retrieved: 11.06.2014).

The question may appear if the productivity of Chinese programmers is comparable to US or Korean, as companies from developed countries dominate the world market, but it should be taken under consideration that Chinese IT sector is in the earlier stage of development. In few years' time it may be Chinese companies leading the market. As education system in PRC is providing constant inflow of new specialists, the wages will not be affected in a way that would take this strategic advantage away from IT companies. Human capital can enable IT companies to achieve global superiority on the market.

### 3. Government support as a core competency

Not only human resources, but also governmental support can play important role in development of Chinese IT sector. According to the research conducted by United States National Research Council, government plays an essential role in creation, development and innovation in US IT sector.<sup>12</sup> In China IT development has become one of the priorities of “The National Medium- and Long-Term Program for Science and Technology Development” for the years 2006–2020. As a “major scientific and technological area” information industry has been recognized as “critical to the nation’s competitiveness.” One of the aims of the plan is to bring Chinese IT sector “to the world advanced levels.” What is as well very important Chinese government choose IT as one of the “Frontier Technologies,” which means that the research and development in this sector will be supported by considerable public support (or subsidies). Governmental funds are designated to support the following priority technologies:<sup>13</sup>

1. Enabling IT and large application software for modern service industry. This means that priorities in governmental founding will be given to developing highly credible online software platforms, large enabling application software, middleware, built-in software, grid computation platforms and infrastructure, software system integration, and overall solutions required by modern service industry, including finance, logistics, online education, media, health care health, tourism, e-government, and e-commerce.

2. Major next-generation internet technologies and services. In this area priorities will be to: develop key technologies for high performance core network equipment, transmission equipment, and connecting equipment; develop key technologies for scalability, security, mobility, service quality, and operation management; establish a credible network management system; develop intelligent terminals and household

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<sup>12</sup> *Continuing Innovation in Information Technology*, National Research Council, The National Academies Press, Washington, DC, 2012, p. 9.

<sup>13</sup> *The National Medium- and Long-Term Program for Science and Technology Development (2006–2020)*, The State Council of The People’s Republic of China, Beijing 2006, p. 66.

network equipment, and develop broadband related new businesses and applications such as multimedia and network computation.

3. High performance, dependable computers.
4. Sensor networks and intelligent information processing.
5. Digital media content platforms.
6. High definition large flat-panel display.
7. Core application-oriented information security.

Governmental subsidies for R&D can become a serious advantage of Chinese high technology companies. Especially in the global situation in which other countries cannot afford to provide help for their enterprises because they are struggling with budget problems. Chinese government is also helping to develop human resources in the field of IT. Chinese Ministry of Human Resources and Social Security has founded a large programme called “Professional Knowledge Updating Project” which is designed to train 100 million senior specialists in 12 areas, including equipment manufacturing, information technology, biotechnology, and new materials. Significant percentage of these will be software engineers and other IT specialists. In recent years the same ministry established a number of national further education centres for professionals and technical personnel.<sup>14</sup>

Governmental help for Chinese companies can seriously affect the whole international market. With R&D funds and professionals trained especially for the needs of the industry Chinese IT enterprises will have necessary resources to compete with global leaders. The question is if Chinese high technology firms have managerial abilities to use these resources to become world leaders. Case studies of PRC companies Alibaba and Tencent prove that it is possible.

#### **4. Case studies of leading Chinese software and internet corporations**

One of the major companies that prove the change of roles in the global economy is Chinese internet corporation Alibaba Group. The company was founded in 1999 in the city of Hangzhou in eastern China. Alibaba was the largest online and mobile commerce company in the world in terms of gross merchandise volume in 2013. Corporation business model is to create a platform for third parties. Alibaba group does not engage in direct sales, compete with merchants or hold inventory. The major portals owned and operated by corporation are;<sup>15</sup>

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<sup>14</sup> M. Rasgotra, *Science and Technology in China: Implications and Lessons for India*, SAGE Publications, New Delhi 2013, p. 39.

<sup>15</sup> *Form F-1 Registration Statement Alibaba Group Holding Limited*, Alibaba Group Holding Limited, p. 2.

- Alibaba.com – the largest global online wholesale marketplace connecting businesses around the world. It is an English language portal that handles sales between importers and exporters from more than 240 countries and regions.
- Taobao – China’s largest online shopping destination (in terms of gross merchandise volume).
- Tmall – China’s largest third-party platform for brands and retailers (in terms of gross merchandise volume).
- Juhuasuan – China’s most popular group buying marketplace by its monthly active users in 2013.
- AliExpress – which is a global consumer marketplace.

The major global competitors of Alibaba group are Amazon and Ebay, the only two internet marketplaces that can be compared with the Chinese giant.

Alibaba group, thanks to its domination on global wholesale market and on domestic business to consumer market became the biggest in means of gross merchandise volume (GMV) in the world. Its superiority in this measure is definite, as its GMV in the end of 2013 reached 248 USD billion, when Ebay and Amazon GMB did not exceed 90 USD billion (Table 1).

**Table 1.** Comparison of the most important indicators of three global competitors: Alibaba, Amazon and Ebay

Group	Gross merchandise volume (USD billion)	Active users (million)	Revenue (in million USD)	Net income (in million USD)
Alibaba	248	231	7 500	2854
Amazon	*88	237	74 452	274
Ebay	83	128	16 047	2856

\*Amazon gross merchandise volume is estimated for the year 2012.

Source: authors own work based on: *eBay Inc. 2013 Annual Report*, eBay Inc., San Jose 2014, p. 65; *Amazon.com Q4 2013 Financial Results*, Amazon.com Inc., Seattle 2014, p. 5; *Form F-1 Registration Statement Alibaba Group Holding Limited*, Alibaba Group Holding Limited, p. 3.

Number of active buyers on Alibaba group portals is growing in a very high pace. Only since June 30, 2012 to December 31, 2013 it grew by 73.68% from 133 to 231 million,<sup>16</sup> making it the second biggest internet market in means of active users. The world leader is still Amazon which had 237 million active users (only 6 million more than Alibaba), and much more than Ebay which had 128 million of such users. As the US population (314 million) is much smaller than Chinese (1.35 billion),<sup>17</sup> and number of internet users in PRC is growing faster than in the

<sup>16</sup> *Form F-1 Registration...*, p. 3.

<sup>17</sup> *Population (Total)*, The World Bank Databank, 2014, [www.data.worldbank.org/indicator/SP.POP.TOTL](http://www.data.worldbank.org/indicator/SP.POP.TOTL) (retrieved: 20.06.2014).

US, so Alibaba's portals like Taobao have bigger growth opportunities than Amazon and Ebay. The biggest market for Amazon and Ebay, which is the USA, has an internet users population of 245 million,<sup>18</sup> whereas the number of Chinese internet users reached 618 million in 2013.<sup>19</sup> Moreover, internet penetration rate in PRC in 2014 reached only 45.8%, which is low in comparison to developed countries, so it will probably continue to grow, and in the USA it is 78.1%, leaving little space for expansion. As all three most important companies get majority of their income and resources to invest abroad in their home countries, Alibaba has better chances for development than both American corporations. The weakest of Alibaba's financial indicators is revenue which is almost 10 times smaller than that of Amazon. It is an effect of differences in the business models of both corporations. Amazon sells its own products like tablets (e.g. Kindle Fire), and Alibaba's main sources of revenue are advertising and commission collection.<sup>20</sup> On the other hand, Alibaba in 2013 was over 10 times more profitable than Amazon. Net income of Hangzhou's company is 2854 million USD whereas Seattle's corporation earned 274 million USD. The most profitable company was Ebay which reported 2856 million USD profits, which is 2 million more than Alibaba's. Financial indicators show that Alibaba is one of the three major players on the market and has a potential to become world leader. Although major part of Alibaba group revenues still come from the Chinese market, the company successfully implements its strategy which was defined in the Registration Statement for the American stock market, in which we can read as follows: "Our international strategy is focused on leveraging natural cross-border linkages to our ecosystem. For example, we will continue to grow our international business by connecting overseas branded retailers to Chinese consumers (Tmall Global), connecting Chinese suppliers to international retail markets (AliExpress) and international wholesale markets (Alibaba.com)."<sup>21</sup> Alibaba is systematically expanding its operations to become world leader in many of Internet global markets. On June 11, 2014 the group announced purchase of the 34% stake in mobile search service UCWeb.<sup>22</sup> The main UCWeb's product, which is UC Browser, is the largest third-party mobile browser worldwide, with more than 500 million users. UC Browser is available in 11 languages, operating not only on Chinese, but also on

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<sup>18</sup> *Internet Usage and Population Statistics for North America*, Internet World Stats, 2014, [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm) (retrieved: 20.06.2014).

<sup>19</sup> *Statistical Report on Internet Development in China*, China Internet Network Information Center, Beijing 2014, p. 6.

<sup>20</sup> With revenue of \$7.5 billion in 2013, Alibaba restarts IPO, *iResearch* 2014, [www.iresearchchina.com/views/5541.html](http://www.iresearchchina.com/views/5541.html) (retrieved: 20.06.2014).

<sup>21</sup> *Form F-1 Registration...*, p. 7.

<sup>22</sup> L. Kuo, Alibaba just launched China's largest-ever internet deal, *Quartz* 2014, <http://qz.com/219417/alibaba-just-launched-chinas-largest-ever-internet-deal/> (retrieved: 11.06.2014).



the global internet market.<sup>23</sup> As smartphone and mobile internet market is growing rapidly all over the world, the acquisition of the most popular mobile browser company seems to be a good global strategy. The corporation is also planning to expand its operations in the USA. In June 2014, Alibaba filed registration documents to go public in the US in what may be one of the biggest initial public offerings in the American history.<sup>24</sup> *The Economist* estimates the likely valuation of Alibaba may range from \$55 billion to more than \$120 billion.<sup>25</sup> One of the major operations in the USA was the launch of an online retail site “11 Main” in June 2014. 11 Main started with half-a-million products on its site and offers products across a variety of categories including fashion, jewellery, sporting goods and baby products.<sup>26</sup> Alibaba is a global company that has abilities and means to become world leader in the internet sector in which it operates. It is a good example of a Chinese corporation that can successfully compete in new technologies sector.

The second Chinese IT enterprise that can compete with global leaders is Tencent Holdings Ltd. This second biggest internet company in PRC bases its operations on social networking and instant messaging markets.<sup>27</sup> The major products of Tencent are instant messenger QQ, mobile chat service WeChat, social networking service Qzone, microblogging service Tencent Weibo, online payment system TenPay (similar to PayPal), various multiplayer online games, and one of the largest web portals in China called QQ.com. Tencent successfully uses the potential of Chinese human capital. The company employs 27 thousand<sup>28</sup> people of which more than 50% is R&D staff.<sup>29</sup> Moreover, the corporation also uses skills of specialists employed in other Chinese IT firms, as it sells more than 850 thousand applications made by

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<sup>23</sup> R. Flannery, Alibaba to buy remaining shares in search service UCWeb it doesn't own, *Forbes* 2014, <http://www.forbes.com/sites/russellflannery/2014/06/11/alibaba-to-buy-remaining-shares-in-search-service-ucweb-it-doesnt-own/> (retrieved: 11.06.2014).

<sup>24</sup> R. Mac, B. Solomon, Chinese E-commerce giant Alibaba files for IPO, *Forbes* 2014, <http://www.forbes.com/sites/ryanmac/2014/05/06/chinese-e-commerce-giant-alibaba-files-for-1-billion-ipo/> (retrieved: 12.06.2014).

<sup>25</sup> E-commerce in China: The Alibaba phenomenon, *The Economist* 2014, <http://www.economist.com/news/leaders/21573981-chinas-e-commerce-giant-could-generate-enormous-wealthprovided-countrys-rulers-leave-it> (retrieved: 12.06.2014).

<sup>26</sup> R. Mac, Alibaba launches 11 main to grow U.S. presence before its record American IPO, *Forbes* 2014, <http://www.forbes.com/sites/ryanmac/2014/06/11/alibaba-launches-11-main-to-grow-u-s-presence-before-its-record-american-ipo/> (retrieved: 12.06.2014).

<sup>27</sup> W. Zhang, I. Alon, *Biographical Dictionary of New Chinese Entrepreneurs and Business Leaders*, Edward Elgar Publishing, Cheltenham 2009, p. 112.

<sup>28</sup> Tencent Holdings, *Forbes* 2014, [www.forbes.com/companies/tencent-holdings/](http://www.forbes.com/companies/tencent-holdings/) (retrieved: 20.06.2014).

<sup>29</sup> *About Tencent*, Tencent, 2014, [www.tencent.com/en-us/at/abouttencent.shtml](http://www.tencent.com/en-us/at/abouttencent.shtml) (retrieved: 20.06.2014).

outside developers.<sup>30</sup> The company's global competitor is Facebook,<sup>31</sup> but models of business of these companies differ. According to Tencent's annual report by the end of 2013 the company's combined active instant messaging user accounts were 808 million, and social service Qzone monthly active user accounts raised to 625 million.<sup>32</sup> Globally it can be only compared to Facebook's 1.2 billion monthly active users.<sup>33</sup> Both companies operate internationally (number of QQ monthly active users exceeds total Chinese population by 190 million), but Tencent's operations are more concentrated on Asian markets. One of the most competitive sectors of internet is mobile applications. Tencent's most successful product for mobile phones is WeChat which is a chat service with some features of social network. Number of WeChat monthly active users have increased 121% year to year, and reached 355 million by the end of 2013. Number of users of Facebook mobile messenger was not announced publicly, but in 2014 American company declared acquisition of mobile messenger WhatsApp for 18 USD billion. In February 2014 WhatsApp had 450 million monthly active users.<sup>34</sup> Facebook is not only bigger than Tencent in the number of users but also by stock market capitalization. On June 26, 2014 market cap of Facebook reached 172.7 USD billion.<sup>35</sup> On the same day Tencent was worth 142.0 USD billion.<sup>36</sup> The difference between two companies seems big in numbers, but in relative measures Tencent was worth only 18% less than Facebook. This might be connected with the financial results of both companies. In 2013 Facebook generated revenues of 7.87 billion USD, and net income of 1.50 billion USD.<sup>37</sup> Tencent's financial results in the same period were much better. Revenues went up 38% from previous year reaching 9.91 billion USD, and net income generated by the company climbed to 2.6 billion USD.<sup>38</sup> Tencent's financial indicators are better than Facebook's because of broader diversification of revenues. Facebook's revenues in 88.6% come from advertising business and only in 11.4% from payments and other

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<sup>30</sup> D. Elliott, Tencent, the secretive, Chinese tech giant that can rival Facebook and Amazon, *Fast Company Magazine* 2014, May, p. 6.

<sup>31</sup> We can also consider Microsoft's Skype as major competitor of QQ instant messenger, but as it has only 280 million monthly active users, the scale of business is much smaller. What is more, Skype has much more limited spectrum of operations. Source: P. Munsell, *Skype and Messenger Coming Together: The Next Chapter*, Skype, 2013, <http://blogs.skype.com/2013/02/15/skype-and-messenger-coming-together-the-next-chapter/#fbid=GrI00mGQ8N5> (retrieved: 20.06.2014).

<sup>32</sup> *Tencent Holding Limited Annual Report 2013*, Tencent, Shenzhen 2014, p. 10.

<sup>33</sup> *Facebook 2013 Annual Report*, Facebook, Delaware 2014, p. 7.

<sup>34</sup> R. Albergotti, D. MacMillan, E.V. Rusli, Facebook's \$18 billion deal sets high bar, *The Wall Street Journal* 2014, February 20, pp. A1, A6.

<sup>35</sup> *Facebook Inc.*, Bloomberg, [www.bloomberg.com/quote/FB:US](http://www.bloomberg.com/quote/FB:US) (retrieved: 26.06.2014).

<sup>36</sup> *Tencent Holdings Ltd.*, Bloomberg, [www.bloomberg.com/quote/TCEHY:US](http://www.bloomberg.com/quote/TCEHY:US) (retrieved: 26.06.2014).

<sup>37</sup> *Facebook 2013 Annual...*, p. 34.

<sup>38</sup> *Tencent Holding Limited...*, p. 77.

fees.<sup>39</sup> Tencent uses its free social networks and communicators as huge distribution platforms, offering payable products. That is why main source of revenues (74.4%) are value added services of which biggest part constitute online computer and mobile games. In 2013 the major part of revenue growth came from smart phone applications (especially games) integrated with Mobile QQ and WeChat. Considerable part of revenues (16.2%) represents e-commerce business in which Tencent competes with Alibaba. Unlike in Facebook only 8.3% of Tencent business is online advertising.<sup>40</sup> The structure of Tencent revenues is much more diversified than Facebook, and does not depend so much on global advertising business, but on the other hand Facebook is more geographically scattered and does not rely on one country's economy.

The position of Tencent on the local market is stable and it cannot be affected by foreign competition, as history of the company is a good example of how PRC government can support local IT companies. Since 2009 Facebook websites have been blocked in PRC,<sup>41</sup> and Chinese citizens can access them only through virtual private networks (VPN's) or proxy servers.<sup>42</sup> The official reason for the blockage was Facebook's lack of consent for censorship, and usage of social service by Uygur separatists.<sup>43</sup> Probably censorship is not the only reason of PRC government's actions against Facebook and other foreign internet companies, but it might be also an effect of Chinese IT firms lobbying. As a result Facebook cannot compete on the local market with Tencent. Nevertheless, to become unquestionable global leader Tencent needs to expand its international operations. So far Tencent succeeded in India and East Asian countries where its mobile products like WeChat have become popular. In 2013 WeChat had more than 100 million users outside China. It might be considered as success, but Tencent's management is much more ambitious. In 2012 Tencent acquired American company Riot Games (for 400 USD million), minor stake in Epic Games (for 330 USD million), and several US startups.<sup>44</sup> Tencent certainly has potential, resources and funds to become the world leader, but if that would ever happen depends on the strategy and abilities of its management.

## 5. Conclusions

China has become the second biggest economy in the world, and its corporations grow to take the lead ahead of developed countries' companies. In general view their success is possible thanks to the effect of scale and cheap labour. This kind of advantages can lead to the leadership in many businesses, but not in high technology

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<sup>39</sup> *Facebook 2013 Annual...*, p. 46

<sup>40</sup> *Tencent Holding Limited...*, p. 16.

<sup>41</sup> S. Greengard, Censored!, *Communications of the ACM* 2010, vol. 53, no. 7, p. 16.

<sup>42</sup> Based on author's own research in PRC.

<sup>43</sup> S. Bass, *China's Facebook Status: Blocked*, ABC News, 2009, <http://abcnews.go.com/blogs/headlines/2009/07/chinas-facebook-status-blocked/> (retrieved: 20.06.2014).

<sup>44</sup> D. Elliott, *op.cit.*, p. 8.

sectors like IT, where global competition is exceptionally strong. The author proves that Chinese companies can become global leaders also in this kind of businesses. Strong and dynamically developing local market is obviously one of the major reasons of the growth of Chinese new technologies sectors, but also other core competences of companies contribute to their success. Changes in PRC education system led to creation of Chinese human capital that enables local companies to employ specialists that they need to successfully conduct their R&D processes. Thanks to the availability of specialized human resources these companies are able to develop products that can compete on the global markets. The other strategic advantage of Chinese high technology companies is governmental support. PRC corporations can count on the government political, financial, and legal support, which is not possible to obtain by their foreign rivals. Case studies of Alibaba Group and Tencent Holdings prove that Chinese high technology companies may become global leaders.

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## **ROZWÓJ KAPITAŁU LUDZKIEGO ORAZ POMOC RZĄDOWA JAKO PRZEWAGI STRATEGICZNE CHIŃSKICH FIRM SEKTORA WYSOKICH TECHNOLOGII**

**Streszczenie:** Chińska Republika Ludowa stała się drugą największą gospodarką świata, lecz korporacje z niej pochodzące rzadko stają się liderami w sektorach nowych technologii. Celem niniejszego artykułu jest sprawdzenie, czy chińskie korporacje działające w sektorach wysokich technologii, takich jak IT, są w stanie z sukcesem konkurować z globalnymi liderami oraz jakie przewagi strategiczne mogą to umożliwić. Jako przewagi konkurencyjne umożliwiające walkę z globalną konkurencją zidentyfikowano potężny kapitał ludzki oraz pomoc rządu, które nie są dostępne firmom zlokalizowanym w innych państwach. Analizy studium przypadku korporacji Alibaba Group oraz Tencent Holdings dowodzą, że chińskie przedsiębiorstwa sektora nowych technologii mogą stać się liderami na rynku globalnym.

**Słowa kluczowe:** Chiny, kapitał ludzki, zasoby ludzkie, wysokie technologie, nowe technologie, IT, pomoc rządu, edukacja.