

# **The influence of the Belt and Road Initiative on competitiveness of China**

Mei Yan-Koponen

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Abstract  <p>Developing the economy is one of the means of strengthening a nation's competitiveness. Launched in 2013, the Belt and Road Initiative (BRI) which was fully supported by the government was regarded as an ambitious strategy to make China a powerful country both geo-politically and economically. It was designed to stimulate trade, open new markets for Chinese products, and aimed to strengthen China's connectivity with the world through investment, cultural exchanges and the construction of infrastructure.</p> <p>The objective of study was to find out what the impacts of BRI were and to discover how the BRI can help China to improve its competitiveness. A qualitative approach was used to explore various kinds of data while Porter's diamond model was used as a theoretical framework to help in analyzing China's business environment. The primary data was collected through two semi-structured interviews with a professor and a researcher, and secondary data was retrieved from online reports and documents.</p> <p>The results showed that China's domestic business environment had developed after the implementation of BRI. This was demonstrated by upgrades in the country's infrastructure; increases in GDP, PPP and trade; improvements in the quality of life; and the introduction of a series of policies and measures to ensure business outcomes. The results also showed government was found to play the main role in BRI, which is much greater than stated by Porter who claims the government only has a supporting role. The relations between countries was found to be very important in doing business. Limitation of the study was that the full impacts of BRI couldn't be assessed because the project is not yet completed. Further research in BRI would be of great help in finding more evidences on how BRI could help China to improve its competitiveness.</p>		
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# 1 Introduction

In today's society, people pay close attention to the development of global economy as it relates and affects our life. China has become one of the countries which is often talked about. According to the World Bank in China (2018), China was still a self-reliant autarchic economy until the 1980s. After that China has undergone high speed economic and social development. The Economic reforms has helped China become a more market- based economy. China's GDP keep its fastest expansion as growing average almost 10 % annually and more than 800 million people have been lifted out of poverty.

After years of swift economic development, China is now seeking opportunities to invest and trade. Country is also trying to secure vital energy supplies and strengthening its international standing. (Allen 2015.) Under such a background, in 2013, the Chinese initiative project the Belt and Road was launched. According to Zecha (2016), this project is a tremendous plan to connect the countries in extensive region. It is a foreign police and economic development strategy using an enormous trade and infrastructure project that targets to link China physically and financially to lot of economies across Asia, Europe, Africa and Oceania. It emphasizes cooperation between countries in the areas of infrastructure and facilities networks, investment, trade relations, financial cooperation, social and cultural exchanges. The initiative is bridging China and rest of world through constructing of roads, railways, oil pipelines, ports and other infrastructural projects. By reviving the ancient trade routes, project will cover 65% population in the world. 1/3 of global GDP and 1/4 of world trade will be covered by the project when it is completed.

One Belt refers to the Silk Road Economic Belt. Purpose of doing so is to develop economic partnership with other countries, regions along the land silk road, strengthen infrastructure construction and safeguard China's energy and food supply. The Belt links China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan as well as the other observer states. It is the overland economic corridors.

The Road regards to Maritime Silk Road. It is the shipping lanes to connect China coastal ports to South-East Asia, Africa and Central Asia through Indian Ocean and

extends to Europe or through the south China sea to the south Pacific. (Kuo & Kom-menda 2018.)



Figure 1. The Belt and Road Initiative Route Map (Maraczi 2017).

For forming a higher level of land, sea and air exchange network, the initiative adheres to the principle of cooperation, joint construction, and sharing, and strives to achieve better regional infrastructure, safer and more efficient. At the same time, the level of facilitation of investment and trade will be effectively improved, and a high-quality, high-standard free trade regional network will be established. (NDRC 2015.)

People are saying that the Belt and Road Initiative (BRI) is Xi Jinping's ambition to make China a authoritative country (Ward 2018). Before China realize its ambitions, there are many barriers to overcome both at home and abroad. At home, internal resources may struggle among different regions. In abroad, United States and the European Union have been pursuing their own interests and plans to counter China's expanding influence. (Broer 2018.)

A very low sovereign credit rating for the countries involved in the OBOR project is one of the direct risks. it already happened like Sri Lanka and Myanmar. The project couldn't generate enough profit for them to service their debts. Financially this would affect China. Countries' stability is another risk. Unstable countries in the middle east possess a risk to the project. (Choudhury 2017.) Frequent military conflicts

and civil wars make the region unstable (Storey 2016). Political instability in countries such as Pakistan, Myanmar, Maldives may cause the problem regarding the BRI. Corruption is another problem for OBOR in some countries. The impact of trade war with America hurts the economy and may divert to BRI. (Sharma 2018.)

Why is the Belt and Road Initiative important to China? According to Seth (2018), the purpose of the project is to boost domestic growth. It is part of economic diplomacy strategy. China expects to develop economy by connecting neighbor countries. China wish to open up and create new markets through the project. It will also help China to gain the control of cost-effective routes in manufacturing and export materials easily. Other countries are aware of this strategic move.

More than 25 billion USD has been invested into Initiative-related infrastructure projects during the first five years' time of the project according to MERICS (Mercator Institute for China Studies) Initiative database. Not included on-going projects or projects in the planning phase. (Eder 2018.) But nothing can stop China to pursue his ambitions. The initiative is motivated by factors other than trade. (Kuo & Kommenda 2018.)

If you pay attention to the recent news, you would not miss the issue about going-on China-US trade war. The two countries continue to dispute tariffs placed on goods traded between them. According to Ward (2018), the reason for US president Donald Trump launched this trade war is to aim at helping more American companies to enter China market and balancing trade between two countries. The white house cannot stand China be the center of global supply chain and wants to alert multinational corporation about doing business in China. The core purpose is to damage China's business strength. It could cause China's economic slowdown and may provoke a worldwide financial crisis. It could trigger the domino effects and influence the whole world markets. Eventually it could cause losing billions of dollars worldwide.

Nobody likes to see global financial crisis happen and there is no sign to see that China is going to stop the project. The purpose of this study is trying to find out, in this complex situation, what are the impacts of the BRI?

**The research question of this study is:**

The influence of the Belt and Road Initiative (BRI) on the competitiveness of China.



There are many articles written about China's mega project. Politicians and economists either criticized it or praised the project based on their point of views. In this study, author will stand in a neutral position to analyze the project.

Each year, there are many kinds of index, ranking or reports published by different organization. Those indexes and reports cover many aspects of our life, from economy to social progress, from people's happiness to education. The reason for publishing those indexes, rankings and reports are to let people to know how well their countries have done, what are needed to be improved in the future.

The Global Competitiveness Report published by The World Business Forum is one of the important and well-known report that assesses the competitiveness of countries to see what drives countries' productivity and prosperity. Since 2004, the Global Competitiveness Report starts ranking countries in the Global Competitiveness Index (GCI). The GCI analysis the factors which impact on countries' business environment and the importance of factors for countries' competitiveness (Charlton 2018). It can be a tool help to assess China's economic development. But without success of society, economy development will lose its strong support. Strong economics do not guarantee strong societies. Through the Social Progress Index, the real quality of China people's life can be revealed. The Social Progress Index is to complement economic measures. Michael Green, CEO of the Social Progress Imperative (TSPI) said: "Countries need a new measure that assesses and quantifies the things that really matter to real people: Do I have enough to eat? Do I have shelter? Can I get an education? The Social Progress Index was created to meet that need." (TSPI 2018)

Michael Porter's Diamond model will be used to analyze collected data as his framework is one of the most revered scholars of management science due to his extensive working experiences. The details of empirical study will be shared in the methodology chapter.

Structure of this study will be:

- The Emerald model, global competitiveness index will be reviewed in the literature review chapter,
- Michael Porter's Diamond model will be showed in the theoretical framework,
- Qualitative approach and primary and secondary data collection will be presented in the methodology chapter,
- The research findings will be stated in the result, and
- Suggestions will be presented in discussion chapter.

## 2 Literature Review

### 2.1 Concept of competitiveness

There are many versions of the definition about competitiveness. In business dictionary (2019), competitiveness refers to a company or a country which has the ability to provide good quality of products or services that meet local and world market's requirements in terms of prices and adequate returns in producing and consume them. The word "competitiveness" original comes from the Latin word "competer" which means "involvement in a business rivalry for markets" It generally means "the ability to compete" in business term. These days, the term of competitiveness is often used to describe the ability for a business to exploit and raise opportunities in markets to survive and gain some desired results or advantage for them to make profit (Porter 1998a). According to Cann (2016), the country's competitiveness means a country's productivity level is driven by the set of institutions, policies and factors. Michael E. Porter defines the country's competitiveness as whether a nation has the capacity to innovate and upgrade its industry (Porter 1990a, 171). OECD Program on technology and the Economy has defined competitiveness as when competes with foreign product and service, a country can still maintain and expand domestic real income (OECD 1992). Even though there is not standard definition for the competitiveness, but the core concept is the same that something is better than others and it is good for the country, firm or organization and their people.

What makes a country stronger? The only way is to improve its competitiveness. Oxford living dictionaries explains the competitiveness is a strong passion to be much better than others or the quality of being is either good or better than others in a alike nature (Oxford living dictionary 2019). When a country has the strong desire to improve its economy and improve its people's life, there will be a way to make it happen.

The competitiveness is composed by a combination of factors that determines the nation's productivity. According to professor Martin, the competitiveness is like the engine for the country's economic growth and the foundation of living standard. The productivity links to well-being of nation's population as income is distributed equitably. It was showed evidently in many productive nations as they could spare all the factors that are indirectly related with competitiveness. The economic growth is a necessary condition for achieving desirable social aspirations. (Martin 2017.)

The new global Inclusive Growth and Development Report states that how well the society prospers from growth relies on many parts, such as policies, environment of investment, progress of innovation, labour's protection, how well the social insurance system is, probity of business and political ethics, approachability of infrastructure and basic services. Without economic growth, there is no any country can achieve their social goals. Economic growth and competitiveness interact with each other. Economic growth helps nation become more competitive. (Inclusive Growth and Development report 2017.)

Rising competitiveness means people in the society will benefit from the results of economic growth and rising prosperity (Cann 2016). XSiM (2016) wrote that it matters how competitive a country is. She said that people who live in the more productive countries tend to be happier because of the better wealth and higher living standards. Investments will get greater returns. The investment on infrastructure, education and skills development will become potential factors that can be translated into economic growth.

Through date analysis in Global Competitiveness Report (GCR) in 2015, They found that the more competitive an economy is, the less severely affected by the recession that followed. (GCR 2015.) Country's competitiveness is an intricate concept that

cannot use one single measure to capture (Kao et al. 2008; Lall 2001). How can one country be more competitive than the other country? What are the determinants that contribute to the success?

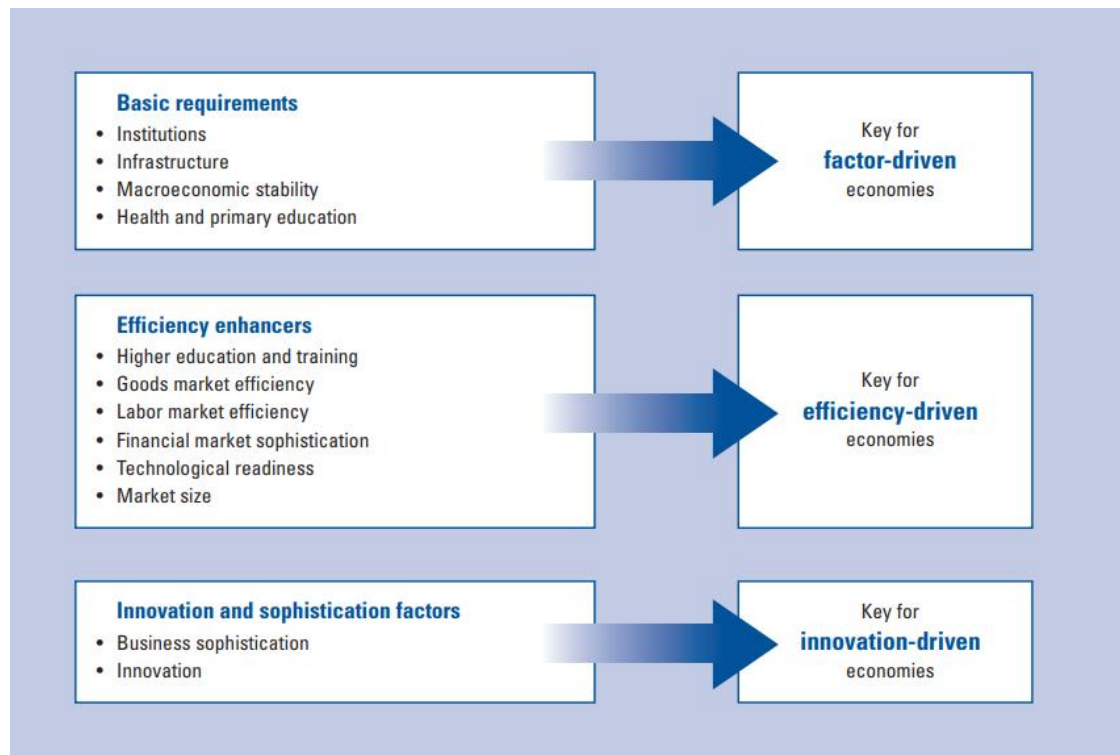
Porter spent four-years to study the patterns of national competitive success. He states that the differences in national values, culture, economic structures and institutions, and histories all contribute to the nation's competitive success. He also explains that a country's competitiveness depends on its industry capacity to innovate and upgrade. (Porter 1990b, 171.) These are the base of Porter's Diamond model. It is used to assess the quality of the business environment. A.J. Smit (2010) calls it a framework that enhances the understanding of the international competitiveness of firms.

When economic competitiveness is higher, the country becomes more competitive and productive. It can offer better social services to its people. It is a value chain that each sector of country's business supports and influence each other. In Martin's article "four reasons why your nation to be more competitive", he addresses that those four reasons are needed to be considered, discussed and dealt with. The four reasons are the productivity paradox, the fourth industrial revolution, growing income inequality and a massive increase in the working population. (Martin 2017.) Those reasons can be a guide to see how well the country has been developed.

## 2.2 How to evaluate competitiveness?

Twelve pillars (each pillar also includes sub-indexes) have been used in Global Competitiveness Index (GCI) to evaluate the countries' competitiveness. The microeconomic and macroeconomic foundation of national competitiveness was captured in the Global Competitiveness Index. According to GCI reports, "a nation's level of competitiveness reflects the extent to which it is able to provide rising prosperity to its citizens. The open-ended dimension of competitiveness was also captured by GCI through providing a weighted average of many different components, each of which reflects one aspect of the complex concept of competitiveness." (Schwab 2009.)

Table 1. 12 Pillars of Global Competitiveness Report (Schwab 2008, 7).



These 12 pillars are not independent listed. They support and fortify one another, and also influence each other. For example, without good institutions, the well-educated and trained workforce (Pillar 1 & 5), there would not be innovation (Pillar 12) happened.

Each pillar affects different country differently. In the first stage, countries compete based on primarily unskilled labor and natural resources, their factor endowments. The economy is factor driven. After that it is efficiency-driven economy. Production processes and quality must be improved in the efficiency-driven stage. lastly, it is innovation-driven stage. At this stage, companies must compete through innovation using the most sophisticated production processes to produce new and different goods. (Schwab 2008, 7.)

Therefore, following part is to explain how each pillar works and their impact on country's economy so that can be the criteria for evaluating the country's competitiveness.

**Institutions factor:** Country's competitiveness and growth is strongly influenced by country's institutional environment. It is one of the factors of economic growth and development. Rodrik defines the institutions as "a set of humanly devised behavioral rules that govern and shape the interactions of human beings, in part by helping them to form expectations of what other people will do". (Rodrik 2000, 31.) According to Gagliard (2008), the institutions are important because they are shaping economic performance; overcome opportunism and promote cooperative behavior; reduce uncertainty." (437.) Competitiveness of a nation and his growth is heavily affected by the institution environment. The uncertainty of macroeconomy will be reduced, property right will be protected, and investments and innovation will be promoted. (Rodrik, 1999.)

**Infrastructure factor:** The efficient business operations depend on the availability of high quality of infrastructure. With the high-quality infrastructure, the effect of distance between regions will be reduced. Infrastructure was identified by Snieska and Bruneckiene as one of the indicators of the competitiveness of regions within the country. It consists of road transport infrastructure, newly built property, external accessibility of the region by land, air and water, telecommunications. It is an indicator of the factors of production, competitive conditions in the region. Economic growth and quality of life improvement are supported by the efficient infrastructure. and it is important for national security (Baldwin & Dixon 2008.) Martinkus and Lukasevicius (2008) consolidate that the investment climate at the local level will be affected by the factors of the infrastructure services and physical infrastructure and increase the attractiveness of the region.

**Macroeconomic environment:** A country's economic growth can be driven by the stable macroeconomic environment. The uncertainty of the future economy and public finances, or the volatile inflation and recession caused by the financial crises will reduce the investments. Investment affects economy in its productive capacity. Low economic growth will impact every aspect of the industry causing the problem such as employment, inflation and public goods. (Pettinger 2017.) Therefore, it influences the country's competitiveness.

**Health and primary education:** Better health can improve the productivity and lead to higher income. The backbone of economic activity is constituted by a healthy

workforce. (Bloom & Canning 2000, 2008.) World Economic Forum & Harvard School of Public Health (2011) reviews better health can be translated into greater productivity in a long run. Healthy children go to school more regularly and longer. They will develop higher levels of cognitive ability and improve the overall level of education of the future workforce. Healthier individuals with longer life expectancies may expect higher returns on their investment by building their human capital through education.

**Higher education and training:** Knowledge are propellant in creating technology and providing sustainable development. knowledge can be transferred to technology and provides competitive advantage to companies. Therefore, affect countries' competitiveness directly. The innovation and economic development depend on the work force who have received a qualified education (Ekinci 2006, 54.) Higher education affects the productivity in individuals, companies and institutions. Increased productivity will accelerate the competitiveness, benefit the goods production and protect the boom in the market. (Bauk & Jusufriani 2014.) Higher education creates the competitiveness over public and private sectors. The research and development activities, innovation and technologies are led by the higher education. High spending on those activities will affect economic and social development positively. It will also improve the social condition and service functions. (Tolunay & Akyol 2006, 119.) Accordingly, country's competitiveness will be improved.

**Goods market efficiency:** Lack of competition and distortionary fiscal policies and regulations can reduce the efficiency of product markets. The more intense in competition, the more efficient in producing innovation and the merrier in improving productivity. (Blundell et al. 1999.) Nickell (1996) has confirmed the effect on productivity of market selection among firms through the empirical studies (734.) Buccirossi (2011) found that the Total Factor Productivity is fostered by the better competition policy. It works well especially in the countries that lag behind the technological frontier and the countries which overall regulatory environment and judicial system work better. (3.) Through distorting investment choices and artificially favoring sectors based on political selection, the efficiency of product markets will be reduced by the Fiscal policies. It will have negative impact on the country's overall

productivity. (World Economic Forum 2018.) Therefore, it influences the country's competitiveness.

**Labor market efficiency:** World Economy Forum described that efficiency and flexibility of the labor market plays an important role in helping economy to reach maximum productivity by using and allocating workers effectively. (Roa 2012.) "Employees and employers' benefit from the efficient labor markets in the way of promoting the productivity of human capital." explained by the World Economic Forum. Bassanini and his colleagues (2008) found when the labor market become more flexible, it will increase the ability to adapt the workforce to the high-tech sector for a nation. (45-47.) Active labor market policies can improve the matching between workers and vacant jobs and reduce long-term unemployment (Pissarides 1992; Calmfors 1994.) Hence, a low unemployed rate can be thought as a signal that economy performs well and efficiently as the workers have the jobs.

**Financial market development:** Financial markets is the place of accumulation of capital and production of goods and services (Please explain how financial markets may affect economic performance 2005). It provides liquidity to financial Assets. It requires depth, access, efficiency and stability (World Bank 2016). It also provides the chance for employment, reducing the cost of transactions, facilitating price discovery. Development of local financial system is an important factor in country's economic development. Developing financial markets will instill the confidence for business to expand operations and take risk. It shapes the economic landscape. (Capozzi 2018.)

**Technological readiness:** Technology is the important element for firms to compete and prosper. The technological readiness measures the agility in adopting the existing technology, leveraging information and communication technology, production process (Schwab 2010). The "Technological readiness" sub-indexes include: Availability of latest technologies; Firm-level technology absorption; Foreign Direct Investment and technology transfer; Internet users; Broadband Internet Subscriptions; and Internet bandwidth. (Porter & Schwab 2008.)



**Market size:** Market size is defined as a combination of country size and foreign markets. It affects productivity through economies of scale in production and incentives for innovation. Especially the large market can take advantage in production of goods and services due to the economies of scale. (WEF 2018.) larger markets provide the opportunity to create considerably bigger incentives for generating new ideas (Romer 1996). Because of increasing returns to scale embedded in technology or knowledge creation, larger markets also create affirmative externalities in the accumulation of human capital and transmission of knowledge (Jones 1999).

**Business sophistication and innovation:** Business sophistication links to country's overall business network quality and quality of individual firms' operations and strategies. It helps to improve productivity and enhances a country's competitiveness. (Razavi, Abodollahi, Ghasemi, & Sahfie 2012.) Innovation is a complex process. It is the most important component of long-term economic growth, especially the creation and diffusion of technologies part in the innovation. It can enhance economic productivity only when ideas become successful product. (Schwab 2018.)

The Global Competitiveness Index defines the business sophistication and innovations as: "The capacity to generate innovation and produce unique value-added products via sophisticated production processes is a central driver of competitiveness for countries that have reached the last and most advanced stage of development." (GCI 2018, 319.)

There is another tool that evaluates the country's or region's competitiveness is the Emerald model by Sasson and Reve. It is measured through educational attractiveness, talent attractiveness, R&D attractiveness, ownership attractiveness, cluster attractiveness, environmental attractiveness and knowledge dynamics. (Sasson & Reve 2012.)

The picture below shows the relation between each attractiveness.

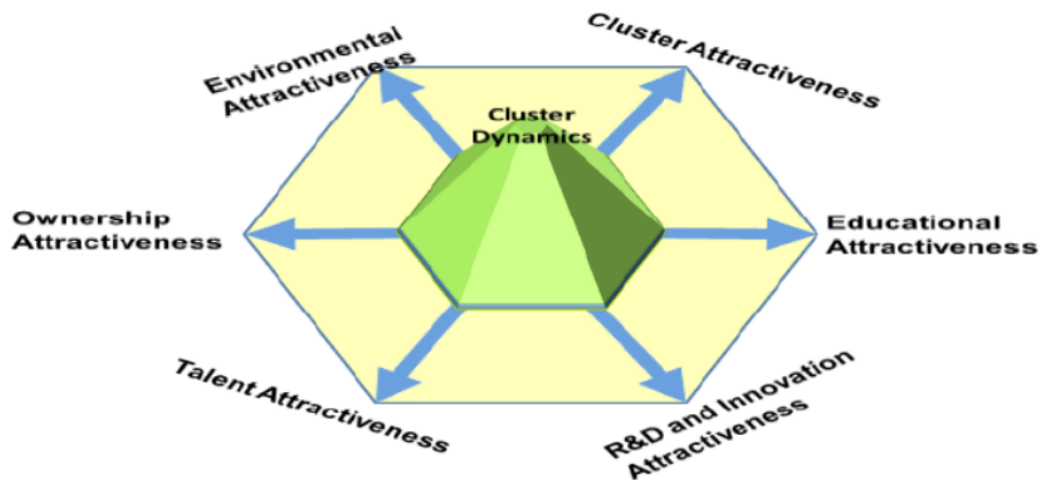


Figure 2. The Emerald Model (Sasson 2011, 13)

**Educational attractiveness** measured by the numbers of different level graduate students to see how popularity of high-quality educational institutions are (Sasson & Reve 2012). The higher graduates from different level education means the more attractiveness of their education. The important factors for balancing supply and demand for skilled labour are lifelong learning and mobility. They give the on-going structural changes to the economy. (Innovation Union competitiveness report 2013, 80.) The level of education impacts skill's level of workforce, the workforce is the human resources and human resources is the key driver in competitiveness (Stierna & Vigier 2014, 12).

**Talent attractiveness** describes the ability to attract and retain talents no matter of locals or foreigners in the area (Sasson & Reve 2012). People became the new sources of competitive advantage replacing machines, geography or capital as the primary driver of company's competitive advantage (Ulrich 2006). The war of talent has become the threat to the success of companies (Michaels et al. 2001; Somaya & Williamson 2011). Attracting and Retaining the talents well means the potential success for the business.

**R&D attractiveness** measures how many people works in the R&D, how much have been invested in the R&D and how many patents have been registered by firms in the region (Sasson & Reve 2012). High level of research and development helps firms

to increase competitiveness and create an entry barrier for new firms (Gawel 2012). The more input in R&D, the more output in innovation. As we know innovation is the most important component of long-term economic growth, especially the creation and diffusion of technologies part in the innovation. It can enhance economic productivity only when ideas become successful product. (Schwab 2018.) R&D plays important role in the process of making ideas to become successful products. Without research and development, it is impossible to create new technologies and innovations. When an organization is willing to put more people and money into the R&D, there will be more chance for them to be successful and competitive. (Ibid.)

**Ownership attractiveness** measures the attractiveness of the entrepreneurial ecosystem. How ease of a business starts and runs? What kind of financing support is needed in order to stimulate industries to innovate and create new projects? (Sasson & Reve 2012.) It contributes to the competitiveness and could be a motivation for firms to pursue innovations (Akpınar & Mermercioglu 2014, 6).

**Cluster attractiveness** measures the degree of enticement and expertise in the area (Sasson & Reve, 2012). Clusters have a prominent role in competitiveness. Porter in his article states that clusters are the concentration of affiliated firms and institutions in a special field connected by their similarities and reciprocity (Porter 1998b.) Multi-nationals benefit from clusters in production linkages, capital-good markets and technology diffusions. Knowledge flow and communication can be improved significantly. New technologies can be adopted faster too. (Mudambi & Swift 2012.)

**Environmental attractiveness** evaluates the capability of an area in operating and producing goods and services by an environment friendly way (Sasson & Reve 2012). Healthy business environment attracts talents and investment, encourages research and development, and innovation. Environmental munificence supports growth of organizations within it, such as an increasingly competitive marketplace. (Mintzberg 1979.). Porter and van der Linde (1995) addressed that the environmental issue is a sensitive thing which could lead to knowledge development in the area. Environmental concerns could also devote to business development, stimulate innovations in product and service, and improve company's competitiveness.

**Knowledge dynamics** is the heart of economic development. Investment in research, education, development, creativity, transmission, application of knowledge determines the knowledge dynamics. (Batagan 2008.) It measures how well the knowledge flows in the region and consequences between firms and institutions (Sasson & Reve 2012). The importance of externalities and spillovers within clusters is more significant for competitive advantage (Porter 1998c, 231).

Michael Porter's Diamond model can also be used as a tool to evaluate country's competitiveness. His famous article Competitive Advantage of Nation (1990) clearly explained what factors impact or influence the country's competitiveness. Details of the factors can be seen in the theoretical framework part.

The World Competitiveness Yearbook published by IMD World competitiveness center can be used as a supporting material when evaluate the country's competitiveness. It concentrates on whether a country has ability to create values for its enterprises and people, and at same time support development of business environment. (IMD World Competitiveness Center 2014). It is different from the Global Competitiveness Index published by the World Economic Forum. The Global Competitiveness Index is a pack of determinants that measures a nation's productivity level. The determinants include institutions, factors and policies. The higher productivity level, the higher prosperity level. This prosperity level can be achieved by an economy. (WEF 2014.) The importance of prosperity as the ultimate outcome of competitiveness is highlighted in both reports.

### 2.3 Theoretical framework

Diamond Model was introduced by Michael Porter in 1990 as a tool for defining a country's competitiveness in his book "The Competitive Advantage of Nations". There are four determinants for accessing the national business environment. They are:

- Factor conditions,
- Demand conditions,

- Related and supporting industries, and
- Firm strategy, structure and rivalry. (Porter 1990c, 183.)

Figure 3. shows the relations between the four determinants.

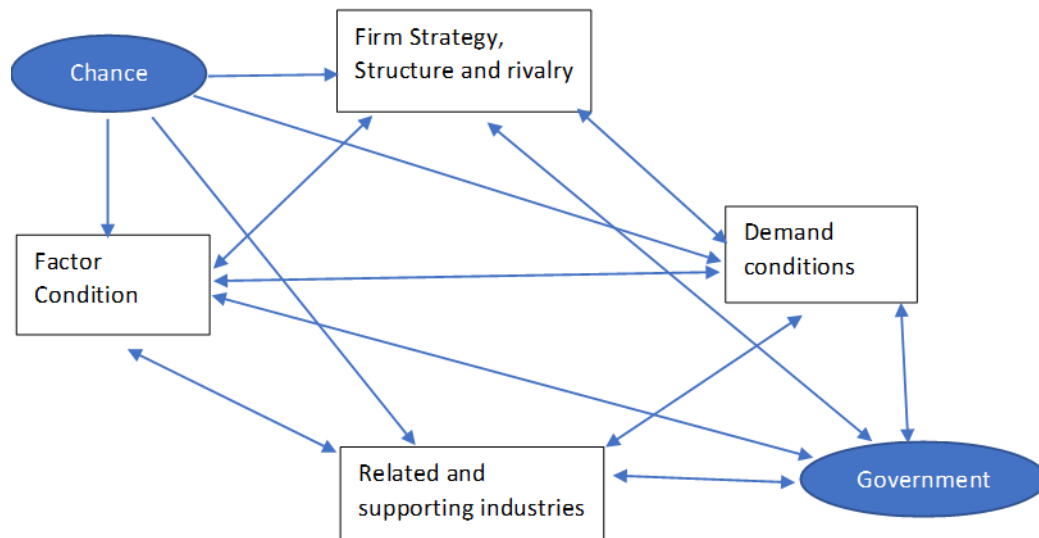


Figure 3. The Diamond Model (Adapted from Porter 1998d, 127)

Porter (1998e) distinguishes factor conditions as human resources, physical resources, knowledge resources, capital resources and infrastructure which show the nations' position in production and infrastructure that enable it to compete in a given industry and improving access to high quality business inputs (74-75). It was divided further into two parts, basic factors and advanced factors. Porter noted that national prosperity is created, not inherited. Sophisticated industries, skilled human resources and scientific base form the backbone of advanced economy (Ibid.) Country needs to focus on high value-added growth potential to create competitive advantage (Kirchbach 2003). According to Recklies (2015), it is the best way for a country to develop those industries with certain set of factor conditions. It explains why certain country is called low-cost-country and some country is called agricultural countries. The national factor conditions may be reshaped due to the reason of political, technological progress or socio-cultural changes. The good example that Recklies gave was how ethics of genetic engineering and cloning will impact our society, especially in knowledge capital.

Here comes detail explanation of factors.

There is no doubt that education is important for every country. High-quality institutions are the heart of the good governance which can promote economic growth (OECD 2011, 7). High education provides the skillful human resources for the workforce (A G20 training strategy 2011, 8). A workforce with high education, with specific skilled background keeps a company moving toward a successful business in the market (Frost 2018). The workforce is the human resources and human resources is the key driver in competitiveness (Stierna & Vigier 2014, 12).

Bo defines the knowledge resources as “the containers that store the specific knowledge for sharing purpose” (Bo 2004, 1). Knowledge resources reside in the many places such as research institutes, universities. The advanced factors are created by the institutes and help to achieve sustained competitive advantage. (Porter 2008.)

Physical resources refer to what a country has regarding to the natural resources (such as water, land, power sources, mineral deposits), locations and the geographic size, climatic conditions etc. When a country has more physical resources and easy to access, it provides the advantage in competing in global economy. The location of these resources is an important factor in terms of accessing and using them. (Ibid.)

Rich capital resources provide the advantage in financing industries, business, educations. The capital resources can be bonds, equity or venture capital. They are affected by the structure of national capital markets. (Masira & Chowdhury 2014, 36.)

High quality of Infrastructure (such as transportation system, communication system, health care system, postal system, the payment system in the country) provides the platform for the efficient business operation and the effect of distance between regions will be reduced. Infrastructure was identified by Snieska and Bruneckiene as one of the indicators of the competitiveness of regions within the country. (Snieska & Bruneckiene 2009, 45-57.)

The demand conditions emphasize on the country's buyers and their needs, stress the importance of home market, the size of demands, segment structure of demand

including the large global segments, sophisticated and demanding buyers, early home demand and high growth rate. (Porter 1990d, 190-191.) Demand as a factor was firstly introduced by Linder in 1961. He explained that the countries will have similar spending patterns if they have similar per capital incomes and will lead to relative same demand structures which enhance intra-industry trade with these comparable demand conditions in countries. But Porter focus more on demand difference than the similarities to explain nation's competitiveness. (Smit 2010, 116.) The size of home demand and sophistication of home country buyers are both matters, especially the home demand that shapes how firms perceive, interpret and respond to buyers' needs, and it forces the firms upgrade their positions to match their product quality, features, service demands with high standards and innovate continually. (Ibid.)

Home demand is important in raising industries' competitiveness. Home market gives clearly sign of what they need. It puts the pressure to the local firms to innovate faster to respond the needs and attain the sophisticated competitive advantages than foreign rivals. Local firms also benefit from the strong domestic rivals and invasive home-based suppliers and demanding local customers due to the pressure and challenge from the competitors. (Porter 1990e, 190-191.) When dealing with the home buyers, culture similarity makes easier for firms to understand, perceive and act upon buyers through the clarity and easy of communication. (Porter 1998f, 86-87).

Due to a specific set of demand conditions, an industry in a specific location kept by location economies of increasing returns will be not easily competed away by industries in another country (Krugman & Obstfeld 2003). It will influence the essential resource differences between countries and impact on countries' relative location advantages. (Porter 1998g.) Porter also states that if foreign competitor gets demand signal late than domestic suppliers, a nation can gain advantages. (Ibid.)

Scholars see the location as a source of competitive advantage as homogenization of economies (Levitt 1983). In the standard economic theory, location is seen as specialization of economies (Smit 2010). The advantage in innovation and upgrading is provided by the home-based related and supporting industries. The close-by suppliers

and end-users can exploit the advantage of location in quick and nonstop information exchange and flow, plus active idea and innovation exchange. And the nation's companies benefit the most is when they are the suppliers, global competitors. (Porter 1990f, 192.) It needs many years of hard work and costs a lot of money to build supporting systems to help domestic firms competing in globally market. But if strong related and supporting industries are ready, the result will be positive. Domestic companies will be more competitive. The nation and region will benefit from it. (ibid.,192-194.)

How company is established, organized and managed are determined by a country's conditions (Recklies 2015). When a country is politically stable and has a healthy business environment, it will attract talents and investments, encourages R&D and innovation. Porter emphasize that the firms' strategy and structure are heavily depending on the national environment. Barragan's study on the Mexico automobile industry shows firms' strategy and structure and rivalry get hold of the hardness of home competition. Whether a sector is extremely competitive domestically will affect the rise in productivity required to compete internationally. (Barragan 2005.) There are also the levels of competitiveness. It includes national competitiveness, sectorial competitiveness, enterprise competitiveness and production competitiveness (Porter 1998h). Different sector competes in different way. Domestically, firms compete in cost, quality and innovative. Internationally, country's competitiveness shapes the international competitive advantage of firms. (Porter 1990g.)

In helping companies become more competitive in international markets, government plays an important role and act as both a catalyst and challenger. But Porter doesn't believe that government will leave the economy up to the free market and doesn't see that government is the industry's helper or supporter. Only companies can create competitive industries. (B2U 2018.) Porter suggests the government to create pressure for innovation, to seek out the most capable competitors as motivators, to establish early-warning system, to improve the national diamond, to welcome domestic rivalry, to globalize to tap selective advantage in other nations, to use alliances only selectively and locate the home base to support competitive advantage. (Porter 1990h, 200-206.)



The chance can be sudden earthquake, financial crisis or war that could impact hugely on the country's economy. As chance is unpredictable, here I only analyze economic activity and the role of the government.

### 3 Methodology

#### 3.1 Research Approach

Qualitative research approach will be used in this research. Crossman (2019) wrote that

*“qualitative research is a type of social science research that collects and works with non-numerical data and that seeks to interpret meaning from these data that help us understand social life through the study of targeted populations or places.” (1.)*

Holloway and Galvin (1996) defines the qualitative research is “a form of social inquiry that focuses on the way people make sense of their experiences and the world in which they live. The aim is to understand, describe and interpret social phenomena as perceived by individuals, groups and cultures. Researchers use qualitative approaches to explore the behavior, feelings and experiences of people and what lies at the core of their lives.” (3.)

When there is lack of understanding of complicated situation, social progress or knowing very little about the status, qualitative approach is a good way to compose a theory from data and understand phenomena deeply and in detail. (Young & Hren 2017)

The purposes of qualitative research are that researchers try to understand other people's behaviors and their thoughts; the purpose is not to predict, but to understand its essence in a certain environment. (LaFrance 2015)

The qualitative research can examine the issue in detail and depth as data is based on human experiences. It is easily to amend research framework or directions when new information arises. Only a few cases or individuals needed when collecting data. Because of the size of data, findings cannot be generalized to a larger population. But

findings can be transferable to another setting. (Anderson 2010.) Those are the strength of the qualitative research. Qualitative research allows researcher to explore the problems or issues (Creswell 2007, 39-41). It is the reason that qualitative research suits my study of the One Belt One Road project.

Limitation of qualitative research is that researcher's skills and personalities are important factors that may influence the research quality. How to maintain, measure and show the rigor may be a problem. It takes a lot of time to do the transcript and analysis. Research may not be recognized by their counterparts. Researcher's participation may affect the subjects' responses. When presenting the findings, the anonymity and confidentiality can be the problem. It may be difficult to characterize findings in a visual way. (Ibid.)

### 3.2 Research Context

The research context is about China on-going mega project. It is also called the BRI. A news was released by China national development and reform commission, Ministry of Foreign Affairs and Ministry of Commerce jointly in 2015 talked about the vision and actions on the BRI. It described the Initiative is a systematic project. It sets five areas for cooperation and connectivity. It covers policy, facilities, trade, finance and people. It aims to promote mutual beneficial cooperation among the countries along the Belt and Road. Over the land, it relies on using economic industry parks as platform to build economic corridors connect China to Central Asia, West Asia, Indochina peninsula and Russia. At sea, it concentrates on securing efficient shipping routes which connect ports on Maritime silk road. It hopes to utilize local resources to do unimpeded trade in the area, promote financial integration and create bonds between the countries. (NDRC 2015.)

The big part of project is to construct transportation infrastructure including road, railways, ports, oil and gas pipelines, power supply and transmission, optical cables and communication trunk line network. (See Figure 4). Of course, without the supports of financial and industrial chain, R&D, production and marketing system, the project cannot be realized. China government encourages locals to develop capacity

of industrial supporting system and enhance regional business competitiveness.

(Ibid.)

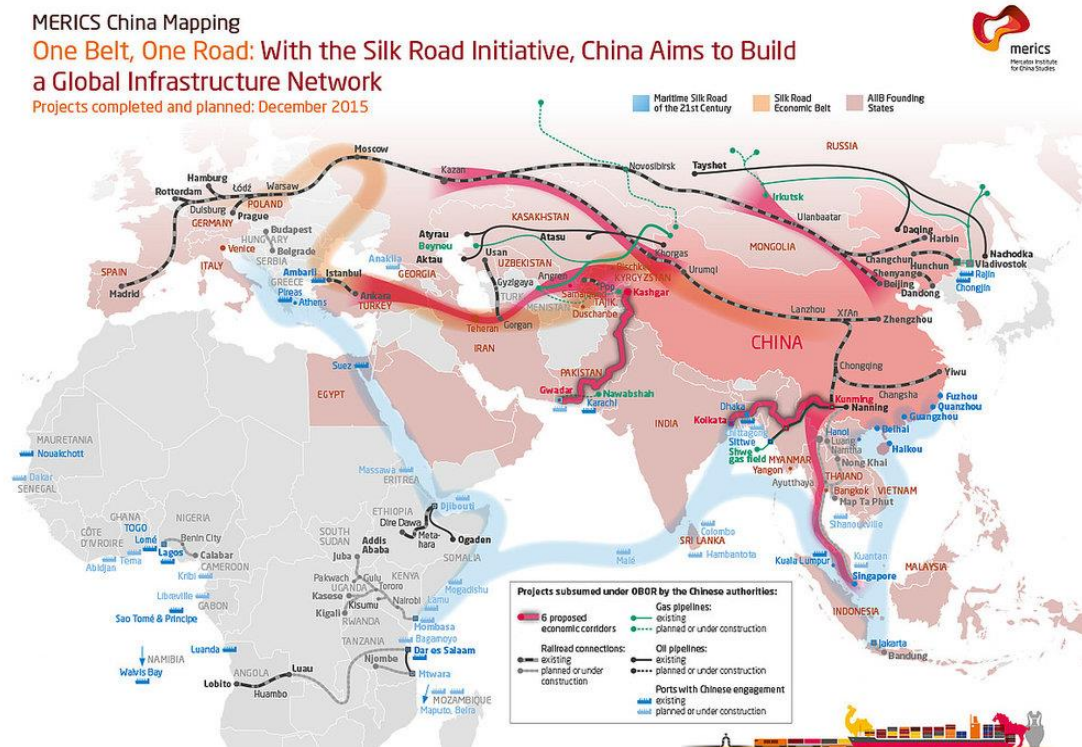


Figure 4. Transportation link map along the Belt and Road Project (Belt and Road Advisory 2018).

According to Vien (2015, 1), in order to mitigate the risk of maritime interdiction, the Belt and Road Initiative constructs routes along six economic corridors (please see from Figure 5):

1. *The China to Russia via Mongolia corridor,*
2. *Euro-Asian corridor, Railways are from central China cities to Europe,*
3. *The China-Western Asia Corridor, getting through Central Asia to Europe,*
4. *The Corridor of China-Pakistan, connected to the Karakoram Highway and reached to the port of Gwadar,*
5. *The Indonesia –China Corridor, and*
6. *The Bangladesh-China-India-Myanmar Corridor.*



Figure 5. Six Economic Corridors of the Belt and Road (Vien 2015).

In following Figure 6 shows the Belt and Road progress including completed projects and under construction projects.

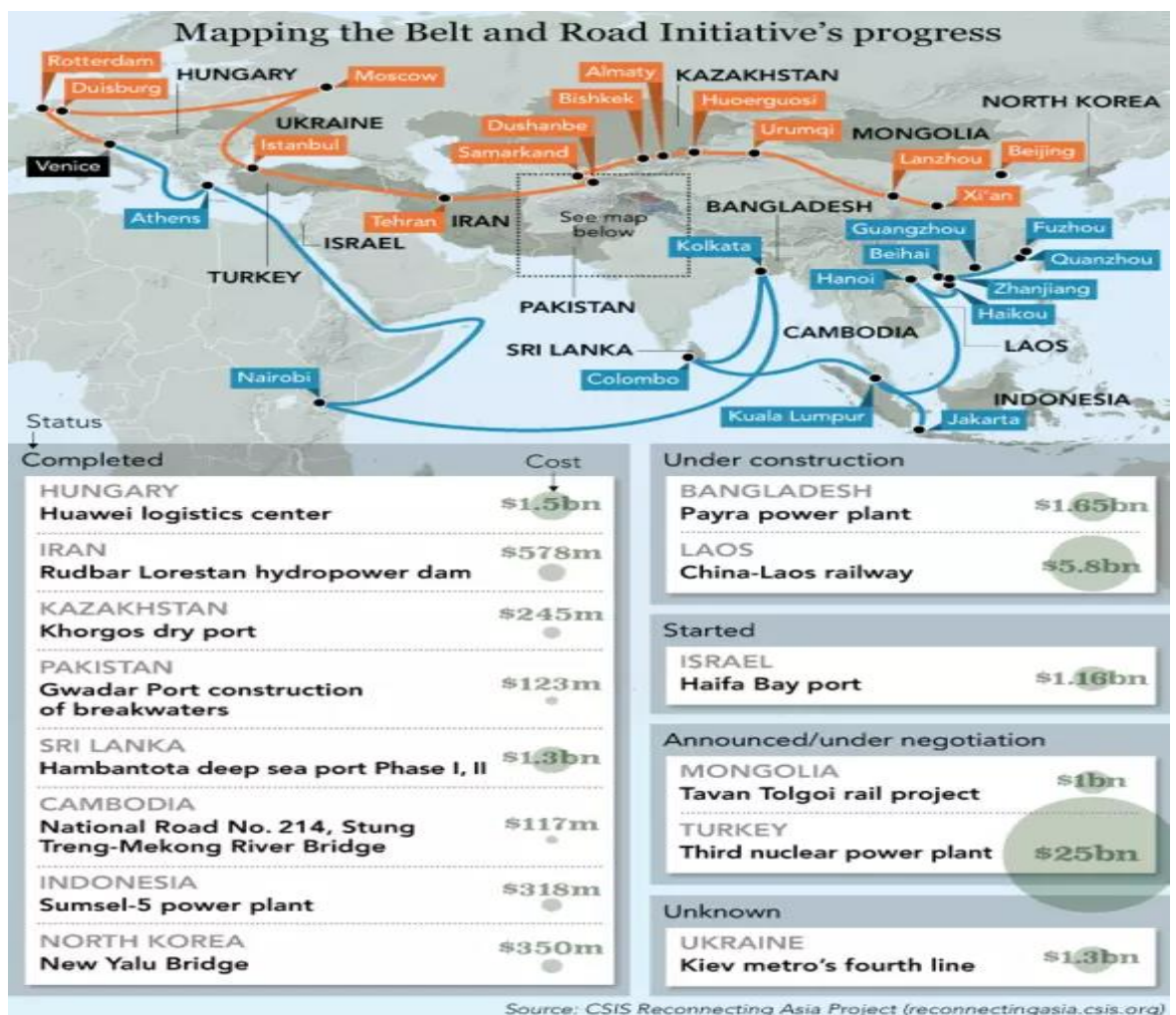


Figure 6. Mapping the Belt and Road project progress (Yamada & Palma 2018).

According to Miu, Chong and Leung (2017), at the end of 2016, there are 46 cooperation agreements with 39 countries and international organisations have been signed with Chinese government. There is possibility that China-Nepal FTA, China-Bangladesh FTA and China-Moldova FTA may sign the agreement too. China is expecting to make 2 trillion US dollars from the OBOR countries by 2020.

### 3.3 Data Collection

Data collection is a mechanism that assembles and assesses data, information or any variables which allows collectors to interpret or examine hypothesis and evaluate results of their collection. It is a comprehensive, proactive action in research study of any field. It can be business related or humanities related. (Definition of data collection on Techopedia website 2019).

Creswell (2007) designed a “circle” of interrelated activities to display data collection process. (see Figure 7)



Figure 7. Data Collection Activities (Creswell 2007, 118).

Both secondary data and primary data will be used in this research. Margaret Rouse (2017) explains

*“secondary data is research data that has previously been gathered and can be accessed by researchers. The term contrasts with primary data which is data collected directly from its source.”* (1.)



According to Saunders, Lewis and Thornhill (2009), there are three types of secondary data, documentary data, multiple source data and survey-based data (258). The documentary data can be government statistics, industry associations, trade publications, company websites (Wolf 2016).

## Types of Secondary Data

Saunders et al (2009, pg. 259)

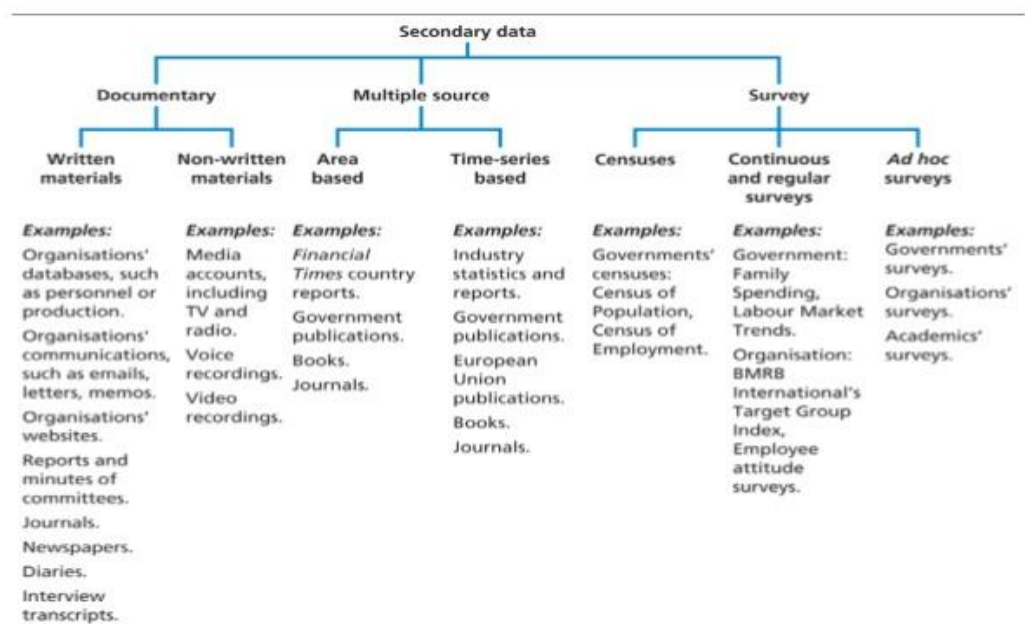


Figure 8. Types of Secondary Data (Saunders et al. 2009, 259).

Every method of data collection has its advantages and disadvantages (Gummesson 2000, 126). The advantage of using secondary data saves time and money. It can provide comparative and contextual data and may result in unforeseen discoveries. It may be feasible for longitudinal studies. (Saunders, Lewis, & Thornhill, 2009, 268-269.) Disadvantage of using secondary data is that data access can be difficult or costly. Aggregation and definitions can be unsuitable. Collected data may not answer the research questions. Data quality may not be controlled. (ibid.,269-272.) To minimize those problems, data was collected from official website of government, banks,

international organizations and the Belt and Road official homepage. Data was also crosschecked by comparing between the different sources.

Table 2 List of websites

Web Owner	Webpage
China government The Belt and Road Portal	<a href="https://www.yidaiyilu.gov.cn/">https://www.yidaiyilu.gov.cn/</a>
National Development and Reform Commission PRC	<a href="http://en.ndrc.gov.cn/newsrelease/">http://en.ndrc.gov.cn/newsrelease/</a>
The state council of People Republic of China	<a href="http://english.gov.cn/archive/publications/">http://english.gov.cn/archive/publications/</a>
Beijing Review (China National English News)	<a href="http://www.bjreview.com/Special_Reports/2018/5_Years_of_the_Belt_and_Road_Initiative/">http://www.bjreview.com/Special_Reports/2018/5_Years_of_the_Belt_and_Road_Initiative/</a>
Xinhua News Silk Road Information Service	<a href="http://en.silkroad.news.cn/?gclid=EAlaIqObChMI3-fk_9Wx4AIVS8-yCh3zJgJOEAAYASAAEgKx_PD_BwE">http://en.silkroad.news.cn/?gclid=EAlaIqObChMI3-fk_9Wx4AIVS8-yCh3zJgJOEAAYASAAEgKx_PD_BwE</a>
One Belt One Road Europe	<a href="https://www.oboreurope.com/en/obor-global/">https://www.oboreurope.com/en/obor-global/</a>
East Westbank	<a href="https://www.eastwestbank.com/ReachFurther/News/Article/">https://www.eastwestbank.com/ReachFurther/News/Article/</a>
Parliament of Australia	<a href="https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/">https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/</a>
China center for International Economic Exchanges	<a href="http://www.cn.undp.org/content/dam/china/docs/Publications/UNDP-CH-GGR%202017.pdf">www.cn.undp.org/content/dam/china/docs/Publications/UNDP-CH-GGR%202017.pdf</a>
Nikkei Bank -Asian Review	<a href="https://asia.nikkei.com">https://asia.nikkei.com</a>
World Economic Forum	<a href="https://www.weforum.org">https://www.weforum.org</a>

In order to get deeper understanding the Belt and Road project, author also conducted face-to-face interviews. Interview questions can be found in the Appendix 1. According to McNamara (1999), interview is useful in obtaining detail information about perceptions and opinions. It allows in-depth questions to be asked.

But Interviewees may provide indirect information filtered through their own views and not everyone is equally articulate and perceptive. Those has been taken care of by inviting University professor and researcher from China National Academy of Sciences as interviewees.

### 3.4 Data Analysis

WebFinance (2019) describes data analysis as:

*“the process of extracting, compiling, and modeling raw data for purposes of obtaining constructive information that can be applied to formulating conclusions, predicting outcomes or supporting decisions in business, scientific and social science settings.” (1.)*

Creswell (2007) described the data analysis is the process like spiral from data managing to reading, memoing, to describing, classifying, interpreting, then to final representing and visualizing. (150-151.) This research will use following process to do the data analysis. (See Figure 9)



Figure 9. Data Analysis Process for the research.

Content analysis will be used as data analysis technique regarding the research objective. Data analysis focused on four determinants based on Porter’s Diamond model which described in the theoretical framework- factor conditions, demand conditions, related and supporting industries, and context for firm strategy and rivalry.

Face to face interview (in Chinese) has been transcribed from the audio recording to the word file and main points have been translated into English. The name of the interviewee and their position were included in the transcription in order to identify the speaker easily for analysis. The data collected from Interviews were input into the excel file and were coded based on themes according to the theoretical framework. After that, the grouped themes were interpreted.

Below Figures 10 and 11 present how author analyses the data.



A	B
Research question 1:	How can One Belt One Road project help China to improve its competitiveness?
From the theoretical framework	
Code	Explanation
F	Factor (input) Conditions
D	Demand conditions
R	Related and supporting industries
S	Context for strategy and Rivalry

Figure 10. Coding for Data Analysis

Code	Text from data sheet	Location of text	Analysis/comment
F	sending teacher to each other Universities to study	Interview 1 page 1	It is collaboration in higher educations
F	Sending people to work on the project because of	Interview 2 page 1	Workers will get trained through the project or collaboration.
F	African students like to study in China and China's	Interview 1 page 1	Enhancing Regional communication and connectivity
F	Collaboration with Poland and Germany on the Sol	Interview 2 page 2	The Belt and Road initiative opens more channel for the communication and development
F	Built Pipelines and railways between China and m	Interview 1 page 3	Creating and enhancing regional transportation network and energy network
F	Railways between China and Russia and other cou	Interview 2 page 3	Enhancing the transportation network
F	Cooperation between China and Europe in solar e	Interview 2 page 2	Communication and connectivity between countries.
F	There is very strict regulation for foreign financ	Interview 1 page 3	China has changed some regulations to easy foreign investment. It is linking the financial markets.
D	Railways, ports or pipe lines between China and R	Interview 1 page 5	Building railway networks or pipelines between China and neighbor countries are the needs for economy development.
D	Building road and railway increased the capacity of	Interview 2 page 3	Trade increased by building the transportation network
R	Investment increased, trade between countries in	Interview 1 page 6	Economy grows like a value chain. when one industry is growing, the related and supporting industry grows too.
R	Economy grows, income increased, people make n	Interview 2 page 4	When Economy gets better, employee rate will be higher and people will have money to spend
R	Trade market expanded, employment increased,	Interview 1 page 6	It creates clusters development
R	Moving factories to Southeast countries decrease	Interview 2 page 4	Help the cross border cluster development
S	Financial industry is a good example. China opens	Interview 1 page 7	There is policy changes to move trade and investment barriers and promote fair competition.
S	Government need to think and make decision on..	Interview 2 page 5	Mutual agreement needed

Figure 11. Sample of Data Analysis

### 3.5 Verification of the Results

#### Validity

Leung (2015) describes the validity in qualitative research as:

*“appropriateness of the tools, processes and data. Whether the research question is valid for the desired outcome, the choice of methodology is appropriate for answering the research question, the design is valid for*

*the methodology, the sampling and data analysis is appropriate, and finally the results and conclusions are valid for the sample and context.”*  
(324-327.)

Triangulation has been used as validation strategy in this research. Triangulation means using multiple and different sources, methods to collect data on the same topic for ensuring the validity of research (Creswell 2007, 208).

As research has its clear objective, research data was collected from the official websites of the government, banks, organizations and the Belt and Road official homepage according to the theoretical framework. The sequence is following the four determinants in Porter's diamond model. Triangulation suits well as the data from websites is documentary data and information is from multiple sources. Proper content data analysis technique has been used to analyze the data and result was summarized after analyzing the data.

### **Reliability**

Qualitative reliability indicates the approach that researcher took is persistent across different researchers and projects (Gibbs 2007).

For ensuring reliability, data was collected from official website and interviews were made with researcher from institute of national academy of sciences and university professor. All data were carefully coded and transcribed.

### **Objectivity**

There are many different opinions regarding the Belt and Road project since it launched. People stand on their own position to praise or criticize it. Despite the political reason, other researchers may achieve the same findings if they study the fact of the country developing progress. The study can refer to related data from authoritative organization such as world bank, world business forum, government official website.

Content analysis technique is the right method for this research as all data are documentary data from different sources. She acknowledges the personal bias and subjectivity in managing the research as she is not the Belt and Road project insider and

may over emphasize some aspects due to emotion attachment with China. But facts will explain everything.

## **4 Research results**

After data analysis, I am going to present the results on how the Belt and Road Initiative can help China to improve its competitiveness in the manner of following my research theoretical framework.

### **4.1 Factor Conditions**

Here comes detail explanation of factor conditions.

#### **Physical Resources**

China is a big country with 9.6 million square kilometres land locating in the East of Asia, facing Pacific Ocean and neighbouring with 14 countries. China has abundant natural resources and diversified land resources (See Figure 12), especially water-power resources rank number one in the world. Most vegetation found in the Northern Hemisphere that can be seen in China. (China Facts Figures 2019.) According to Geoffrey Migiro (2018), China is number one which has the most natural resources. Ninety percent of resources are coal and rare earth metals. There are also antimony, gold, graphite, lead, molybdenum, phosphates, tin, tungsten, vanadium and zinc. China is the world's second largest producer of bauxite, cobalt, copper, manganese and silver. Chromium, gem diamond and timber can be found in China too.

Thanks to the Belt and Road Initiative, those natural resources can be exported to neighbour countries easily through the roads, railways which were built between China and neighbour countries.

R/P ratio for China in comparison to world average R/P, years

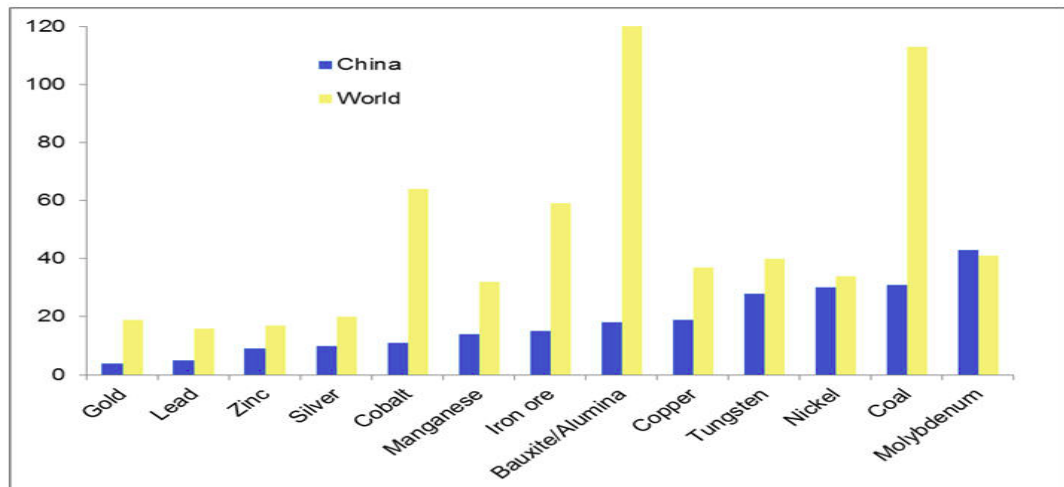


Figure 12. Reserve to Production ratio for China mineral resources comparison to world average (Basov 2015).

### Human resources and Knowledge resources

China has the largest population in the world which marks 1.39 billion in 2018 and possesses the richest human resources. Economic development is inseparable from the investment of human resources.

In 2010, Ministry of education published the China's New National Education Plan. The goal is to create a nation with adequate human resources. The purpose of China's National Plan is for transformation and improvement of Education system between 2010 and 2020. It sets concrete goals to be achieved by 2020. Yuan GuiRen, China's Minister of Education, said that government will do its utmost to solve the problems and public concerns in education system. (Wang 2010.)

As of May 31, 2017, there are 2914 colleges and universities nationwide, including 2631 ordinary colleges and universities, 283 adult higher education institution. There are also 237 research institutes (MOE 2017). In 2014, the number of students enrolled reached 35.59 million, ranking first in the world (Feng 2015). The number of students graduates every year (in thousand) (see Figure 13) keeps increasing. They formed skilful human resources for the labour market. And China was ranked number 63 out of 140 countries for the skills in human capital category in global competitiveness index 2018.

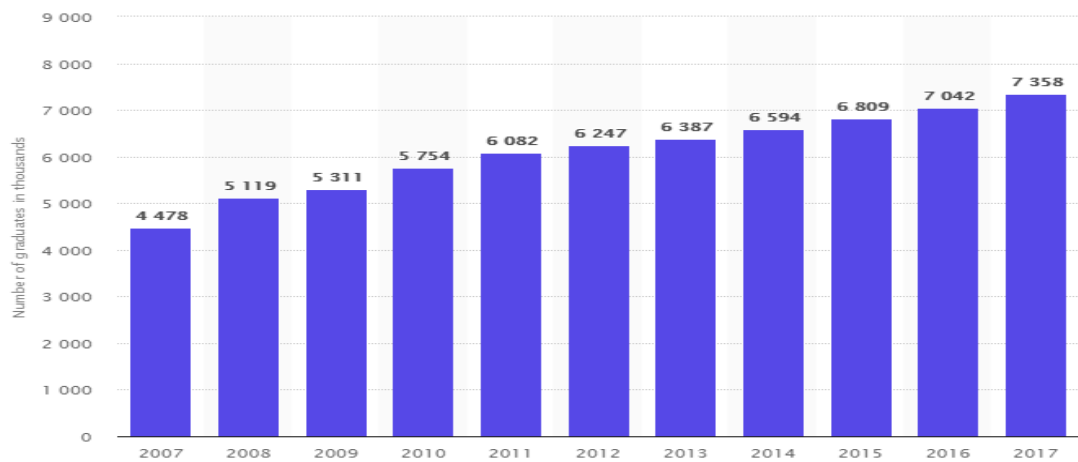


Figure 13. Graduates from university in China 2007-2017 (Statista 2019a).

The increase in the number of university graduates fills the demand for human resources related to the Belt and Road initiative.

Because of the Belt and Road Initiative, the demands for human resources with foreign language skills and communication skills have been increased. For tackling this issue, government has made plans for it. Professor Luo Qi from Guang Dong Polytechnic Normal University said in her interview that ministry of education has increased the cooperation with foreign countries. One of the plans is called 20 plus 20, which means 20 China universities and 20 African universities can send teachers and student to each other universities to study or do the training. She also mentioned that cooperation and collaboration can enhance trust and increase emotional attachment between the countries. Researcher Huang Yu from China National Academy of Science said there are many cooperation and collaboration going on between China and other countries in research institute. It is good for gaining information and updating technology. Connecting peoples through education, cultural exchange and tourism is one of the goals that BRI wants to achieve. (ChinaPower team 2017).

Figure 14 shows a growing number of Chinese students went to study in Belt and Road countries between 2013 to 2017. The number is bigger than the foreign student who study in China.

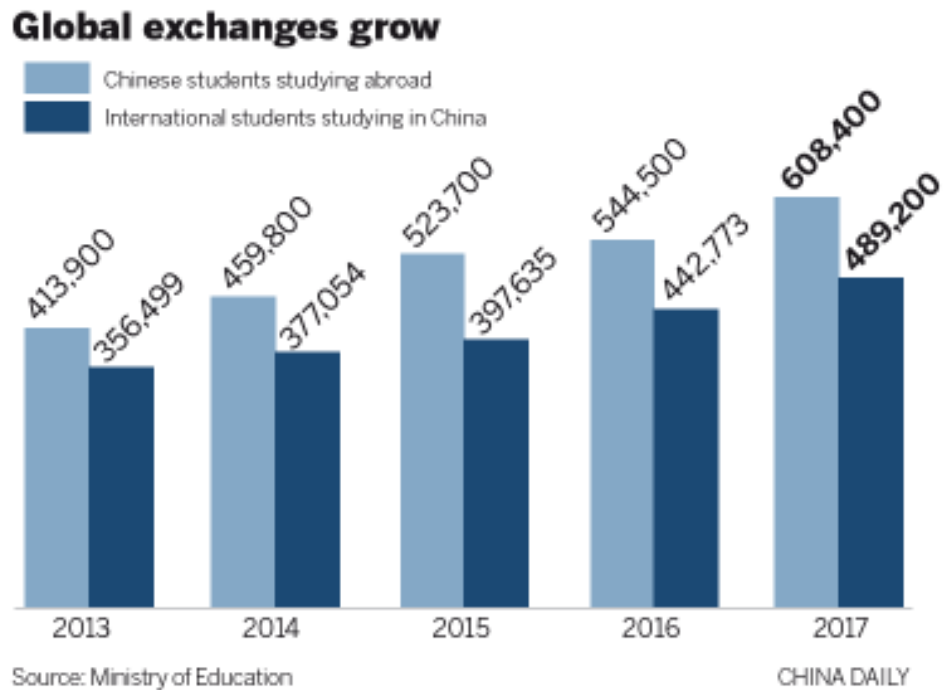


Figure 14. Increasing number of students who study abroad in Belt and Road countries (Zou 2018).

According to the report on China Labour-Force Dynamic Survey 2017 researched by China Zhong Shan university of Social Science Research Centre, the average age of the Chinese labour force is 37.62 years old; the education level of the labour force is mainly secondary education, and the average education period is 9.02 years; the proportion of the labour force obtaining professional technical qualification certificate is 13.24%, which is higher than the 11.75% in 2014; Among the working-age population of education, 86.89% of the working-age population has had work experience; among the current working labour force, the proportion of employees is close to half (48.63%), and the proportion of farming is 34.64%. Nearly 80% of the labour family's housing property rights are owned.

In the 2016 survey, China's urban-rural labour participation rate was 64.27%, slightly lower than 64.51% in 2012 and 65.45% in 2014. The urban survey unemployment rate was based on the standard survey of unemployment rate and extended unemployment rate, which was 6.73%, lower than 2012. In the year and 2014, the unem-

employment rate of junior high school education was the highest, at 4.52%. The unemployed believe that the main reasons for not finding a job are age, child care, health problems and caring for others.

In the 2016 survey, the average wage income of workers with wage income was 35,416 yuan. From the three rounds of surveys, the actual total income of workers showed an upward trend, but the operating income showed a downward trend; the average total income of laborers nationwide was 5,7236.7 yuan. Compared with the 2014 survey, it increased by 10.7%, of which urban households were 8,5488.3 yuan, equivalent to 2.1 times that of rural households. At the same time, the employee's "Labour's Equity Index" is above the "qualified" level and is relatively stable in the three rounds of surveys.

### **Infrastructure**

In terms of infrastructure, China has experienced three round of large-scale infrastructure investment. It happened in year 2008, 2012 and 2016. The year between 2008 to 2018 can be described as "golden 10 years" for infrastructure investment. The infrastructure investment has been increased 19.3% and it is accounting for 24.5% of fixed assets investment. Since 2013, infrastructure investment has increased from 20% to 27% in 2017. In 2018, the railway fixed assets returned to more than 800 billion yuan. The new round of rail transit planning in SuZhou and Changchun has been approved by the National Development and Reform Commission. At same year, it was estimated 1.35 trillion yuan of local government special bonds will be issued. Previous seven months of circulation was about 150 billion yuan and remaining 1.2 trillion yuan were issued a few months later. (Li 2018.)

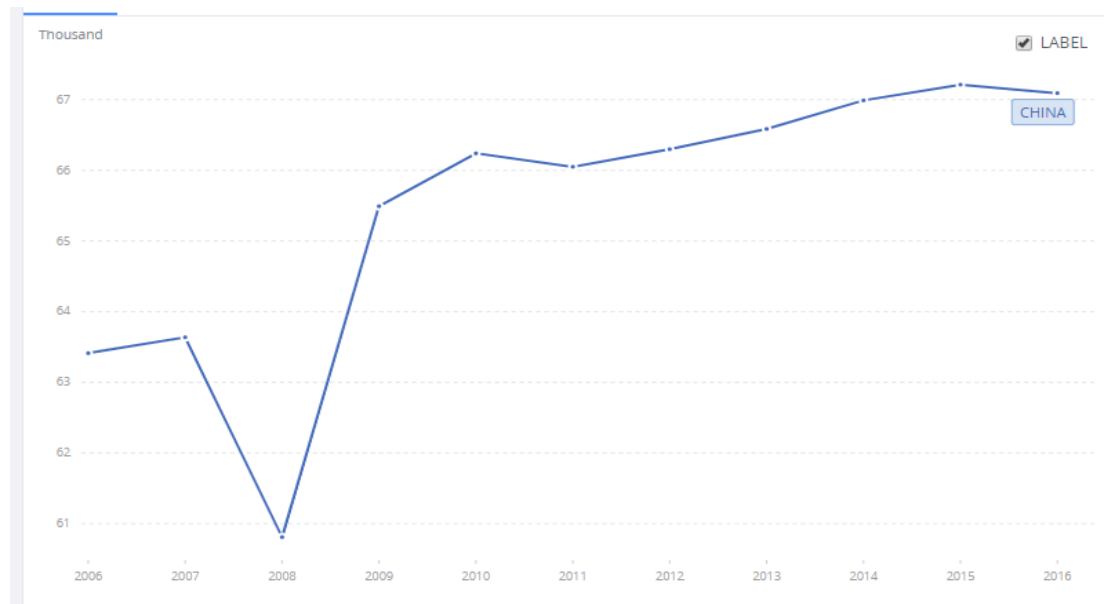


Figure 15. Mileage of China Railway service (in Thousand) (The World Bank 2019a).

Figure 15 shows how many kilometres railway have been built and run. In 2016, the number of railways built are more than before.

The state council of China has reported in 2016 that “China’s railway sector sped up in 2015, not only in domestic network expansion but also in sending its high-speed train technology overseas. A total of 823.8 billion yuan was pumped into it, and 9,531 km of railway lines started carrying passengers and goods. From 2011 to 2015, fixed-asset investment in railways amounted to 3.58 trillion yuan, up 47.3 percent and 30,500 km of railways were put into operation, more than doubling that of the previous five years.” (Facts and Figures about China’s railway development 2016.)

Sheng GuangZu, general manager of the China Railway Corp., said “China plans to invest 800 billion yuan in railways in 2016, especially in less-developed central and western regions. The year 2015 saw breakthrough for China Railway Corp. in expanding its shares in international logistics services. Throughout the year, 815 cargo trains plowed between China and Europe, up 165 percent year on year.” (Ibid.)

Because of the Belt and Road Initiative, Chinese have increased activities in overseas markets in railway construction sector. There is China-Laos railway going on; the China-Thailand railroad and the Serbian section of the Serbia-Hungary line were officially launched. A high-speed railway linking Jakarta and Bandung in Indonesia



started construction. China was upgrading technology in high-speed train manufacturing. New high-speed locomotives with operating speed of 350 km per hour have rolled off production lines and were undergoing tests, which would be widely used in overseas projects. (Ibid.)

Mr. Lv Fan, China ambassador for Spain, talked about that China is building international integrated transportation hubs, especially in the central and western regions. The construction of the northwest, southwest, and northeast foreign traffic corridors and the Maritime Silk Road Corridor will promote interconnection with neighbouring countries' infrastructure and jointly build an infrastructure network connecting Asia's sub-regions and Asia, Europe and Africa. The infrastructure will support the development of international container shipping and postal trains such as China and Europe. By participating in the construction and operation of important ports along the "21st Century Maritime Silk Road" will push forward building industrial cluster for nearby area. (Lv 2016.)

Infrastructure building is the primary sector of the Belt and Road Initiative. Good transportation infrastructure reduces the cost and time of transport and facilitates trade expansion. It aggregates regional and national welfare. Firms can be located outside of the congested urban area and access cheaper land and labour. It also creates jobs for less developed region. The reason of the Belt and Road Initiative focused on developing robust infrastructure is to connect China to key hubs of economic activity throughout the world. Building the infrastructure is also a geopolitical strategy that consolidated by energy security and access to resources and strengthen China's connectivity with the world.

Talking about communication system, China is the largest telecom market in the world in terms of its subscribers. Government plays an important role in helping China's telecommunication development in ways of investment and policy. There are 3 main companies. China Mobile, China telecom and China Unicom. The network has been from 3G to 4G, then to 5G. In early 2018, China Daily News reported that Chinese government removed telecoms operation from its list of 'sensitive sectors' for outbound investment.

Telecommunication system is essential to country's economic development. Telecommunication infrastructure itself stimulates economic growth as it needs cables and switches. All other sectors of economy are connected through telecommunication. It adds great value to economic development. Not only the Belt and Road Initiative benefits from the fast and smooth communication services, but the whole society benefits from it.

Benefiting from the telecommunication development, internet business grows rapidly. From Alipay to WeChat pay, with astonishing speed, China has become the biggest mobile payment services user. "Mobile payments APP have replaced most of credit and debit cards used in China, showed the developing trend to the rest of world." said Ivan Fraser, consultant who worked many years in China. "Alipay and WeChat pay are the most actively used in China. WeChat Pay has over one billion customers and Alipay with about 700 million monthly customers. Comparison with Apple Pay with 127 million customers, China's mobile pay is more widely used." CNBC has also reported that China is living the future of mobile pay right now. (Fraser 2018.)

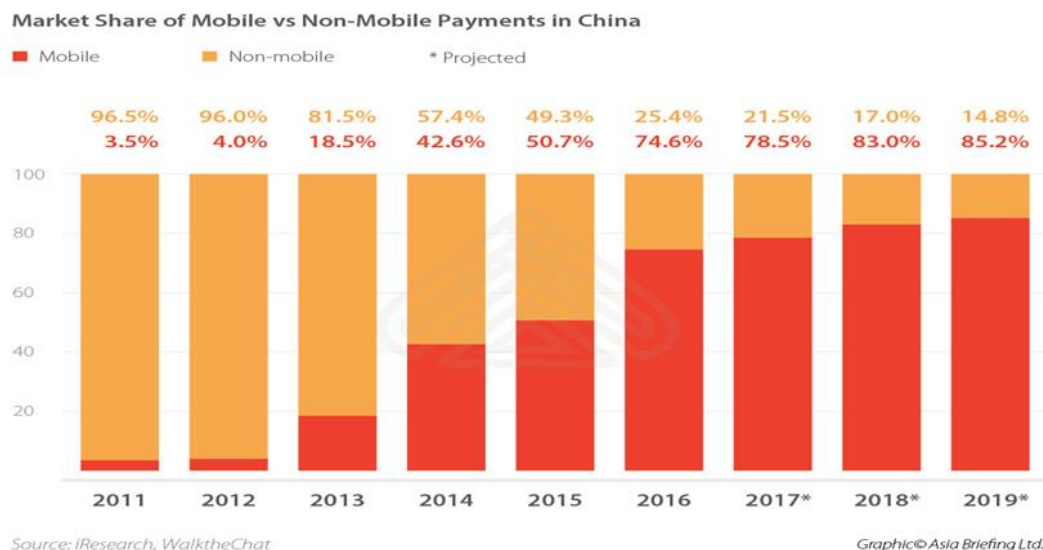


Figure 16. Difference market share between Mobile payments and non-Mobile payments in China from year 2011 to 2019 (Saarinen 2018).

Figure 16 shows how much the mobile payments have been increased from year 2011 to year 2019. The fast and easy mobile payments is one of the benefits gotten from development of telecommunication infrastructure.

In China, citizens are entitled to receive basic health care services which provided and administrated by the government. National and local Health and Family Planning commissions are responsible to organize and deliver health care and supervise the hospitals. The social health care system was undergoing reforms in 2009. Health expenditure keeps increasing after 2010. (Fang 2019.) Figure 17 shows that China has spent more on health care system. It can be clearly seen that cost of health care was growing sharply.



Figure 17. Share of China's health care costs in GDP (Knoema 2019).

China's medical service system operates in three-level: national level, province level, and county level. There are 16318 hospitals in 2000 and it has been increased to 29140 hospitals in 2017. The number of beds of hospitals increased from 2.167 million in year 2000 to 5.689 million in year 2017. However, there is a marked difference between urban and rural areas. Urban area has more beds per thousand people than rural areas. (China Statistical Year Book 2018.)

Good healthcare equals good economy. Good healthcare enables people to combat illness and ensure a reliable workforce. The Belt and Road Initiative needs those reliable workforces to achieve its goal.

**Capital resources**

As of January 2019, China’s national foreign exchange reserve is 3.087924 trillion USD. Currency supply is 182.67 trillion RMB in December 2018.

Figure 18 (see below) shows the trend of China National Foreign Exchange Reserves between September 2014 to July 2018. The Reserves has been slightly going down.

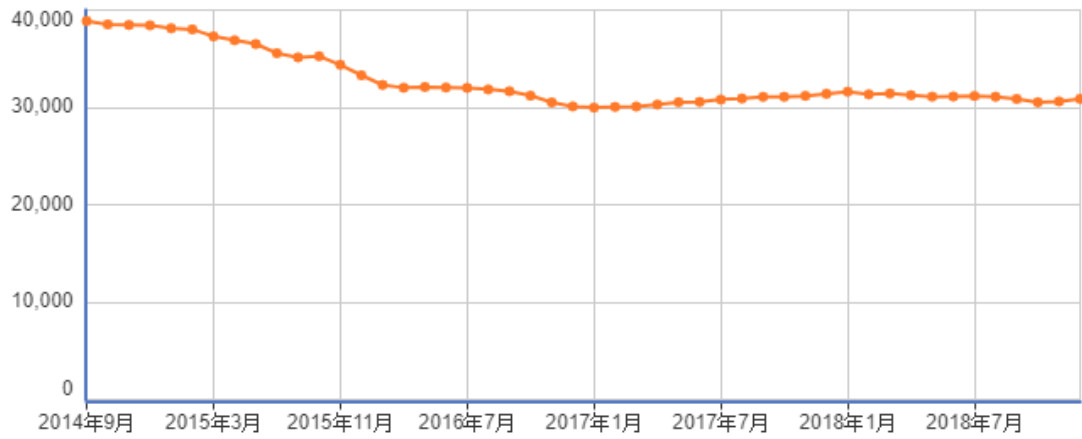


Figure 18. China National Foreign Exchange Reserves (in 100 Million USD) from September 2014 to July 2018 (Ministry of Commerce of PRC 2019a).

Figure 19 ( below) shows how much reserves of foreign exchange and gold that China have comparing with other countries.

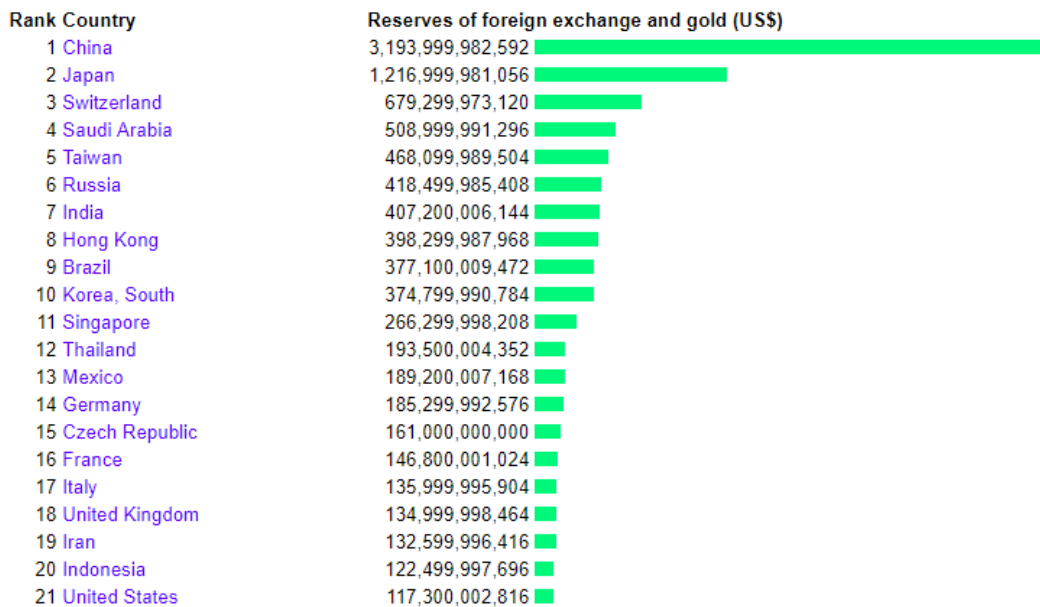


Figure 19. World Top 21 countries of Reserves of Foreign Exchange and Gold (Index mundi 2018).

China increasingly improves financial system. In the past years, the Belt and Road projects got great support from China banks and Chinese-Founded banks have set up 102 branches in 24 countries. RMB cross-board interbank payment system is able to cover 165 banks in 40 countries along the BRI routes. (Zhang 2018.)

China expands the two-way opening of the financial industry. It expands market access for foreign banks in banking, insurance, securities; promotes the two-way opening of the capital market; increases the openness of the stock and bond markets, and eases the domestic issuance, investment and trading of foreign institutions, RMB bond restrictions. China will Improve the level of internationalization of financial institutions and increase the level of openness of domestic financial markets to foreign institutions. (Lv 2016.)

China's trade balance has been keeping surplus for some years. From the Figure 20 (see below), generally we can see that China's export of goods is more than import of goods. It means China is making money. Those money can be used as Capitals resources to finance other business like supporting the Belt and Road project.

Red line: Import goods    Blue line: Export goods

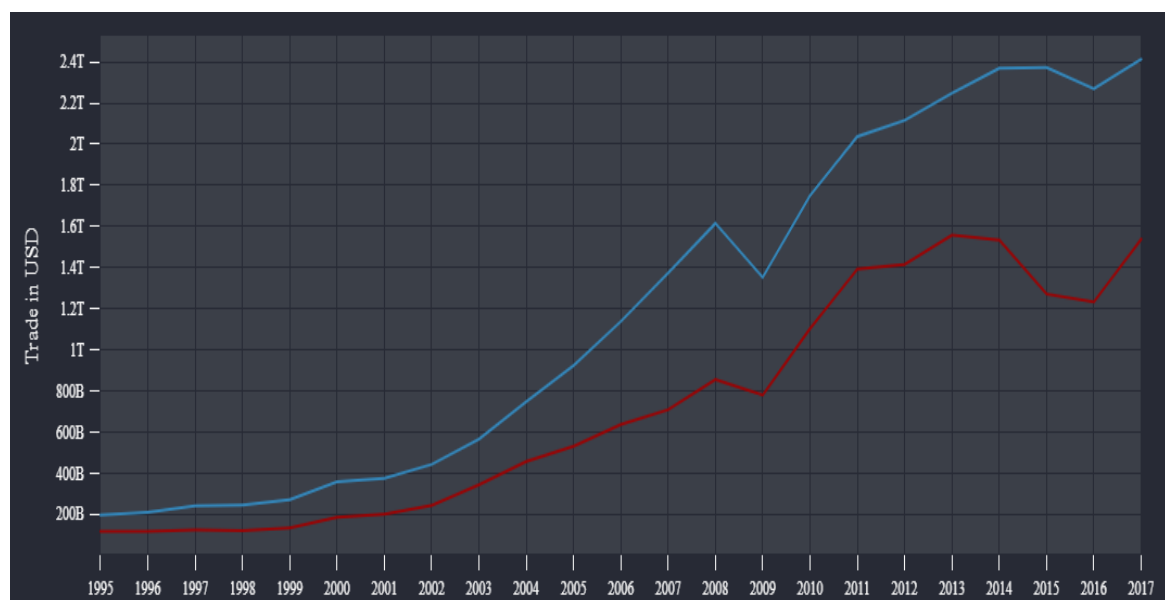


Figure 20. China import and Export goods from 1995 to 2017 (Atlas 2019).

China's GDP growing speed has been slowdown recent years, but main trend is still growing (Figure 21). China's GDP per Capital is also growing. With huge amount of reserves, trading surplus and good economic situation which can be seen from the GDP and PPP grows, China have capital resources to finance its business.

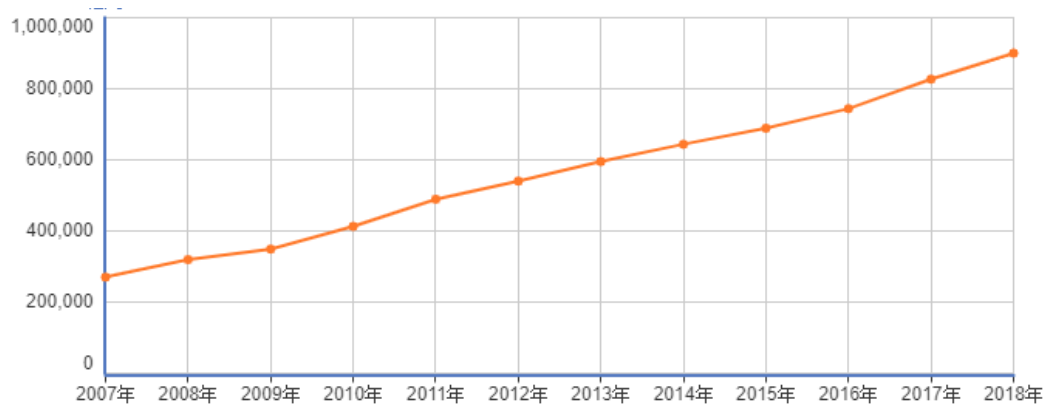


Figure 21. China GDP from year 2007 to 2018 (Ministry of Commerce of PRC 2019b).

Without strong financial support, China wouldn't start the Belt and Road Initiative. Through above figures, it is easily to see that China has the ability to start such a big project.

## 4.2 Demand Conditions

Over 40 years, China has lifted millions of its people out of poverty and build a robust consumer class. With nearly 1.4 billion populations and active consumer class, China becomes an important consumer market in the world. (Keely, Anderson, & Cheng 2016.) The economic reform and opening-up policy have contributed to the prosperity of China and stimulated the domestic demand. China's private consumption expenditure has grown a lot from 2013 to 2017. (See below Figure 22).

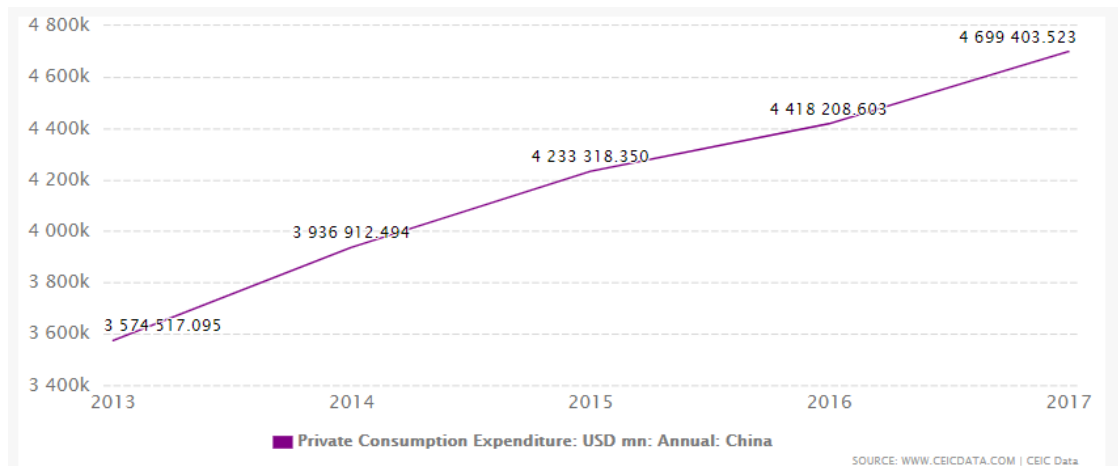


Figure 22. China' Private Consumption Expenditure from 2013 to 2017 (CEIC 2019).

China urbanization rate grew from 51.77% in 2012 to 57.96 % in 2017 (The world Bank 2019b). City development is under fast speed building infrastructure and public service system. (Zhang 2018.) It creates huge demand on housing, transportation and public services to accommodate the massive influx. The huge consumption of food, cements, iron, steel, gasoline and other things for the city have been increased tremendously. (Song 2018.) When building public services system and infrastructures, government creates the demand for domestic companies.

National economy along the Belt and Road Initiative (BRI) account has been improve significantly. More than a third of the China's overall foreign trade are from BRI countries. The trade with BRI countries reaches 1.28 trillion Yuan during January to February period this year. The imports from the BRI countries demonstrated upward trend which reached almost 40% of China's total imports and import rate from BRI countries surpassed exports rate in 2017. (Suokas 2018.) The rise of import from the BRI countries can be explained by the strong domestic demand for commodities.

Meanwhile, China's exports to the BRI countries are about one third of country's total exports, increased by 8.5% from 2016, which values 774 Billion US dollars (Ibid).

This can be explained as the demand from overseas. Figure 23 (See below) shows the Import and Export's share of BRI in China.

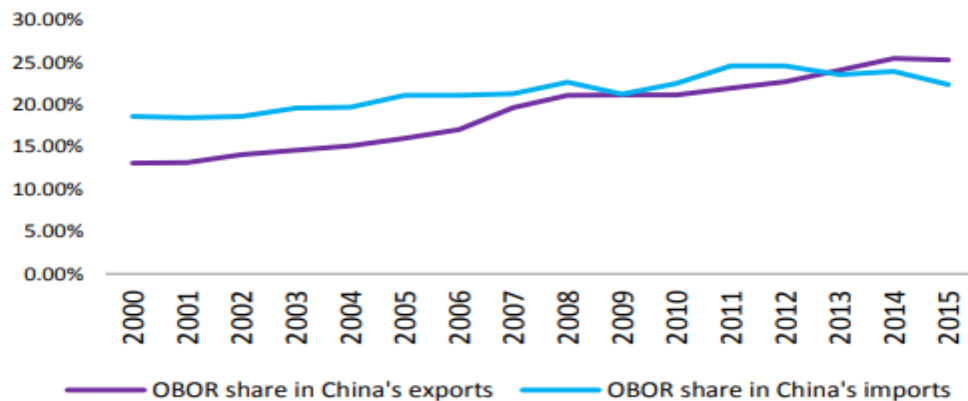


Figure 23. The Export and Import share of BRI in China (Garcia-Herrero & Xu 2018).

The demand in logistic and transportation capacity will be derived from increasing of Export and Import simultaneously.

In needs of protecting consumer's rights and interests, the new amended regulation of the law on protection of consumer's rights and interests became effective on March 15, 2014 and it was in the process for public opinion soliciting till the end of the year 2016. (Dang 2016.) The new law increased consumer powers, added rules for internet shopping. New law also stiffens punishments if businesses mislead shoppers. New law would strengthen consumer confidence, benefit country's economic development and boost domestic demand (Jourdan 2013).

At same time, consumption creates the waste and emission problems. The air, water and soil have been polluted by the action of heavy industrialization. The environmental hazards would harm China's society and economy. For tackling these issues, new regulations have been published and additional around 40 to 123 trillion RMB to be used to finance the transition to a greener economy. (Song 2018.)

The BRI Ecological and Environmental Cooperation Plan was published in 2017. The Plan has provided a foundation for building an environmentally friendly Belt and Road; It was described as an essential approach to establish green economy and measure the implementation of 2030 Agenda for Sustainable Development. (Liu 2017.)



For keeping environmental standards, domestically, firms in certain industrial sector must follow strict emission standard, implement a green supply chain system and use less coals and water. Government also published new soil pollution law to target manufacturers, operators and land use rights holders. Data gotten from the soil monitoring stations will be shared to all relevant environmental agencies. Government strengthen the environmental inspections and relocate or close heavy polluting factories and encourage firms to use clean energy. (Wang 2018.)

The introduction of the Belt and Road Initiative has pushed the reform and opening-up policy a step further and has created the demand not only domestically but internationally. The economy development spreads to the less-developed region especially the border area and expanded to the neighbouring countries as the Initiative aims to improve inter-connectivity between countries and seeks to boost trade and economic growth in Asian and ease up poverty (Song 2018). The Belt and Road Initiative was designed for strengthening China's economy. It is a good way to digest domestic overcapacity and provided a way out for Chinese products to emerging-market buyers through constructing the ports and rail line in the Initiative participating countries. (Chamorro 2017.) Demand was created internationally by the government through the Belt and Road Initiative.

Figure 24 (see below) shows how many contracted projects from overseas that China got from 2010 to 2015. It is one indicator of demands from overseas.

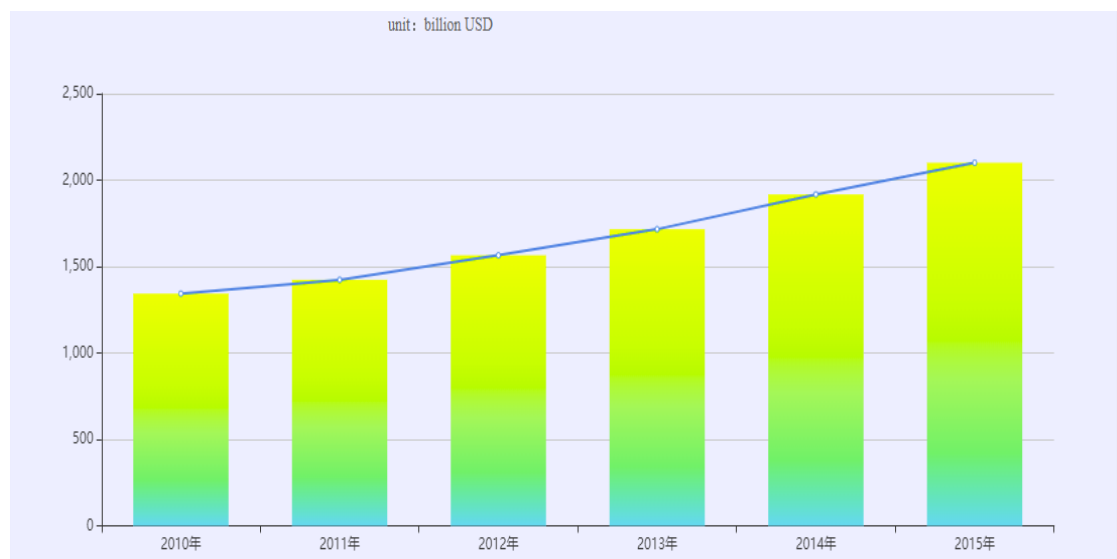


Figure 24. Contracted overseas projects from year 2010 to 2015 (Data 2019).

Consumers often worried about product safety and quality. The State Council has issued a plan in 2016 to improve the standards and quality of consumer goods to meet international standards and involve in making this kind of standards. Meanwhile, government puts efforts to crack down on counterfeit products and construct a quality credit system. (The State Council 2016.)

China attracts foreign investment through the BRI infrastructure construction. Financing is important, but it is more about technological applications. Andrew Polk said that China is trying to enhance its global competitiveness through constructing and exporting technical standards, especially in artificial intelligence and hydro-power. Constructing the port and rail line in other countries will push the Belt and Road Initiative participating countries to adopt Chinese standards. The revisions on China's National standardization Law and Cyber security Law could mean far beyond its border. (Polk 2018.)

The Belt and Road Initiative involves tremendous procurement of the materials in which to build roads, railways, ports, telecommunications systems. Opening government procurement within the region is central focus for companies bidding the contracts. The Government Procurement Law and the Bidding Law are in place to support bidding activities that related procurement for project, related goods and services in China. (Qiao & Chen 2018.) But there are complains about Chinese companies got the most of procurement from the overseas projects. According to Ghossein, Hoekman and Shingal (2018), there are over 70 percent of all procurement contracts supported by the World Bank are not for inland projects and over 60 percent projects funded by Chinese are constructed by Chinese firms. (4-5.) Makocki (2017) mentioned that "the infrastructure financing for the Belt and Road projects are often tied to the provision of equipment or services by Chinese contractors, governments are unable to select the best financial offer through open public procurement tenders." (3.) Therefore, the needs of procurement create demand for the Belt and Road projects.

The World Trade Organization noted in its Trade Policy Review for China in 2016 shows that Chinese government procurement has become more transparent and adopted the approach of public tendering. Many bidding information's have been made public. (European Union 2017, 36.)

It is a challenge to implement good procurement practices for all countries involved in the Belt and Road Initiative (Ghossein, Hoekman, & Shingal 2018, 5). The World Bank benchmarking procurement exercise would be an example to be used in procurement practices and it would benefit all parties (ibid., 32).

Constructing multimodal transport infrastructure along the Belt and Road countries do not only improve the connectivity but also stimulate trade expansion, enhance regional integration and boost regional economic growth (Lu, Rohr, Hafner, & Knack 2018a). These activities would create demands in international logistics, border control, custom's administration and cross-border regulations.

### 4.3 Related and Supporting Industries

Construction of transport Infrastructure is the big part of the Belt and Road Initiative. Generally, transport infrastructure and connectivity are relatively poor in BRI regions. Therefore, developing connections by building the ports, airports, roads and rail links become a priority task. (Lu, Rohr, Hafner, & Knack 2018b.) Building massive infrastructure needs close cooperation with neighbour countries and related industries to support. The Belt and Road Initiative provides the great opportunity for supply chain logistics network. It helps to accelerate overseas distribution and optimize industrial structure. It also helps China's logistics enterprises to work towards the professional, intelligent direction. (He 2017.) The Belt and Road Initiative also speed up the development of formation of cross-border supply chain logistics clusters.

While trade flows, the important role falls to the transportation and logistics industry. Efficient logistics would reduce cost of doing business and raise potential for international and domestic market integration. Performance of logistics in a country directly linked to the country's productivity. (Wiederer 2018, 1.) According to the Logistics Performance Index (LPI), China is one of the top 4 highest-performing BRI economies in terms of infrastructure. LPI scores countries on how efficiently they move goods across and within borders. (The world Bank 2018.)

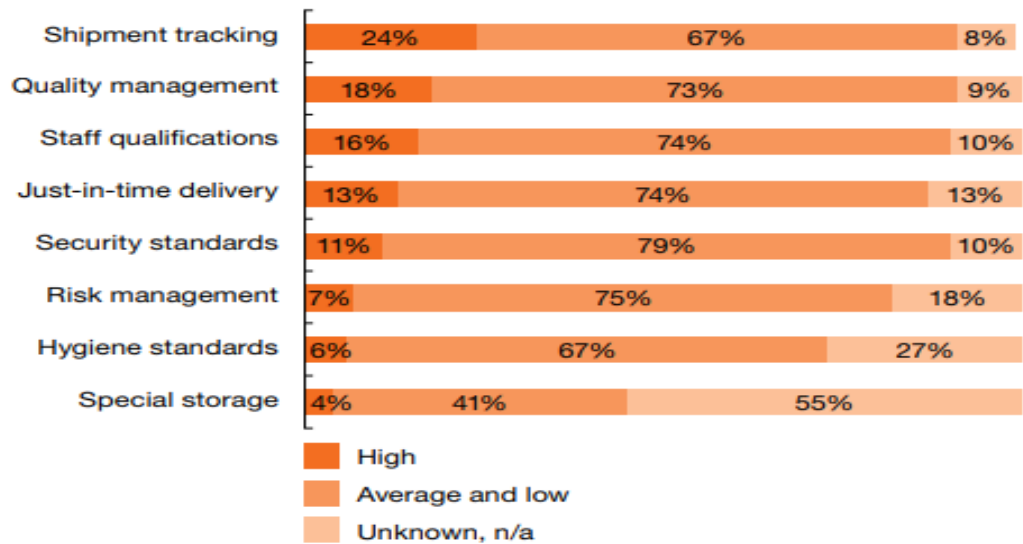


Figure 25. level of development of logistics services providers in China (Ryser, Sterr & Bielefeld 2012, 16).

Figure 25 shows the level of development of logistics services providers in China. The percentage showed in Chart indicates how good or bad related logistics experiences.

Many companies manage warehousing by themselves. Some companies outsource the function to other service providers. Figure 26 (See below) shows the percentage of internal and external service usage in the process of logistics.

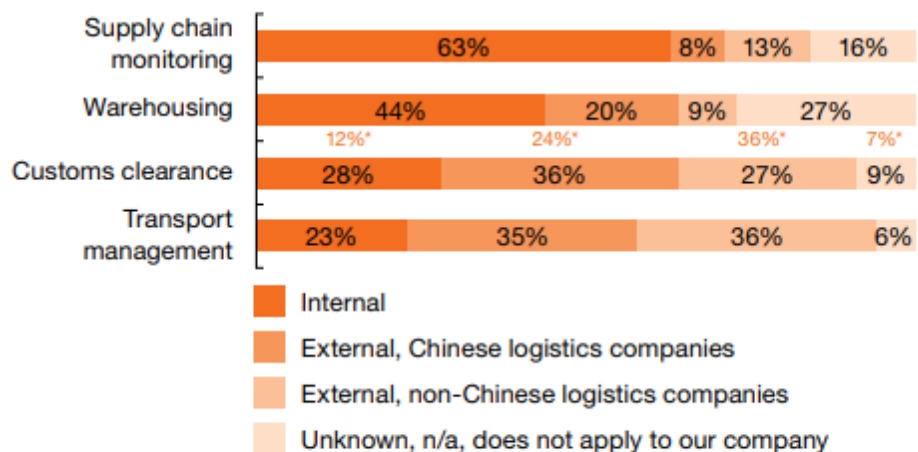


Figure 26. Internal vs External management of logistics processes (Ryser, Sterr & Bielefeld 2012, 18).

The concept of clustering was popularized by Michael Porter. According to him, the competitive advantages of clusters are: “first, by increasing the productivity of constituent firms or industries; second, by increasing their capacity for innovation and thus for productivity growth; and third, by stimulating new business formation that supports innovation and expands the cluster. Many clusters advantages rest on external economies or spill overs across firms and industries of various sorts. Many cluster advantages also apply to sub-units within firms, such as R&D and production.” (Porter 1998i, 229.)

China’s Industry clusters are the driving force for Chinese products to compete in the global markets. Government has put enormous effort to promote establishing cluster hubs around the country through building the infrastructure, providing incentives, encouraging entrepreneurs to invest and attracting foreign direct investment. (Mernissi 2017.) The Belt and Road Initiative has pushed the industry clusters to develop more deeper and further. Most of industry clusters are located at the East and Southeast area which are near the ports or border with Southeast countries. Benefits from the location which is on the Maritime Silk route, well- built infrastructure and efficient supply chain network. The East and Southeast areas are the rich region in China. Clusters heavily contributed to the local and country’s economic growth. Each area or city has its own specialities. Such as, Dongguan in Guangdong province is famous for electronic products which is near port and connected to Hong Kong, transport equipment is in Shandong province, which is near Qingdao and Yantai port, Lights products are in Wenzhou of Zhejiang Province which is near port. (Fratini 2013.) Figure 27 (See below) shows the clusters with products they produced and their location.

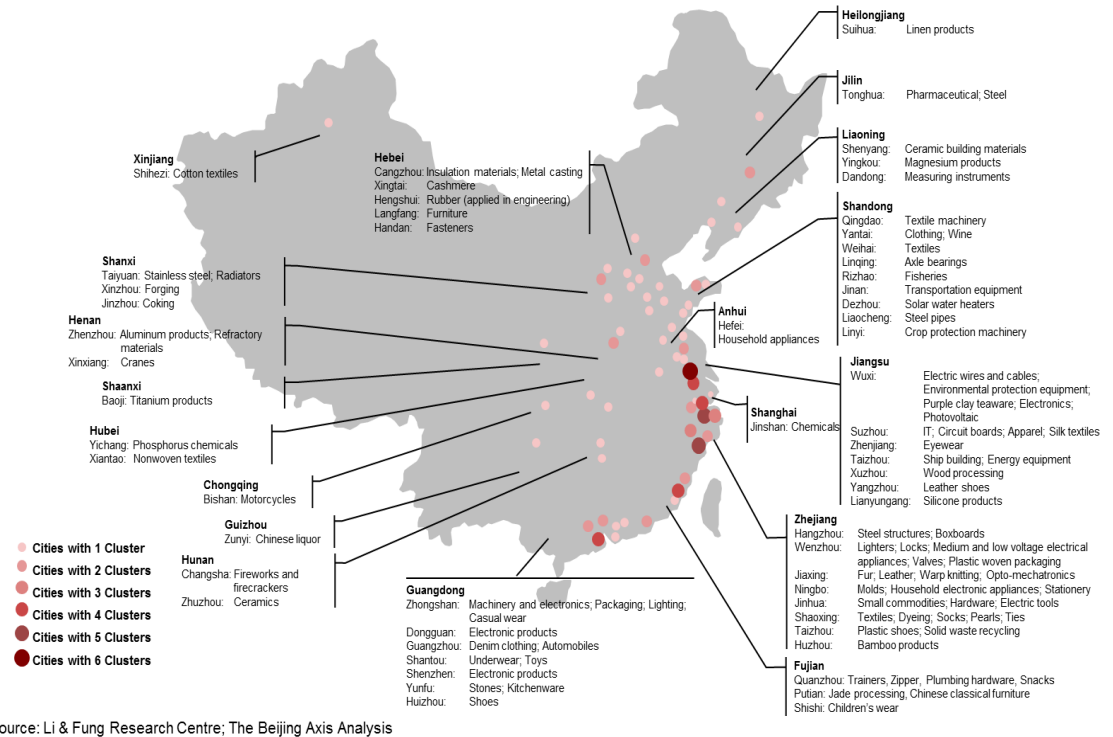


Figure 27. Map of China Top 100 Industrial clusters (Barry 2011).

As the Belt and Road initiative continues, there are 7 pilot zones, 17 border economic cooperation areas and 2 mutual border economic zones used for advancement and opening-up. Industrial parks or zones have become platform for foreign investment. The China-Belarus Industrial Park and the Thai-Chinese Rayong Industrial are the examples. China local authorities also have built BRI parks as platforms to serve international trade. (Yidaiyilu 2017.) The example that researcher Huang gave in his interview that there are cooperation projects undertaken with Poland on Solar energy and Astronomy was also a cooperation case because of the Belt and Road Initiative. The connections and cooperation would benefit both China and the respective foreign partners.

Under the Belt and Road Initiative, the “Go West” policy provided the opportunity to develop relatively poor area of China and develop economic partnership with Central Asian. Premier Minister Li Keqiang emphasized that China should put more efforts to develop west region, accelerate structural reform, encourage innovation, implement new strategy and advance Yangtze River economic Belt. (Xinhua 2016.)

Professor Chen Xiushan said that economic growth and mutual benefits depend on the good cooperation between inland western and eastern China. At same time, countries and regions along the BRI need to strengthen the cooperation in order to attract more investment. (Ibid.)

You may still think Chinese products are cheap and low quality. But China's innovation pace is faster than you imagine. The good examples are: Huawei, world leader in networking equipment and smartphone. DJI, the world's top drone maker. And all these firms operate to world-class standards. (Wenderoth 2018.)

Each year, China spent more than 200 billion USD on research and there are nearly 30000 PhDs in science and engineering graduated. The world's most extensive manufacturing ecosystem that China has, enables China continuous innovation in production processes that reduce costs and improve quality. Large number of Universities and Research institutions creates the capacity for research. (McKinsey global Institute 2015, 1.) Benefit from the large size of consumer market, new ideas would be commercialized quickly. The extensive manufacturing ecosystem provides China an unmatched environment of processing innovation. China has taken the advantage of its good supplies, human resources and good supply-chain infrastructure. (ibid., 6.)

Figure 28 (Below) illustrates the four archetypes of innovation which covers China's innovation activities.

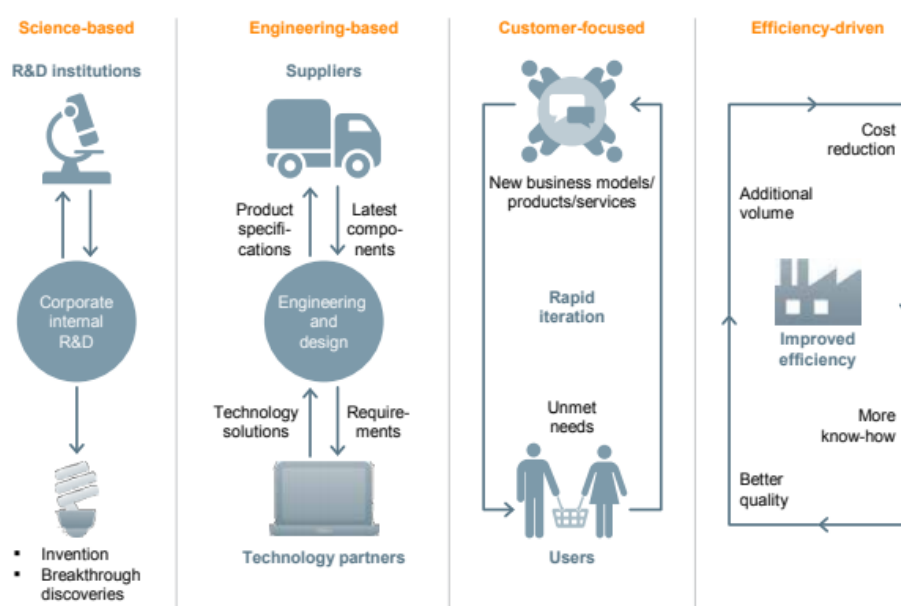


Figure 28. Four archetypes of innovation (McKinsey global Institute 2015, 28).

Strong financial support needs to be in place to ensure the successful implementation of the BRI. China has actively worked with countries along the BRI, and international financial institutions to meet the financial services needs of those countries for infrastructural construction. China formed the Asian Infrastructure Investment Bank (AIIB) with an initial subscription of 100 billion USD by 57 founding members and the new Development Bank (NDB) with an authorized 100 billion USD by Brazil, Russia, India, China and South Africa. (Sejko 2018.)

China Development Bank and Export-Import Bank of China are also involved in financing of the Belt and Road projects. Both banks are state-owned banks and have received totally 62 billion USD from foreign exchange reserves to support the financial needs of BRI investors. In addition, four state-owned commercial banks are also participating the financial support of the BRI. Furthermore, Chinese government established the Silk Road Fund (SRF) in 2014, a dedicated sovereign wealth fund to finance the Belt and Road projects. In 2017, Chinese government injected 100 billion RMB to the Silk Road Fund to give better support for the Belt and Road investment. (Ibid.) World Bank Group is also engaged on the Belt and Road Initiative. About 80 billion USD has been committed to be used for the Belt and Road countries in addressing infrastructure, trade and pipelines. (Brief 2018.)

Figure 29 (See below) shows how much Chinese acquisitions along the Belt and Road through the year 2012 to 2017, which indicate the investment performance.

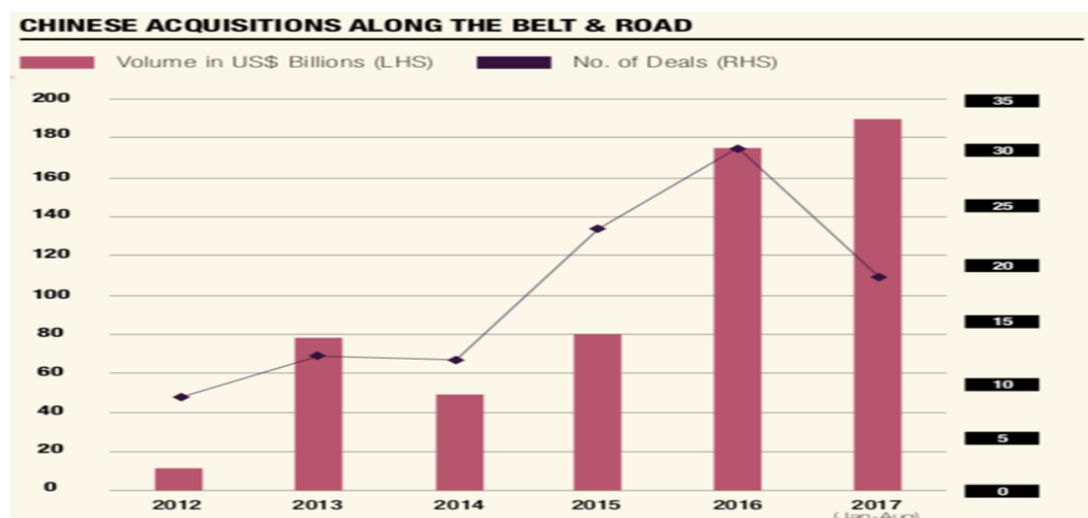


Figure 29. Chinese acquisitions along the BRI (Yap 2018).



The analysis did by Global competitiveness Index (GCI) stated that China's economy is driven more by consumption and services and it has increasingly betted on innovation. China has become a strong player in artificial intelligence. (GCI 2018, 27.)

Denis Depoux, CEO of global consultancy Roland Berger, said that because of the BRI, Chinese technologies has gained some market share in international technologies and investment. (Zhong 2018.) Mister He Lifeng, chairman of the NDRC, said at 2018 Summer Davos Forum that innovative ideas have enabled enterprises along the BRI countries to have sufficient and effective economic activities with the help of policy in communication. (Li & Shen 2018.)

#### 4.4 Context for Firm Strategy and Rivalry

The Belt and Road Initiative presents an opportunity for Chinese firms to expand their business to overseas. It opens new markets, generates demand for higher value-added Chinese goods and increases the competition in foreign trade.

Competing with foreign famous companies in China helps to develop world class capabilities as they progress. The examples of Haier which produce major appliances and Lenovo in personal computers have combined investment in innovation and domestic scale to become famous companies. Same happened to Huawei. These companies become such successful because of innovation. Another successful story is Tencent's WeChat. It is competing with rival service WhatsApp in US. Foreign customers want the same services in their own countries after using it. Chinese companies innovate through creative adaptation. They are fearless, especially private firms and they are focusing on local market needs to create. (Yip 2016.)

With current business environment, Chinese companies accept foreign managers. The mixed team with diverse background helps firms to be successful in global markets. (Ibid.)

"Made in China 2025" can be seen as a comprehensive strategy that China use to compete with foreign companies. Following intelligent manufacturing guidelines, China has elevated and integrated leading technologies into its production process.

China government has put huge efforts to promote domestic industries. The goal is to increase domestic content of high technology goods up to 70 percent by 2025. Demographic challenges, rising labour prices may be alleviated, manufacturing quality and environment issues may be mitigated. (Made in China: Ramifications for Foreign Companies 2018.)

The BRI aims to boost trade and economic growth. But there are physical barriers and soft barriers that must be overcome when doing trade and investment. Physical barriers could be lack of infrastructural capacity and equipment, speed and cost of transporting goods. It could be topographical factors such as deserts or mountainous regions. Soft barriers refer to legal and regulatory barriers, project financing and security. It could be security issue surrounding trade routes. (Lu, Rohr, Hafner, & Knack 2018, 3.)

Chinese government has accelerated reforms to remove internal barriers in order to help both domestic and foreign trade. The State Council has outlined plans to increase economic activity across different sectors in 2015. In the Statement it said that government is trying to remove any possible administrative monopolies, enhance anti-monopoly laws, and abolish protectionist policies in different regions and areas. (Wong 2015.) Government also published regulations in order to reduce logistic costs and boost transport efficiency. One of measures is to expand the electronic toll collection system and elevate multiple forms of transport. Ministry would advance digital and information-sharing network to improve transport and logistic services. (Xinhua 2019.)

Soft infrastructure across the BRI's overland and maritime corridors will allow trade to be done with less legal and regulatory hurdles and reducing trade costs. (Lu et al. 2018, 4)

Very notable barriers in BRI countries are the policy barriers. Such as postponement and complicated customs procedures for crossing borders, and constraints on FDI. One example is that procedures to import goods take less than 10 days in G7 countries but 50 days in central Asia. FDI policies are more restrictive and burdensome in

BRI countries. It is hard to start a foreign business, access industrial land, and arbitration commercial disputes in these countries. This is the reason that policy must support infrastructure projects. (Ruta 2018.)

Premier Li Keqiang has urged the Shanghai Cooperation Organization (SCO) member countries to continue improve interconnectivity. The actions need to be done in the area of building technologies and standards, simplifying all the procedures for crossing borders by using advanced technology. (Cao 2018.)

Figure 30 shows that there is still room for further reforms of China's regulatory restrictiveness on foreign investment.

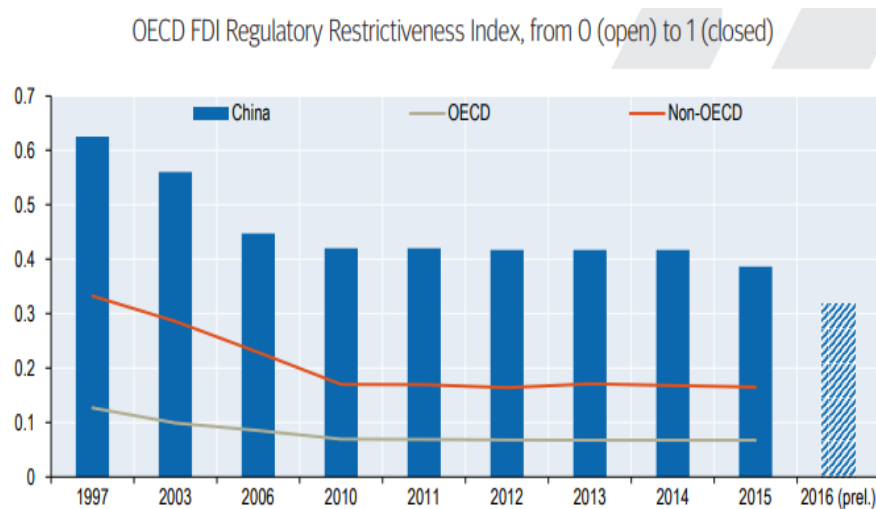


Figure 30. OECD FDI Regulatory Restrictiveness Index (Investment: Fostering Foreign direct Investment in Services Sector 2017).

Another issue is that clear security arrangements and mechanisms are necessary for the safety and security of goods travelling across the BRI. This measure can help protect investments too. (Lu et al. 2018, 4.) Furthermore, advanced IT system, digital technology and automation would help the connectivity in transportation by using information-sharing network and collaborative platforms. The BRI countries will benefit from policies and infrastructure implementations. (Ibid., 4.)

China adopted anti-monopoly law in 2008. Over the past 10 years, criticisms have never stopped about China's Anti-Monopoly law (AML) enforcement. Structural re-

form plan was published in 2018 and how will the functions develop is worth observation. It is the most essential regulation in current market economy. It is an important step to move towards fair competition. (Wan 2018.) The result of US-China Business Council's member company survey in 2014 shows that 86% companies were worried about competition enforcement activities and 30% of companies were afraid of being targeted for later investigations. The top concerns are: Fair treatment and non-discrimination, Due process and transparency, Time period for M&A review and Role of non-competitive factors in competition enforcement. (Competition Policy and Enforcement in China 2014.)

Premier Li Keqiang said in the Government Work Report this year that

*“the government will put effort in improving business environment. The efforts include cutting procedural requirements, shortening the negative list on market entry, separating business licenses and operating permits, simplifying the review process for construction projects, and reducing the types of industrial production permits. The fair competition review system will be implemented in all governments, including and above the county-level. All business-related policies will go through fair competition review, and mechanisms for filing complaints. The third-party evaluation will be established to forestall or redress any action that precludes or constrains competition.”* (Li 2019.)

Enhancing protection of intellectual property (IP) was addressed in premier's government work report. (Ibid.) From January 2019, China's supreme court starts to take intellectual property rights case. It is seen as a step forward for legal protection of the intellectual property. The topic was discussed in talks of resolve a trade dispute between China and United States. Many countries have long complained about the poor IP protections in China. Luo Dongchuan, deputy chief of Justice, told that establish intellectual property rights court is an essential step to enhance the legal protection in China. It would impact both home land and abroad. (Blanchard 2018.)

## 4.5 Government

The Belt and Road Initiative was launched by Chinese government and enjoys the highest level of political and financial support (Mathews 2019). It is the most ambitious infrastructure project ever. As people said there are geopolitical and economic motivations behind the initiative. Experts see the BRI as an approach that China seeks to find opportunities for investment and export markets and stimulate consumption. (Chatzky & McBride 2019.)

According to Porter (1990), government should focus on specialized factor creation, avoid intervening in factor and currency markets, enforce strict product, safety, and environmental standards, sharply limit direct cooperation among industry rivalry, promote goals that lead to sustained investment, deregulate competition, enforce strong domestic antitrust policies and reject managed trade. (202-206.)

China National Petroleum Corporation has spent 27 billion US dollars on building Yamal liquefield natural gas plant in Siberia in 2017. Energy costs would be reduced, and Russia would get new export markets at the same time. Dubai gigawatt Hassyan clean coal-fired power station plant was financially supported by China Banks as part of the BRI. (Pang 2018.) All these actions are driven by the government.

There is a strategic plan named “Made in China 2025”, issued by Chinese premier Li Keqiang and his cabinet in May 2015. It focuses on high-tech field and pharmaceutical industry including robotics, clean energy vehicles, biotechnology. The goal is to advance own competence in R&D and lower dependency on foreign technology, hope to increase Chinese domestic content of core materials to 40% by 2020 and 70% by 2025. (Bloomberg 2018.)

As government is the main driver of the projects, the BRI could bring about considerable economic and political gains for China. Economically, such as expansion of overseas markets, promotion RMB as an international currency, reduction of transport time and costs. The BRI could also help economic growth in west provinces while building land-based economic corridors with central Asia. (ChinaPower team 2017.)

The BRI provides the opportunity for China to use its economic power to influence BRI countries. The BRI participating countries would benefit from their hard infrastructure development. The Asian Development Bank (ADB) has estimated that \$26 trillion will be needed for the developing countries of Asia in infrastructure investment to sustain growth. It could help these countries to export their products to overseas markets and create new jobs and foster stable growth. If the BRI could be implemented successfully, many countries will become more dependent on Chinese economy. This may empower China to be powerful in governing the economic affairs of the region. (Ibid.)

The founding of Shanghai Cooperation Organization (SCO) is a good example of the role of government in the economic activity. The organization consist of six countries: China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan and covers three fifths of Eurasia. Indian and Pakistan are the new acceding members. Chinese and Russia are the working languages. It was used as a platform to develop Central Asia economy and counter American and Western influence in Central Asia. (Albert 2015.) China government has pushed the SCO to launch a development fund and a free-trade zone as central Asia possess large reserves of oil and natural gas. “a unified energy market” has also been discussed among the member states for oil and gas exports. It is good for China to tap energy resources for its growing demand. (Ibid.)

Another example is that China has sought to stable Afghanistan to protect its substantial investment as it is the largest SCO investor in that region (Ibid).

China government has been highly promoting the BRI and introduced a series of policies and measures. There are antitrust laws in China to be used for protecting business. Part of the provisions are aligned with Western economies’ competition policy frameworks. But China’s antitrust enforcement is still in the formative years. The regulators are still in the process of building their capabilities. Some foreign investors have concerns about the policy favours Chinese companies. (Mariniello 2013.)

Politically, the BRI is a branding strategy for Chinese foreign policy. China could use its financial power to benefit itself when countries are missing effective administration and law. (ChinaPower team 2017.) Building the port facilities on the coastal line

of Sri Lanka, Myanmar, Pakistan and in Indian Ocean benefit China to the emerging blue-water capability of China's Navy and secure the maritime energy supplies. The BRI indicates that US as the world's superpower has been weakened. (Habib & Faulkner 2017.)

One fact is that the beneficiary of BRI projects are Chinese banks and corporations. Over the time, the BRI could become China's international political power bank. If the country is unable to service the debt, conditions could be imposed through the write-off debt. (Pang 2018.) The Hambantota port of Sri Lanka is the case. As Sri Lanka couldn't service the debt, Hambantota port was leased to China Merchant Ports Holding Ltd for 99 Years in July 2018. Media speculates that it is the beginning of building Chinese naval frontier near India. It will enable Chinese naval to use the facility. Investment in Hambantota has a strategic dimension for China. In short term, Beijing would not deploy any naval to the port city. But over time, it is possible for China to seek strategic gains through leveraging its possession. (Singh 2018.)

Another case is the Port of Piraeus in Greece. Ten years after first investment, China's COSCO shipping company finally got right to use No.2 and No.3 container terminals for thirty- five years. The cooperation with China COSCO makes Piraeus the number one port in the Mediterranean Sea. (Spiliopoulou, Yu & Li 2019.) Pakistan Gwadar Port was also leased to China until 2059. (Chinapower team 2017).

Chinese government's BRI has shown its influences. In order to improve ties with China, Japan announced financial support for BRI private sector partnerships in December 2017 (Pang 2018). Italy also announced to join BRI in March 2019 and became the first G7 country to do so (Turak 2019).

## **5 Discussion**

### **5.1 Answers to the research question**

The objective of this research was to find out what are the impact of the BRI. The research question is what is the influence of the Belt and Road on competitiveness of

China? The answers are shown at below and paragraph is organized according to the four determinants of Porter's diamond model.

The study has shown that transportation system was improved dramatically after implementation of BRI. The full-coverage highway network was set up. The total public highway length was increased from 104400 km in 2013 to 136500 km in 2017 (Statista 2019c). For rails, there were 29400 km new tracks were built between 2013 and 2017, and over half of the rails were for high-speed trains. (Luo 2018.) Chinese government heavily invests on transportation infrastructure, especially for western region. During the period of 2013 to 2017, Lanxin railway, Lanyu railway, Xicheng high-speed rail have been put in operation. Over 50 thousand kilometers highway were constructed. (Song 2018.) Constructing new railroad linking Xi'an and Yan'an was approved in 2018 for supporting western region development (Xinhua 2018). By 2023, there will be 8751 km motorways and 3219 km high-speed railway built in western regions (Stanway 2019). A comprehensive transportation system connects domestic and international transportation routes, boosts the trade and economic growth. China's GDP per capital was increased from 7077 USD in 2013 to 8827 USD in 2017 (The World Bank 2019d). Trade balance has been keeping surplus (Statista 2019e).

The second major finding was that demands were increased after the implementation of the BRI. The BRI is not only stimulating the domestic demand but also international demand. The BRI opens the global markets and provide the opportunities for Chinese firms to satisfy the needs for Chinese products and technologies. China export of goods increased from 2209 billion dollars in 2013 to 2263 billion dollars in 2017 (Statista 2019e). Chinese acquisition along the BRI was increased from nearly 80 billion US dollars in 2013 to 190 billion US dollars in 2017 (Yap 2018).

Supply chain logistics' network was improved since the implementation of BRI. As mentioned in previous chapter, most of industry clusters located near or at coastal cities which are on the maritime route. China coastal cities were crowded and busy due to the booming of shipping and manufacturing. It pushed logistics hubs and manufacturing moving toward inland cities. With the help of comprehensive transportation system and government's "go west" policy, inland cities bridged



eastern and western China, increased the connectivity between inland and western region, the efficiency of logistics was improved. (Kaplan 2018.)

BRI presents the opportunity for Chinese firm to expand their business overseas and compete in international markets. Chinese firms were taken full advantages of local resources, such as labour resources, natural resources along with financial and policy support by government to compete in global markets.

There is no doubt that China government is the backbone of the BRI. Any small and private enterprises would not have the capitals and power to start such a huge project. BRI was announced by government, bank AIIB, organization SCO and Silk Road Fund were established for it. The guidance for the BRI-“*Vison and Action on jointly building Silk Road Economic Belt and 21<sup>st</sup> Century Maritime Silk Road*” was released in 2015 by government. Strategic plan named “Made in China 2025” for developing local Expertise in R&D and reduce the country’s reliance on foreign technology was published in 2015. All these actions showed the determination of the Chinese government in promoting the BRI and developing China’s economy.

## 5.2 Practical /managerial implications

The findings shows that BRI has the capability to connect the region economically and politically. The economic power that BRI brought to China could empower China become more influential over other countries.

The findings of this study have a number of important implications for future practice. Firstly, there is no official BRI data base available. There is no such a porfolio that precisely record the number of projects, countries participating, and monetary value of the projects. And it is unclear what kind of project or investment falls within the BRI rubric. It would be a good thing to create a BRI data base that can be accessed by everyone. It will help to improve the image of transparency, help to build trust. And it may help to attract more countries to join BRI.

Secondly, there were too much emphasis on what China’s embitions and interests are through BRI, especially on foreign media, and neglected what benefits that locals of BRI countries got. Although Chinese government bolsters cooperations, encourages oppenness and mutual learning, promote peace and bilateral benefit for

BRI, some countries still doubt the purpose of BRI and think BRI is a kind of threat. The China-US trade war may be considered as a challenge to China. It would be good to show more positive influences that BRI projects brought to locals and how their people's life have changed after joining BRI and prove BRI is for mutual benefits.

Thirdly, people only see state-owned firms working on the BRI project and haven't seen the contribution of private firms. It is true that state-owned enterprises occupied 50% of the infrastructure projects with over 70% contract value in BRI. (Tan 2018.) But there were over 10000 Chinese firms doing business in Africa and 90 % of them are private enterprises (Yu 2019). Contribution of private enterprises in the BRI project needs to be emphasized. The example in Africa can be used to encourage more private firms to involve BRI. It can help to increase employment rate and help country build stronger economic bonds with the country that worked in.

The BRI is not only about hard infrastructure such as rails and roads, but also the "soft" infrastructure such as policy and rules. As Jonathan Hillman, director of the Reconnecting Asia project at Washington, said that the BRI empowered China to make new rules and seek own interests. (Kuo & Kommenda 2018.)

### 5.3 Assessment of the results in the light of literature

Similarly to the findings in the present study a prior study done by Michael Porter (1990) pointed that high domestic demand contributes to the firm and nation's competitiveness when the domestic buyers are the most demanding buyers for product and service, and industry segment is big and more visible compared to foreign markets (190-191). The findings of the present study confirmed demand conditions in Porter's diamond model. Furthermore, study discovered that BRI not only creates the domestic demand, but also international demand for Chinese products and services. Through building infrastructure and providing financial services, BRI opens global market for Chinese firms, therefore creates the international demand for Chinese product and services.

Another finding from study shows the different meaning in role of government comparing with Porter's diamond model. According to Porter (1990), the role of govern-

ment is to encourage and push the companies to move to higher levels of competitive performance or give policy support. Government doesn't involve directly in the process of building the competitiveness. (200-201.) But in BRI case, Chinese government plays the main role in the project and directly involved in building country's competitiveness. BRI was announced by government; policies were drawn up by government; BRI financial supports were mainly from government. Such as AIIB, Silk Road Fund, China Development Bank and Export-Import Bank of China were all involved in financing the BRI. Many constructions along BRI were done by state-owned companies. There were about 3116 projects undertaken by Chinese state-owned companies, occupied 50% of infrastructure projects with over 70% contract value (Tan 2018). Chinese government is driving the BRI.

The four determinants in Porter's diamond model are used to assess the quality of domestic business environment. In addition, finding from the study showed that relation between countries has also strong impact on the business. Good relations between countries would provide more opportunities for cooperation and trade, especially for neighbouring countries. It would be easier to reach mutual agreement and enable firms to access new market and develop both countries's economy.

#### 5.4 Limitations of the research

This study has its limitations. First of all, there were limitation on accessing primary data and information got from interviews was limited as interviewees do not directly work for the BRI projects. One major limitation is that the BRI is not yet completed. As such, it is difficult to assess the full impacts. There are about 70 countries joined BRI and new country keeps coming. Italy announced to join BRI in the early of this year. Projects such as China-Pakistan corridor, gas pipelines across central Asia and projects in Africa are still under construction (Ibid.). There are new contracts under negotiation, such as Chinese contractors are in talks to construct two highways in Moldova (Yu 2019). Therefore, full impacts of the BRI couldn't be evaluated.

Regarding internal validity, the research strategy, data collection and analysis methods were carefully chosen and implemented. Triangulation was used as validation strategy. Primary data from interviews were made with researcher from institute of

national academy of sciences and university professor. Primary data from interviews was triangulated with the secondary information on the internet. The objective of this study was not to generalize, but rather to observe the situation.

Regarding the reliability, data was collected from governmental official websites, authoritative organizations' homepages, it tends to be more trustworthy. Interpretation was carefully made based on collected data. Despite the political reason, other researchers may achieve the same result.

## 5.5 Recommendations for future research

As the BRI is a long-term project and only five years since it launched, its full results cannot yet be judged. As the matter of fact, China's economy has been improved dramatically. The data showed by the World Bank, World Business Forum and other authoritative organizations about China's economic and political improvement couldn't be neglected. Apparently, quality of life in China has improved. The BRI enhanced economic power and has brought number of countries into China's economic trajectory. Italy announced to join the BRI recently was a prove of China's economic power.

The big challenge for the BRI is current trade war between China and US. For America, there are two purposes for trade war. Objective one aims to eliminate from the centre of the global supply chain. The second one is to alert international corporations to be cautious when doing business in China. The main purpose is to harm China's economic strength. If the plans succeed, China's economy could be worse and a global financial crisis may occur. The effects will have a huge impact on global market and make tremendous lost in the whole world. People will lose their jobs, the quality of life will be declined. (Ward 2018.) In the end, the effect would turn to the BRI project. John Mauldin, Financial writer, publisher and New York Times bestselling-author said:

*"the likely near-term outlook is lots of noise with only mild tariffs or other restrictions. A real trade war serves no one's interest. But people make mistakes and do irrational things, so someone could miscalculate. Let us hope that wiser and cooler heads prevail." (Mauldin 2018.)*

People are saying that BRI is Xi Jinping's ambitious to show that China would become a strong and powerful country. The final result of the BRI could impact heavily on the future of trade in Asia. Will China's BRI be successful? Will it reshape the global trade?

To sum up, many important questions and issues are yet to be resolved. Such as transparency in project bid and governmental procurement. There is no BRI information data base available for accessing. Information related BRI project development have to be collected from different sources. It would be important to study BRI from other viewpoints in addition to the focus of the present study. For example, what are the hurdles that BRI has to overcome to be successful? Especially the strategic financial costs and risks posed by the BRI. What will happen to the BRI if financial crisis occurs?

For further research in this subject would be of great help in finding more evidences that BRI could help China to improve its competitiveness.

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## Appendices

### Appendix 1. Interview Questions

1. How will the Belt and Road project help to improve the skills of the human resources (e.g., collaboration in higher education) for China?
2. How will the Belt and Road project impact on the availability of using natural resources (e.g., oil and gas) for China?
3. How will the Belt and Road project help to improve the quality of knowledge resources (e.g., research institutes, scientific collaboration) for China?
4. How will the Belt and Road project impact on the availability of capital resources (e.g., venture capital) for China?
5. How will the Belt and Road project affect the administrative and regulatory framework in China and participating countries (e.g., harmonization of standards)?
6. How will the Belt and Road project help to improve the transportation network and regional energy network?
7. How will the Belt and Road project affect trade between China and participating countries?
8. How will the Belt and Road project affect the purchasing power of Chinese people?
9. How will the Belt and Road project affect cooperation in Chinese companies' supplier networks across borders?
10. How will the Belt and Road project affect competition among firms in different industries?
11. How will the Belt and Road project harmonize the policies, such as trade policies and administration policies between China and other participating countries