INTI INTERNATIONAL UNIVERSITY

MASTER OF BUSINESS ADMINISTRTION

FACTORS INFLUENCING EMPLOYEES' INNOVATIVE SELF-EFFICACY IN THE HIGH-TECH INDUSTRY IN CHINA

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ABSTRACT

To response to the turbulent business environment, companies in high-tech industry must innovate to obtain competitive advantages for survive in a long run. Researchers and practitioners suggest that employee innovative work behavior is the key to companies' continuous innovation. As in China, who is the second largest economy in the world and put lots of effort on his innovation capability, the innovation capability is still limited. Further research has defined the reason for the limited innovation capability in China is the low employee innovative self-efficacy. Within this context, this research devoted to identify factors influencing employee innovative self-efficacy and determine which factors have the strongest influence on their innovative self-efficacy in China.

Literature review examines employees' personal characteristics and contextual factors have positively influences on innovative self-efficacy (ISE). Precisely, it determines the personal characteristics are core self-evaluations (CSE), and three contextual factors are organizational support for innovation (OSI), transformational leadership (TL), and co-worker exchange (CWE) respectively.

To achieve the objectives of the research, a quantitative approach was adopted with questionnaire as a tool. SPSS 20.0 was used to do descriptive statistics analysis and frequency analysis. Smart PLS 3.0 was utilized to run reliability, validity as well as hypothesis test in order to examine relationship among constructs. The outcome of the study indicates three out of the four independent variables are significant, which are ESE, OSI and CWE. In contrast with the hypothesis, the relationship between TL and ISE is not significant. Additionally, CWE and OSI have the strongest influence on ISE among employees working in the high-tech industry in China.

Key Words: Innovative self-efficacy, high-tech industry, core self-evaluations, organizational support for innovation, transformational leadership, co-worker exchange.

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Liu Cong
27th, August

DECLARATION BY CANDIDATE

"I hereby declare that this research project is of my own effort except for the information that has been used from various authors that have been cited accordingly and ethically."

27th, August

Liu Cong

TABLE OF CONTENTS

LIST OF TABLES

Good list of illustration

LIST OF FIGURES

LIST ABBREVIATIONS

AS	Aircraft and Spacecraft
AVE	Average Variance Extract
CNNIC	China Internet Network Information Center
COE	Computers and Office Equipments
CR	Composite Reliability
CSE	Core Self-Evaluations
CSES	Core Self-Evaluation Scale
CWE	Co-Worker Exchange
ETE	Electronic and Telecommunication Equipments
GDP	Gross Domestic Product
HRM	Human Resource Management
IM	Innovation Management
ISE	Innovative Self-Efficacy
MEM	Medical Equipments and Meters
MOST	Ministry of Science and Technology of China
NDRC	National Development and Reform Commission of China
OSI	Organizational Support for Innovation
PLS	Partial Least Square
Ps	Pharmaceuticals
SEM	Structural Equation Modeling
SPSS	Statistical Product and Service Solutions
TL	Transformational Leadership
VIF	Variance Inflation Factor
WTO	World Trade Organisation

CHAPTER 1:
INTRODUCTION

1.0 Chapter Introduction

This chapter introduces the thesis dissertation titled "Factors Influencing employees' innovative self-efficacy in high-tech industry in China." A detailed research background provides a brief view on the research area related to the topic of this research. A description of the research problem is also included to identify issues which signify the need for research attention. Subsequently, research objectives are presented in this paper. This chapter also includes significance, limitation and scope of the research study. Lastly, structure of this thesis is outlined in the last section of this paper.

1.1 Research Background

With the development of information technologies and globalization, environment of today's business has changed a lot and has been shifting fast. A qualitative change is proceeding among companies which is the transformation of competition from physical assets based to knowledge assets based (Calabrese, et al., 2013). Within this context, innovative behavior becomes an elemental requisite for companies to survive and develop, as it can provide companies with continual competitive advantages (Costa, 2012). Not only can benefit for enterprises, also, innovative activity is critical for the development of territorial economic and a country's economic growth, especially for the productive growth in advanced nations (Buesa, et al., 2010). Therefore, to enhance competitiveness, obtain business survival and growth, innovation activity deriving from specific innovative behavior, especially from employees' individual innovative working behavior, should be considered as crucial for companies (Armando, et al., 2013).

1.1.1 The Importance of Innovation

In today's highly competitive market, the subject of innovation is of great importance because it stimulates sustainable growth of economy. As such,

innovation has been considered as the key and driver for economic growth and well-being (Soumitra, et al., 2014). Numerous facts have proved the importance of innovation. Countries around the world have put lots of efforts to their innovative capabilities. A myriad of activities like the establishment of national innovation strategies and agencies, increasing support for education system, science and technology, release of relative policies, spurring investments in broadband and other IT platforms, etc. are taken by countries seeking for development for their innovation capacities (Stephen, 2013).

In addition, the importance of innovation for business also has been widely recognized by researchers and practitioners. It has been described as the driver of industrial growth. Meanwhile contemporary enterprises have considered innovation as one strategy employed especially in these turbulent times. As stated by Alina (2014), it is crucial for an organization to obtain the ability to innovate and to accommodate change. What's more, the researcher point out that in today's changing business circumstance, this ability for an organization is paramount to thrive over time. This is especially true for technology ventures in emerging markets such as in China, because they must successfully innovate to keep up with dynamic market conditions and never-ending technological changes (Dubiel & Ernst, 2012). Other researchers have highlighted that the necessity of innovative and have implicated that innovative ability could ensure an organization's longevity. Business enterprises need to constantly innovate in order to ensure growth and the broader success of any business. Countless others struggle to re-think their innovation strategies in order to meet inevitably complex and uncertain challenges we and future generations will face. Tucker & Pitt (2008) argue that innovation is the best way for stimulating growth in a firm. Engel et al. (2004) contend that innovative firms always with a fast growing sales turnover comparing with non-innovative firms. The most innovative firms realize higher turnover of products and services introduced within a period of time. In order for firms to grow, then they have to adopt an innovative approach that will enable them gain a competitive edge in the prevailing business environment (Mwangi, 2014).

1.1.2 Innovation in China

- ***In the Past***

Historically, China used to be very innovative around the world and famous for the amazing innovations like paper, printing, gunpowder and compass (van Someren & van Someren-Wang, 2013). However, as the agricultural centered dynasties were ruled according to Confucian ideology and bureaucracy, the underdog role forced Chinese to think about the down side of the Chinese culture for innovation. Since the year 1840 when China was shocked awake by gunpowder-powered cannons, China's innovation capability has been at the bottom for a long time. After the release of the policy of reform and opening, pragmatic leaders like Deng Xiaoping found a way for Chinese to become rich quickly. The conditions for innovation in China were greatly improved. Combining with long-term strategic thinking, China is outgrowing imitation towards strategic innovations. As analyzed by Deloitte (Deloitte, 2011), most the manufacturing output of China were in the position of the lowest value-added link of the "Smiling Curve", and as for the patent of technologies, China relied too much on the developed countries like the U.S.A. and Japan (Wang & Li, 2013). Schotter and Teagarden (2014) further point out that this asymmetric development in China is because the industry development is based on substantial rather than advance knowledge of expertise. For this reason, although innovation in China has developed a lot and has been enhancing fast these days, it is still limited. Now, that is beginning to change. Just as Colin, the partner at PricewaterhouseCoopers, said, "Traditionally Chinese companies were fast followers, but we are starting to see true innovation" (Juro & Paul, 2014).

- ***Nowadays***

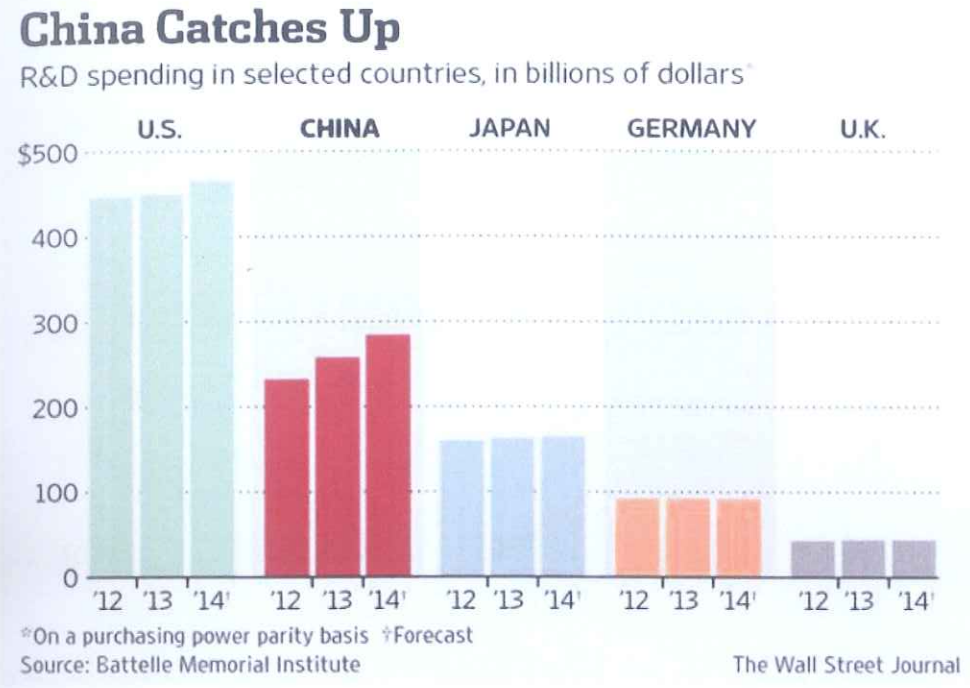
Recently, the president of U.S. Barack Obama stated in a State of the Union address "the nation that goes all-in on innovation today will own the global economy tomorrow", and China is not exactly "standing on the sidelines" (David, 2014). For the importance of innovation, the promotion of innovation, in particular technological innovation, in developing countries, including China, is becoming a

fashionable subject (Jean-Eric, 2005). China is regaining its historical position as a global innovation power.

In fact, China has realized the importance of innovation for a long time. A series of practices have been taken for its innovation capability in China. In 2006, the Chinese government officially released its "National Plan for Long and Medium Term Scientific and Technological Development (2006–2020)", vowing to comprehensively construct the "national innovation system" with Chinese characteristics (Wang & Li, 2013). To promote the construction of the technological innovation system, "China's Ministry of Science and Technology" (MOST), together with "National Development and Reform Commission of China" (NDRC) and some other government agencies, launched the "Technological Innovation Project" in 2009. This project aims at enhancing Chinese enterprise's technological innovation capability through fostering innovative enterprises, strategic alliances for industrial technological innovation, and promoting cooperation between industries, universities and research institutions (Wang & Li, 2013). As stated in the report "CHINA 2030: Building a Modern, Harmonious, and Creative Society" by the World Bank (2013), innovation has been encouraged in China in response to the competitive pressures in today's turbulent business environment. A research and development (R&D) infrastructure also has been established in China prior to other developing countries through the implementation of a series of initiatives. As stated by the government in China, the aim of all the initiatives is to improve the quality of R&D instead of quantity (The World Bank, 2013).

With the support and encouragement from the government, as the core for technological innovation, enterprises in China became more aware of the importance to develop new products and enrich their technical content through technological innovation, particularly after the financial crisis broke in 2008 (Wang & Li, 2013). The improvement of Chinese enterprises' awareness for innovation can be reflected by the large expenditure of R&D. As reported, the R&D expenditure in China was growing fast year by year, and the amount of the expenditure is the biggest among the other countries except for the U.S. (as shown in Figure 1).

Figure 1: R&D Spending in Selected Countries



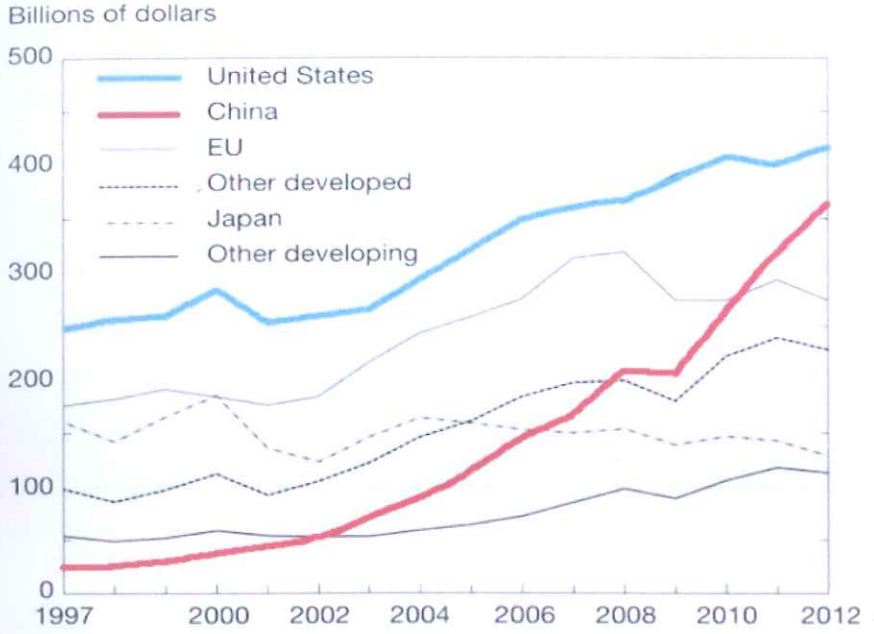
Good Illustration

Source: (David, 2014)

Researchers Juro and Paul (2014) contend that the leadership position of companies from developed countries in the high-tech industry is threatened by technology companies from China, especially in the area of mobile devices, telecommunications and online services. The development of the Chinese high-tech industry has drawn the attention of the world and companies like Huawei, ZTE, Lenovo, XiaoMi etc. are typical examples of China's innovative enterprises (Wang & Li, 2013). These innovative companies in China rises abruptly with new products, new ideas, as well as some indigenous innovations like WeChat, a mobile messaging app invented by Tencent Company in China, can rival that of any U.S. competitor with the excellent experiences provided to customers (Juro & Paul, 2014). Some researchers indicate that the development gravity in high-tech industry is shifting to Asia, and to China. This trend can be reflected by the percentage of China's share in the high-tech industry. As reported, China's share in the high-tech industry was 8% in 2003 compared with 24% in 2012. David (2014) point out that the leadership position of United States with 27% market share in high-tech industry will not keep up for much long, since the fast R&D growth rate of 18% per year of China which can be illustrated through its high-

tech output as shown in Figure 2.

Figure 2: High-Tech Output of Different Countries



Source: (David, 2014)

1.1.3 High-Tech Industry in China

As reported by Deloitte (2011), China's manufacturing output took 19.8% of the whole global manufacturing output, which was higher than the output of America's with the proportion of 19.4 in 2010, and has been the world's largest manufacturer and exporter ever since (The World Bank, 2013). Within the manufacturing industry, high-tech industry is one of the most important areas as companies in the industry always with the features of high value added, high growth, and large driving forces.

Based on the statistics released by National Bureau of Statistics (2013) in China, the high-tech industry is composed of five sub-industries which are "Pharmaceuticals (Ps), Aircraft and spacecraft (AS), Electronic and Telecommunication Equipments (ETE), Computers and Office Equipments (COE), Medical Equipments and Meters (MEM)". Typically, China can be divided into three regions: eastern, central, and western. Among the three regions in China, the eastern region is the primary region for economic development, for its