

# The contextual determinants behind the entrepreneurial behaviour within 3D of EO: Evidence from the SMEs in China

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## ABSTRACT

China's recent economic success is remarkable. However, this comparative research – conducted at a firm level – presents empirical evidence showing that the entrepreneurship contextual conditions in China are still not comparable to those in Belgium, if the entrepreneurial behaviours within the enterprises from the two countries are compared along dimensions of innovativeness, proactive risk handling, and management professionalisation (3D of EO). Taking the Global Entrepreneurship Monitor (GEM) Model as a contextual framework, this research brings into focus a number of determinants that influence the entrepreneurial behaviours. This comparative research initiates a Sino-Belgian entrepreneurship research, contributes to the knowledge on cross-national entrepreneurship study, and brings up some research evidence that is expected to be further studied in future investigations. In this article, the authors intend to present the evidence concerning the contextual determinants that influence the Hebei entrepreneurs' behaviour within the 3D of EO.

Many researchers argue that entrepreneurial orientation (EO) plays an important role in explaining the growth and development of firms (e.g., Covin & Slevin, 1988; Wiklund, 1998, Wiklund & Shepherd, 2005). In the past decades, much research has been done on the entrepreneurial orientation (EO) and firm growth and development (e.g., Miller, 1987; Stevenson, 1996; Richards & Barnett, 2004). Researchers make studies on entrepreneurial orientation (EO) on a basis of multiple dimensions, which mainly include innovativeness, risk-taking, and proactiveness (e.g., Lumpkin & Dess, 1996; 2005; Covin & Slevin, 1996; Miller & Friesen, 1986). Review of the current literature points out that, in the existing theory on entrepreneurship orientation, the main shortcomings consist

in the ignorance of the entrepreneurial orientation towards management and towards proactive risk handling. Hence, modification of the current entrepreneurial orientation theory is a necessity, and can be accomplished by the proposal that entrepreneurial orientation can be explained along the dimensions of innovativeness, proactive risk handling, and management professionalisation. These three dimensions are the so-called 3D of EO.

## **ENTREPRENEURIAL ORIENTATION (EO) AND 3D OF EO**

Miller (1983) appears to offer the earliest operationalisation of the entrepreneurial orientation concept. Miller clarifies the construct of entrepreneurial orientation

when he defines an entrepreneurial firm as one that “engages in product marketing innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch” (Miller, 1983).

With this principle of entrepreneurial orientation defined, quite a number of EO definitions were put forth and empirical research was carried out based on this EO definition. For example, Wiklund (1998) defines the construct of EO as “the CEO’s strategic orientation reflecting the willingness of a firm to engage in entrepreneurial behaviour”. So, as Wiklund and Shepherd (2003) discussed in their newest EO research, EO refers to a firm’s strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices. As such it reflects how a firm operates (Wiklund & Shepherd, 2003). Following this principle, Kreiser, Marino, and Weaver (2003) assess the psychometric properties of the entrepreneurial orientation scale in a multiple country analysis. And Richard and Barnett (2004) conducted a study on cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions (Richard & Barnett, 2004). Deriving their work from the principle of entrepreneurial orientation, Aloulou and Fayolle’s definition of EO refers to a firm’s strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices (Aloulou & Fayolle, 2005).

In brief, innovativeness is in this 3D of EO research defined as ‘the propensity to engage in new idea generalisation, experimentation and R&D activities by introducing new products, processes, degree of innovation, and entering of market’. (Zhan Jun & Deschoolmeester, 2001). Through the combination of the definitions of proactiveness and risk handling, proactive risk handling is defined as ‘the readiness and preparedness in face of business risks or uncertainties while making risky

resources commitments’. By combining what has been explained on management and professionalisation, management professionalisation is essentially defined in this research to be ‘a propensity for a procedure, within which series of managerial activities or performance are expected to be accomplished according to professional standards’ (Zhan Jun & Deschoolmeester, 2003).

### **GLOBAL ENTREPRENEURSHIP MONITOR (GEM) MODEL**

Global Entrepreneurship Monitor (GEM) is a conceptual framework linking entrepreneurship to economic growth. Over the previous years, entrepreneurial framework conditions have been studied within GEM model. The assumption is that the framework conditions make up the general context in which new venture creation is stimulated or constrained, and more favourable framework conditions should encourage the blossoming of entrepreneurial activity within a country and region (GEM executive report for Belgium, 2003).

While entrepreneurship originates at the individual level, realisation is achieved at the firm level. Start-ups or innovations are vehicles for transforming personal entrepreneurial qualities and ambitions into actions. At the macro level of industries and national economies, the sum of entrepreneurial activities constitutes a mosaic of competing experiments, new ideas and initiatives. This competition leads to variety and change in the market – that is, a selection of the most viable firms, their imitation and a displacement of obsolete firms. Entrepreneurial activity hence expands and transforms the productive potential of the national economy by inducing higher productivity and an expansion of new niches and industries (Caree & Thurik, 2002). The conceptual framework of the GEM takes a slightly different angle. It analyses the success of large firms advancing market opportunities for SMEs and the role of entrepreneurship

in the enterprise creation/growth process as the main mechanisms driving macroeconomic growth along with their complementary nature.

The central argument of the GEM conceptual model is that national economic growth is a function of two parallel sets of interrelated activities: those associated with established firms and those related directly to the entrepreneurial process. Activity among established firms only explains part of the story behind variations in economic growth. The entrepreneurial process may also account for a significant proportion of the differences in economic prosperity among countries.

When considering the nature of the relationship between entrepreneurship and economic growth, it is helpful to distinguish between entrepreneurial opportunities and entrepreneurial capacity. What drives entrepreneurial activity is the perception of

entrepreneurial opportunities, combined with the skills and the motivation to exploit them. When opportunities are met with this kind of skill and motivation, the outcome is the creation of new firms and, inevitably, the destruction of existing firms – new firms frequently displace inefficient or outmoded existing firms. This process of Schumpeterian “creative destruction” is captured in the model by business churning. Despite its negative connotation, creative destruction actually has a positive impact on economic growth as declining businesses are phased out as new start-ups competitively manoeuvre their way into the market. These dynamic transactions occur within a particular context, which is referred to in the GEM conceptual model as Entrepreneurial Framework Condition, in which nine dimensions of entrepreneurship are defined as “Entrepreneurship Framework Conditions”.

**Table 1:** Entrepreneurial Framework Conditions

Financial Support	The extent to which financial support and resources are accessible for new and growing firms, including grants and subsidies.
Government Policies	The extent to which regional and national government policies in terms of taxes, government regulations and administration discourage or encourage new and growing firms.
Government Programmes	The presence, accessibility and quality of direct programmes to assist new and growing firms at all levels of government – national, regional and municipal.
Education and Training	The extent and quality of training in starting or managing small, new, or growing businesses in the educational and training system at all levels – from primary school to postgraduate courses.
Research and Development Transfer	The extent to which national research and development leads to new commercial opportunities, and whether or not R & D is available for new, small and growing firms.
Commercial and Professional/Legal Infrastructure	The availability, accessibility, quality and cost of commercial, accounting, and other legal services, institutions and general sources of information that allow or promote new, small or growing businesses.
Market Openness/ Barrier to Entry	The extent to which commercial trading arrangements are stable and difficult to change, thus preventing new and growing firms from competing with and replacing existing suppliers, subcontractors and consultants.
Access to Physical Infrastructure	The accessibility and quality of physical resources such as communication, transportation, space, rent and natural resources for new and growing firms.
Cultural and Social Norms	The extent to which existing social and cultural norms encourage individuals to try new ways of conducting business or economic activities.

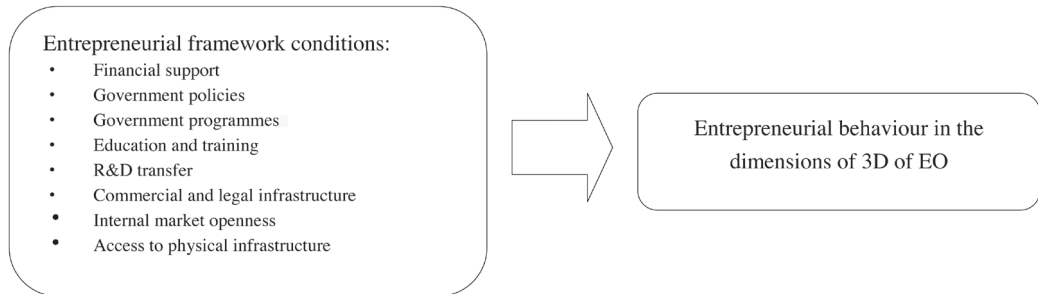
Source: Kauffman Centre for Entrepreneurial Leadership, 2001

## RESEARCH METHODOLOGY

### *The theoretical framework of 3D of EO*

To explore how entrepreneurship contextual conditions affect the entrepreneurs' behaviour within 3D of EO, the GEM model is taken as a framework within which the

major contextual determinants are clarified. By investigating how the major contextual determinants influence the entrepreneurs' behaviour within each dimension of 3D on EO, the causal factors that lead to the similar or different behaviour can be uncovered.



**Figure 1:** Entrepreneurship framework conditions and entrepreneurial behaviour

### *Research strategy*

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context (Yin, 1981a, 1981b). In this 3D of EO research, study of the evidence on entrepreneurial orientation is implemented at a preliminary, exploratory stage by a comparison of a limited number of entrepreneurs or managers from Belgium and China. The evidence on the influence of the contextual determinants towards the entrepreneurs' behaviour is investigated in its context at a firm level.

### *Population*

The population of organisation in this 3D of EO research is small and medium sized enterprises from Hebei, China, and from Flanders, Belgium. Since there is no clear agreement on the specification of small and medium sized enterprises in terms of firm size, in this research, to control the research setting, some requirements are demanded. For instance, the entrepreneurs from the firms with an employment of 200 to 800, in existence of at least 10 to 20

years in the manufacturing industry, and with similar products and/or services, can be the subjects of this research.

### *Sampling scheme and unit of analysis*

Within this large population, this research uses a purposive sample, as is generally the situation in case study and other qualitative research. The research used a 'most similar design' in cross-national research (Pasquero, 1993). This design is particularly appropriate for small samples and quite useful to compare entrepreneurs from both countries. The samples, taken from Flanders, Belgium and Hebei, China, must be comparable with each other, being of similar size, and preferably in the same type of industrial activity and with at least similar types of products and/or services. As a result, entrepreneur groups (entrepreneurs and their collaborators including owner-managers, managers, or key personnel, etc.) of the small and medium enterprises in both countries are sampled in the research, and entrepreneur groups are the units of analysis.

**Table 2:** General Information on the Firms Interviewed

The Flemish firms	A	C	E	G	I
<b>Ownership status</b>	Family owned	Family owned	Family owned	Family owned	Family owned
<b>Interviewees</b>	General manager and sales manager	General manager and sales manager	General manager and vice general manager	General manager and sales manager	Vice general manager and production manager
<b>Industry</b>	Plantation and forestry	Diesel engine	Textile machinery and spare parts	Metal stamping	Home use electronic appliance
<b>Total employment</b>	200	450	300	200	320
The Hebei firms	B	D	F	H	J
<b>Ownership status</b>	State owned	Private	State owned	Private	Private
<b>Interviewees</b>	General manager, and finance manager	General manager and vice general manager	General manager, and the sales manager	General manager and vice general manager	General manager, and sales manager
<b>Industry</b>	Plantation and forestry	Diesel engine	Textile machinery and spare parts	Metal stamping	Home use electronic appliance
<b>Total employment</b>	350	580	410	350	420

### **Generalisation and Validity**

Generalisation can only be performed if the case study design has been appropriately informed by theory, and can therefore be seen to add to the established theory (Rowley & Farrow, 2002). That is to say, generalisation of a case study is determined by the quality of the theory established for the case study.

In this research, the 3D of EO for entrepreneurial orientation study was put forth on the basis of an extensive literature review of both the existing theories on the research of entrepreneurship and the entrepreneurial orientation. Significant results achieved from the literature review indicate that the entrepreneurs' management-oriented propensity is somehow neglected by the existing entrepreneurial orientation research. The existing research is inactive towards empirical findings that entrepreneurs are

not merely risk takers, but risk handlers. So, management professionalisation and proactive risk handling were taken as two major redefined dimensions of the 3D of EO. Moreover, on the basis of sufficient studies of the existing knowledge and theory on management, on profession and professionalisation, on proactiveness and on risk taking, management professionalisation and proactive risk handling were respectively defined and their constructs were explained. The extensiveness and sufficiency of the literature review greatly ensures the 'quality of the theory established for the case study' (Rowley, 2002). So, analytical generalisation in the 3D of EO research can be made accessible. The 3D of EO research seeks in-depth information on the phenomenon under study – the entrepreneurs' behaviour along the 3D of EO, and on the environment where the phenomenon exists – why the

entrepreneurs behave along the 3D of EO. The generalisation that the 3D of EO research expects is more 'analytical' than 'statistical'.

Content validity is the internal validity concerned with how well the measurement covers the research problem. In this 3D of EO research, the field research is implemented after the conceptual foundation of the 3D of EO has been developed. From the conceptual foundation the key indicators from each of the three dimensions are clarified. And the questions either in the interview guidance or in the questionnaires are pre-constructed around these key indicators. The research questions in both interview guidance and questionnaires have been completely determined, and the concept of 3D of EO has been fully developed. Thus content validity depends on the operationalisation of the key indicators. Through this way, research questions can be explored with more relevance.

Another internal validity type is construct validity, which refers to the validity of the measurement instrument. To guarantee the construct validity, in this 3D of EO research, questions in both interview guidance and questionnaires are formulated according to the key indicators that are clarified while building up the conceptual basis of the 3D of EO. The indicators are fully embedded in the questions in the measurement instruments, and the coherence is achieved between the indicators and these questions. Thus, complete utilisation of the questions in interviews helps to secure the construct validity.

### ***Dimensional comparison is a method of data analysis***

In this 3D of EO study, a scheme with a focus on the evidences within the three dimensions and entrepreneurship contextual conditions serves as the ground on which focused data gathering and analysing are thus made available. As a result, dimensional comparison is employed. The reasons why dimensional comparison is chosen in data

analysis include the expectation of the effectiveness of cross-case patterns dealing with a staggering volume of descriptive data in the case study. Thus, the danger is that investigators reach premature and even false conclusions as a result of these information-processing biases (Eisenhardt, 1989).

To avoid the possible danger, in this 3D of EO research, dimensional comparison was employed as a method of data analysing. In order to analyse the collected data, in this 3D of EO research, the researcher transcribed the tap recorded conversations from all the interviews, categorised what was gained by questionnaires, and rearranged the information from the transcription and categorisation. With the recordings transcribed, the responses from the entrepreneurs to the questions raised during the interviews were taken as the evidence that the research has been looking for. A complete presentation of the evidence was a measure taken to overcome the subjective bias. Dimensional comparison, employed as a tool of rearrangement, helps to reduce the enormous volume of obtained data, to emphasise the evidence relevant to research questions, and to avoid reaching either premature and even false conclusions or uncontrollable volume of descriptive data (Eisenhardt, 1989).

To expose how the entrepreneurship contextual conditions affect these entrepreneurs' behaviour within the 3D of EO, the influence of the major contextual determinants clarified in GEM model is investigated along each of the dimensions of 3D of EO. Thus, the causal factors behind the performance made by the Flemish and the Hebei enterprises can be made obvious and the question why the entrepreneurs take similar or different actions within the 3D of EO can be made answerable.

To conclude, in the case study, dimensional comparison has been used as a method for data analysis in order to produce a systematic display of the relevant evidences and to improve the research

quality. As Eisenhardt insists, “The idea behind these cross-case searching tactics is to force investigators to go beyond initial impressions, especially through the use of structured and diverse lenses on the data.

These tactics improve the likelihood of accurate and reliable theory, that is, a theory with a close fit with the data” (Eisenhardt, 1989).

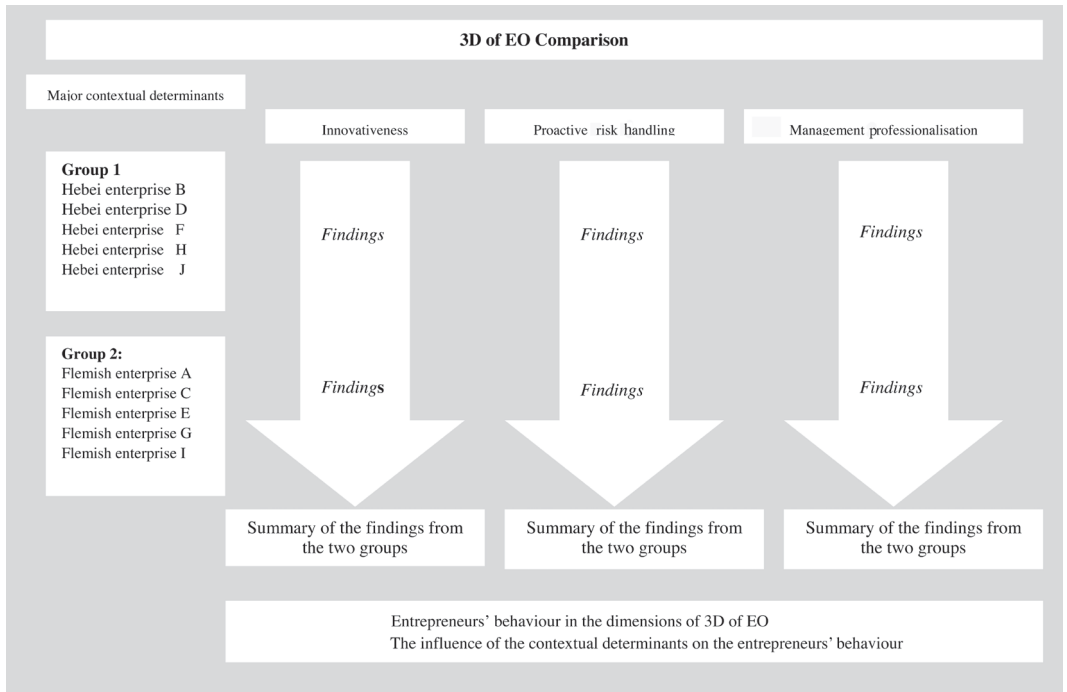


Figure 1: Data comparison and analysis

**RESEARCH FINDINGS**

The major contextual determinants that influence the Hebei entrepreneurs' behaviour in the 3D of EO are interpreted in a sequence of innovativeness, proactive risk handling, and management professionalisation. The research findings show that the determinants are more obstructive than supportive and imply that the entrepreneurship conditions need improvement. Besides, the competences within most of the Hebei enterprises are not contributive to their performance within the 3D of EO.

***The major contextual determinants of innovativeness behaviour***

The research findings reveal a number of contextual determinants that affect the

entrepreneurs and managers' behaviour and effort with regard to innovation. These contextual determinants proved to be: lower level of R&D capability, difficulty in accessing technology assistance and financial support, strategic perspectives for innovation, and less protective legal infrastructure. These determinants greatly obstructed the innovation effort made by the Hebei enterprises.

***Lower level of R&D capability***

Since the economic reform was initiated in late 1970s and early 1980s, great economic achievement has been made in China. The policy of 'Socialist Market Economy' has activated the stagnated economy caused by the former centralised planning system. Ownership reform has rehabilitated the

vigour of the Chinese enterprises. However, in China, the level of R&D and technology development is still low. Generally speaking, compared with Western countries, China is not a country with strong competence in knowledge production and new technology development. The competence of conducting R&D is still weaker, and investment in R&D remains comparatively limited. To compete with the Western countries, it is evident that more effort must be made in R&D. Within this context, importation of new technology is an important approach to upgrade the technology within most Chinese enterprises, especially these in traditional manufacturing industries. Thus, in-house R&D and self-developed technology within the small and medium sized enterprises are not really encouraged by much support from the nation's self-developed competence in technology and innovation. The prevalence of low R&D in the Hebei enterprises exemplifies the shortage of innovation competence of the country. Within the Hebei enterprises, less effort has been made in cultivating in-house R&D and self-developed technology. Although these Hebei enterprises operate in specialised industries, most of them lack the core technology that helps to develop unique advantages over their competitors.

*Limited accessibility of technology assistance and financial support*

Technology assistance and financial support are not easily accessible in Hebei. Difficulty in accessing technology assistance and financial support obstructs innovation in the Hebei enterprises. China's economic system is still evolving. Because of the changing economic system, many traditional channels of communication and relationship among government, public research institutes, and enterprises have been interrupted or altered. In the past, most enterprises in China were subordinates of certain state ministries or local governments, and

obtained information mainly from their regulators. The government then decided almost everything for them through planning. At present, China suffers from a low rate of commercialisation of new technology. Finding ways of increasing the effectiveness of technology transfer therefore has strategic implications. Barriers to technology transfer still exist, and enterprises have difficulty in accessing substantial technology information and assistance from government and research institutes. The research findings indicate that the effort made by the Hebei enterprises for the interaction with the scientific institutes is not encouraged because they cannot acquire substantial help for their innovation and technology development. Strategic co-operation between the public research institutes and enterprises is far from perfectly established.

Financial support is another obstacle. Without strong competence in in-house R&D and self-developed new technology, the Hebei enterprises rely on imported technology. However, the limited financial resources of the Hebei enterprises curtail technology transfer. As a result, less competence of in-house technology and R&D forces most of the Hebei enterprises to turn to purchasing technology from outside sources. Yet, insufficiency of financial resources fails to supply the purchase with adequate financial capital. Difficulty in accessing financial support from banks and government once again doesn't facilitate technology transfer. Most of the Hebei enterprises have no choice but to rely on their own financial resources, and they cannot sufficiently invest in technology transfer and purchase of better machinery. As a result, their purchase of new technology and new machinery is restricted, and most of the Hebei enterprises cannot behave actively towards importation of new technology and new equipment.



### *Nearsighted strategic perspectives for innovation*

The evidence from the cases shows that, for the Hebei enterprises, innovation has been associated with strategic perspectives for long-term innovation. Short-term profit return, rather than long-term innovation, is the strategic focus of the entrepreneurs and managers. For the Hebei state-owned enterprises, this strategic perspective is evidently closely tied to government policy. Pursuit of short-term profit has been used as an expedient to survive competition. It is instant profit that has been emphasised, while long-term innovation projects have received much less attention. This strategic orientation affects their innovation effort.

As has been demonstrated by the evidence, lack of strategic perspectives is another constraining determinant for the Hebei enterprises. Within the Hebei enterprises, emphasis is on instant profit return, and less strategic planning is made towards long-term innovation. According to the remarks made by the entrepreneurs from these Hebei private enterprises, profit earning and improvement of financial status are important for surviving the current intense competition. This strategic orientation to innovation has set back the intention to make a substantial investment in the innovation projects that are aimed at updating the future technology competence of the Hebei private enterprises.

As indicated by the evidence from the interviews, for the state-owned enterprises (SOEs) in Hebei, innovation is oriented to short-term profit return, rather than to long-term competence building. The local government's manager appointment policy discourages the innovation that could favour the creation of a long-term competence, because of the fact that the managers' performance is evaluated by the short-term profit return. This policy actually makes the managers reluctant to make an effort to innovate or update the technology that is aimed at long-term development

of their businesses. Generally speaking, technology transfer is a strategic measure for the company, and also constitutes a long-term project. In China, managers from state-owned enterprises generally put an emphasis on short-term performance. This may be largely due to government policy or general practices in the sense that the managers from the state-owned enterprises usually have a limited period of office. Consequently, they are interested in mature technology that can produce a short-term effect. In China, on the whole, most technology in consumer industries is 10-20 years behind that in developed countries (Liu & Liang, 2001). Even obsolete technology in developed countries can still bring some advantages compared to the technology being used in China now. Thus, for many enterprises, importing mature technology from developed countries is a shortcut that can result in fast short-term performance. In addition, some small and medium-sized state enterprises are reluctant to pay for technology transfer if no instant profit can be acquired. The evidence from the cases clearly reveals the constraint in this respect.

### *Less protective legal infrastructure for innovation*

The difference in legal infrastructure influences the innovation behaviour and effort made by the entrepreneurs and managers from the two countries. The local legal infrastructure is not so conducive to the Hebei entrepreneurs' effort made in implementing innovation and new technology. According to the evidence from the cases, less protection of intellectual property rights is revealed to be another impediment for innovation investment.

As implied by the above evidence, the lower degree of regularity in competition and market is a determinant that makes some of the Hebei enterprises less devoted to R&D and new technology, even though they have the ability to develop new products. This is because they worry about the results

of their effort made for development of new products and new technology. The possibility of illegal imitation and copy of new products encumbers the intention and the endeavour made towards R&D and new technology. As a result, the legal infrastructure contributes less protection and promotion to the innovative activities within the Hebei firms.

In China, protection of intellectual property rights is a serious obstacle for innovation. Enterprises in China have a very short history of operating in a market-orientated environment. The notion of intellectual property rights was introduced in China less than 20 years ago. Although China has passed several laws on the protection of these rights, the laws are far from satisfactory in meeting the needs of technology transfer or genuine protection. Many people, including enterprise managers, have not yet developed the concept of the protection of intellectual property rights. The laws themselves remain to be perfected. Disputes about intellectual property rights have frequently occurred in the last few years, and illegal imitation of new products and violation of brands have not been effectively put under control. Less perfection in legal infrastructure makes the Hebei enterprises that have innovation capability reluctant to make more effort for R&D and developing new products.

#### ***The major determinants of proactive risk handling behaviour***

As indicated by the evidence obtained from the cases, on proactive risk handling, there are several differences with regard to the behaviour taken by the entrepreneurs and managers from both countries. The behavioural difference in handling risks is a consequence of the impact of contextual factors and the capability and resources within the enterprises. The contextual determinants revealed in this research mainly include: business operational competence, venture capital funding and technology assistance, education system

and government support, and legal infrastructure and government localism.

#### ***The improved operational competence***

The evidence obtained from the cases clearly indicates that improving the operational competence of the Hebei enterprises has promoted their capability of proactive handling operation risks, and the Hebei enterprises have developed a competence of taking proactive measures in handling most of these risks from operation.

The free market economy in China has developed Chinese enterprises. In recent years, the world could witness the economic development in China. From an international point of view, China has become the 'factory of the world', and its progress in achieving manufacturing power has been noticeable on an international scale. The manufacturing capability of the 'factory' is based on the overall improvement of the manufacturing competence of the Chinese enterprises, although China is not a country with a strong competence of knowledge production and hi-technology, and most Chinese enterprises are engaged in manufacturing low added-value industrial products for the world. With advantages in labour cost and resources, China has indeed advantages in manufacturing industry over worldwide competitors. For example, in the traditional industry, Chinese products have a high level of price competitiveness. As China acts as a main manufacturer in the world, the manufacturing capability in this country has been substantially updated. In this context, the Hebei enterprises generally have been equipped with a considerable manufacturing capability, and they have developed a competence strong enough to effectively handle most operational risks.

Furthermore, there is a severe increase of competition in the domestic market. The Hebei enterprises struggle to survive the competition. They have to take measures to strengthen their operational competence and to ensure that their operations are free from detrimental risks. The competition

from the market has, in fact, stimulated the enterprises' pre-cautiousness against possible damage from risks so that their capability of handling operational risks is improved. Remarkably, most of the Hebei entrepreneurs begin to realise that a proper handling of production risks is a prerequisite. Due to the improvement of the operational capability, the Hebei enterprises handle most production problems in advance. Therefore, with the improvement of the operational competence in the Chinese manufacturing industry, the Hebei enterprises have made progress in proactively handling production risks. Although most Chinese enterprises in the manufacturing industry are engaged in low-level production earning limited processing fees, it is worthwhile to notice that their ability of proactively handling the production risks has been notably improved.

#### *Insufficient venture capital funding and technology assistance*

Less financial support, especially scarcity of venture capital, retards the Hebei enterprises from taking proactive measures in handling business risks. In China, the venture capital market is far less developed and the channels for financial resources are more limited. For most enterprises that intend to go public, the entrance amount is too high and the restrictions are too tight. Therefore, most Chinese enterprises, especially SMEs, are unable to access financial support from the venture market. In this developing country, lack of external financial support is a determinant hampering business development. Most Chinese enterprises have to depend upon their own financial resources or financial resources they can access – due to the fact that most Chinese enterprises, especially the SMEs, have been unfavourably discriminated by banks in applications for financial aid and due to the fact that there is financial inadequacy in Chinese enterprises, especially in those small and

medium sized enterprises. Risk capital from formal venture investors can scarcely be found. Meanwhile, underdevelopment of the system of informal venturing capital in this country makes financial assistance even less available. What makes matters worse is that within the Hebei enterprises, the financial support provided by the government is very limited, and risk capital supplied by the government is rare. In fact, the Hebei enterprises have not much access to financial support. Therefore, insufficiency of financial supply and limited accessibility to risk capital obstruct these enterprises from handling these risks effectively. Moreover, to stabilise the financial environment, the central government in China has taken serious measures to control the informal financial investment. Rigidity of the policies discourages effective utilisation of financial resources in society, and absorbing these financial resources becomes even more difficult.

Technology assistance is another major determinant that influences the behaviour of handling the technology-related risks. For the Hebei enterprises, less technology assistance has impeded utilisation of proactive measures in handling this risk.

Although notable improvements have been achieved in the Chinese manufacturing industry, China is not a country with a strong capability of knowledge production. For many years, China's expenditures for R&D have been far behind the averages of the United States and the EU countries. For most Chinese enterprises, R&D transfer or importation of new technology is the main source for their technology update. However, the fact that less effectual help in terms of R&D transfer and technology diffusion has been available from the external research institutes restrains most Chinese enterprises from effectively solving technology-related risks and problems. Thus, less strength of R&D and technology development in China not only results in the low-level industrial production that most of Chinese manufacturers are engaged in,

they also retard the enterprises' competence to effectively handle technology-related risks as well. What is more, most of the Hebei enterprises operate in a situation in which their capability of in-house R&D is weaker and technology storage is more limited. Their capability of new technology development is not strong enough to be technologically proactive. Thus, they have difficulties in proactively controlling risks from introducing new products and new technology – even though they can foresee these risks and their possible impact. As a result, those unfavourable conditions make most of the Hebei enterprises unable to proactively handle technology related risks, especially when new technology is introduced in these enterprises. They handle the risks passively, and their measures taken are reactive rather than proactive

*Less effective educational system and limited government support*

The current education system and less government support for education are determinants constraining the Hebei enterprises from taking proactive actions against the risks from shortage of personnel expertise. Most of the Hebei enterprises lack a long-term perspective for the education and knowledge storage needed for future competition.

Labour supply is an essential part of the business environment for small, medium sized and large enterprises. The availability of appropriately skilled workers will always be significant for all kinds of enterprises, and if enterprises face problems in obtaining a sufficient labour supply, there will always be a risk that will hamper the growth of the enterprise. In the current competitive and complex economic environment, human capital is increasingly recognised by both countries and by business organisations as a key engine for growth and competitiveness. Although the Chinese government has realised the importance of education to the national competitiveness, and has claimed to promote education many years before,

substantial actions have not been made till late 1990s.

The Chinese educational system was established on a Soviet model, and the problems caused by the planned economy also exist in Chinese education, especially in its higher education. Additionally, the Chinese education has been experiencing a shortage of investment. Lack of finances has been a problem constraining its development. In the late 1990s, the Chinese Educational Ministry reformed the system of entrance examinations for higher education, which was in service for more than 30 years. Since the early 1990s, the Chinese universities have enrolled many more students than in previous years. The consequences of this system reform for the overall society were a topic among the Chinese academia. The often-heard criticisms include expensive expenditure in higher education, reduction in the quality of education, and prevalent unemployment of university graduates. However, large enrolment has provided the Chinese higher education system with much more financial resources than before; it has ostensibly supplied the domestic labour market with more adequate higher educated human resources.

As a consequence of the educational reform, the higher education in China has become industrialised. The higher educational structure, to some extent, has been re-oriented towards profit hunting, and there is less consideration of the actual demands from the Chinese enterprises, let alone the shortage of expertise badly needed to gain momentum for the future competition of this country. As a result of this education policy, the higher education system has lost its proactive considerations in preparing qualified graduates that are demanded by the enterprises. Therefore, the enterprises are short of technicians with special expertise, and graduates who are not really needed by the enterprises continuously graduate from universities, despite the difficulties in finding suitable jobs.

What is more, the education in this largest developing country cannot really play a role in promoting the skill and qualification of the overall labour force. Few education and training programmes within the manufacturing industry have been initiated to update the qualification and skills of the labour force. Obviously, the educational conditions in Hebei or in China are not contributory to the improvement of knowledge competence building. In addition, due to the insufficiency of finances and the entrepreneurs' reluctance to make investments for necessary education, the employees in most of the Hebei enterprises have been provided with limited education and training. Within this context, the current production of the Hebei enterprises is carried out by a labour force that actually lacks substantial skill training and qualification improvement. Seeing the surplus in labour market, the Hebei entrepreneurs and managers are less active in taking actions to improve the skills and the knowledge of the employees in their enterprises – although they have noticed that their production has been impeded by a shortage of special expertise. Due to the lack of perspective of long-term development, the Hebei enterprises are reactive towards risks from shortage of personnel with expertise. Therefore, the 'nearsightedness' of the Hebei entrepreneurs and managers neglects the necessity of improving the skills and qualifications of their employees – the ostensible excessive supply in the labour market encourages their passiveness in handling the risk from shortage of technical expertise. To make matters worse, the industrialised higher education in China is less helpful to improvement of skill and qualification and building up future knowledge-based competitiveness of the country.

*Less supportive legal infrastructure and detrimental government localism*

Legal infrastructure and government localism are exposed in this research

to be the determinants that hinder the Hebei entrepreneurs from taking proactive measures in handling business risks. Less protection from the legal infrastructure and abuse of government localism makes proactive measures taken by the Hebei enterprises less effective in handling risks like illegal infringements, payment delay, and business fraud.

In China, the legal infrastructure is established with Chinese characteristics. The Chinese authorities have set up laws and regulations to create regularity in the market and competition in the past years – these laws and regulations have given direction and supervision to the operation of the Chinese enterprises. Over legally compulsive issues, the Hebei enterprises can proactively handle the risks from changes of laws and regulations because of the dominant position of the central government.

Localism, however, still exists as a determinant destructing the legal infrastructure in China. Prior to the economic reform in 1978, China had a highly centralised fiscal system. All the tax revenue collected had to go to the central government first. The planning commission of the central government had the authority to decide the expenditure of the local governments and allocate revenue from the central pool. Such a system separated tax revenue and expenditure at the level of local governments, and provided little incentive for local protection or even local production. Since 1978, fiscal decentralisation has been introduced, which allows the local governments to retain a percentage of the revenue collected, and therefore provides them with a strong incentive to protect local industries.

The decentralisation has, indeed, made remarkable achievements in speeding up local or regional economic development, but for the meantime it has stimulated the awareness of localism as well. Protection is not carried out by imposing tariffs or setting quotas on inter-regional trade, but

rather by administrative decrees that are designed ostensibly for other purposes. Thus, some laws and regulations made by the central government have been executed with discount. For example, the Chinese central authority has stressed protection of intellectual property by promulgating a number of laws and regulations. But the effect of these laws and regulations is far from being perfect. This is because some local governments have their own considerations to protect regional economic development and local interests. These considerations produce, to some extent, indulgence of the irregular activities committed by the local enterprises. As a result, the consideration of the local interest harms fairness of nationwide competition, and thus the laws and regulations cannot completely enable regularity and fairness to be established in market and competition.

Irregularity in the market and in the competition is intractable. The legal infrastructure fails to protect competition and business operations. In this environment, intellectual property cannot be seriously respected by competitors, and brand violation and illegal copy are not rare among competitors in the same industry. Price war is often employed by competitors to get the upper hand. Marketable products are vulnerable to vicious imitation. What is more, the irregularity in the legal infrastructure, to some extent, results in invalidity of the proactive measures taken against the possible risks like fraud or dishonesty in business transactions; the irregularity in the market and in the competition makes business operating more risky and more difficult. Within a legal infrastructure with Chinese characteristics, the Hebei enterprises are unable to handle risks from violation of brand in advance, despite the fact that all of the Hebei enterprises can anticipate such risks. Consequently, the defective legal infrastructure in Hebei or even in China is detrimental to the development of Chinese enterprises as a whole.

***The major contextual determinants of management professionalisation*** From the research findings, it is obvious that some contextual determinants constrain or support the behaviour and effort made for management professionalisation in the Hebei enterprises. The major contextual determinants prove to be: economic reform policy and economic system, strategic perspectives towards an unpredictable market, government policy on manager appointments, professional infrastructure and the managerial competence of the firm.

#### *Constructive economic reform policy*

The economic reform in China is one of the greatest events that have significant influence on the Chinese economic structure. Although the economic reform has been accomplished in a gradual and moderate manner, the enterprise system reform conducted in late 1990s has had a profound impact on the management structure of Chinese enterprises – especially on small and medium sized enterprises. With an earnest intention to improve the performance of Chinese enterprises, the Chinese government adopted a policy to reform the current enterprises system. While keeping large enterprises under state control, the Chinese government decentralised the management authority and even privatised the ownership of small and medium sized enterprises. The ownership reform, which was carried out to privatise numerous small and medium sized enterprises, allowed for an upgrade of their management system.

For the entrepreneurs and managers from small and medium sized enterprises, change of ownership has aroused a stronger sense of responsibility for their businesses; thus more consideration has been given to strategic development, production effectiveness and efficiency, financial performance and so on. It is rational to see that the economic reform has agitated the endogenous motive of these entrepreneurs and managers from

private businesses to employ professional measures in management.

*Nearsighted strategic perspective on an unpredictable market*

'Nearsightedness' in strategic perspectives concerning an unpredictable market is an obstacle to the professional management of the Hebei enterprises. The economic reform in China instilled dynamics in the market and revitalised the enterprises. The current market competition is more severe than what most of the Chinese enterprises experienced in the initial stage of the reform. Nevertheless, the 'Socialist Market Economy' policy, which has influenced the Chinese economic reform substantially, was promulgated less than 10 years ago. A lot of improvements have to be made to the business environment and the market competition, and more regularity is expected from Chinese business activities. The dynamic and less orderly environment provides Chinese enterprises with opportunities while at the same time it creates confusion. In face of the market dynamic, the enterprises do not like to lose business opportunities, and they make efforts to exploit the possible profit. Confronted with increasing competition and a less regular market, some enterprises do not have a clear view of their strategic orientation towards an unpredictable market and competition. Although the Hebei entrepreneurs and managers from private enterprises intend to regulate a strategy, and effort has been made in this respect, in practice, opportunistic performance is more than perseverance in long-term development, and short-term profit is more emphasised than strategic development. 'Nearsightedness' in strategic perspectives and a decreased capability to conduct long-term strategic development are never contributory to professionalisation in strategic management. Within this context, the Hebei enterprises cannot completely have strategic management

conducted with involvement of more professional measures.

*Less perfect professional infrastructure*

Lack of professional infrastructure is another determinant constraining professional management in the Hebei enterprises. Although economic reform has been carried out for decades in China, and much improvement has been made to the economic infrastructure, the economic infrastructure in this country is not developed to a level at which professional assistance can be made easily available. Less availability of assistance from professional organisations retards professionalisation in management of the Hebei enterprises. As demonstrated by the research findings, deficiency of professional consultant agencies, which can provide professional information on market and business environment and solutions of management problems, retards the progress of professional management. Scarcity of useful information about market trends and environment changes restrains, to some extent, professional practice in strategic management. In some Hebei enterprises, strategic decisions are made on a basis of individual discretion rather than a conclusion achieved through professional methods. Shortage of management institutes makes the Hebei enterprises finding solutions of management problems difficult, and their production cannot be completely regulated through professional measures that can further improve the efficiency and quality. Additionally, the help from the government and from professional trade associations is not adequate and substantial enough to meet the demands of the Hebei enterprises that intend to enter the international market, and there is less professionalisation in marketing management. Conclusively, less available help from the current professional infrastructure in China and in Hebei impedes the utilisation of more professional measures in Hebei enterprises.

*Weaker managerial competence within the Hebei enterprises*

A lack of managerial competence is, of course, another major obstacle that restrains professional measures from utilisation in the Hebei enterprises. In the era of a former centralised economy, Chinese enterprises operated by following the former Soviet model, the production of most Chinese enterprises was not conducted to meet the market demand, but followed a government plan. Within the planned economy system, Chinese state-owned enterprises lacked flexibility in the marketplace; they did not develop the competence to compete in a free market economy. Moreover, the state-owned enterprises are national property; their managers do not have any real authority to change the stereotyped management structure. Thus the management system remained without fundamental changes or improvements until the economic reform was made.

Compared with international standards, the Chinese state-owned enterprises are notorious for their low efficiency, high production cost, and lower profit return. Management improvement and technological innovations have been slack. Besides, the state-owned enterprises in the machinery industry are characterised by outmoded management, obsolete or obsolescent technology, and long production cycles. Due to low-skilled labour, stereotype management and obsolescent technology and equipment, it is difficult for the state-owned enterprises to develop and manufacture new profit-earning products. Their inventories have been on the rise, causing a slow turnover of capital. Moreover, the state-owned enterprises owe debts to each other, making the shortage of capital increasingly severe, and employees are redundant in most state-owned enterprises. Broadly speaking, most of the state-owned enterprises are characterised by less improved management, obsolete

technology and weak market competence. Therefore, the private enterprises that have transformed from the state-owned status actually have not received much 'heritage'. Instead, they have to make efforts to get rid of the problems that have accumulated during the period of planned economy. The research findings clearly show that noticeable progress has been made in the management professionalisation of the Hebei enterprises. However, improvement is still expected. The Hebei enterprises, for example, still have difficulty in completely adopting professional measures in their management, especially in technology management and strategic management. Their management capability is challenged by the problems, either unsolved or recently created. Compared with Western countries, China does not have a long history of market economy, and the Chinese enterprises still need time to develop their capability to cope with the competition triggered by the economic reform.

Conclusively, the empirical evidence revealed in this research indicates that Chinese economic performance has profound impacts upon the performance of the Hebei enterprises. The contextual determinants come from the external and the internal. Through economic reform initiated more than 20 years ago, the performance of the Hebei enterprises are oriented to market demand. The market competition pushes these Hebei enterprises to improve business operational competence, and their progress achieved in production management and proactive handling the risks from operation is noticeable. Therefore, economic reform policy and improvement on business operational competence are the only two determinants revealed to encourage the Hebei enterprises to take active actions in proactive risk handling and management professionalisation.

However, the entrepreneurship contextual conditions in Hebei are not so favourable, and the empirical evidence



shows that a great improvement is expected in order that the problems regarding to lower level of R&D capability, difficulty in accessing technology assistance and financial support, strategic perspectives for innovation, and less protective legal infrastructure can be solved. In fact, these determinants greatly obstructed the innovation effort made by the Hebei enterprises.

The contextual determinants influencing Hebei enterprises' proactive risk handling are revealed to be venture capital funding and technology assistance, education system and government support, and legal infrastructure and government localism. The major contextual determinants for the performance in the dimension of management professionalisation prove to be: strategic perspectives towards an unpredictable market, government policy on manager appointments, professional infrastructure and the managerial competence of the firm.

Due to the less effective and less encouraging contextual conditions, the Hebei enterprises have been retarded to make remarkable performance within the 3D of EO, especially in the dimension of innovativeness, the lack of in-house R&D and self-driven development make the Hebei enterprises difficult

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