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The relevance of business school curricula and the skill sets developed in graduates are of particular importance for economies that are in transition from one economic regime to another (Bennis & O'Toole, 2005; Ghoshal, 2005; Narayanan, Olk & Fukami, 2010; Pfeffer & Fong, 2002). For example, since China initiated economic reforms in 1979, its economy has been transformed from a centrally planned economy to a socialist market economy. In the early years of the transition, the economic changes were gradual. However, after China's entry into the



World Trade Organization (WTO) in 2001, the pace of change accelerated as the economy became more integrated with the world economy.

Economic changes in China have been significant. China became the world's second largest economy in 2010 with a GDP of \$5.88 trillion and a growth rate of 9.8 percent (Cha, 2011). The private sector now accounts for about 60 percent of GDP. These economic changes have created huge demands for intellectual and human capital among Chinese business enterprises. However, a study by the Adecco Institute and the Shanghai Academy of Sciences concluded that China has shortages in five key areas: management talent, English language skills, R&D personnel, senior and secondary skilled workers, and holders of professional certificates (Hawser, 2008). Ketter (2008) also reported that shortages of skilled people existed, particularly at the leadership level. The institutions of higher education in China, particularly business schools, will need to address the acute shortage of well-trained managers and produce enough graduates to meet the needs of business.

Building on extant theory from the social sciences, we tested a model of knowledge, skills, and abilities (KSAs) that has been relevant in developing leadership skills, enhancing managerial effectiveness, and improving team performance. Data were collected at two different points in time: in 2001 as China entered the WTO and again in 2006. Therefore, the study provides a view over time of the changes in graduates' perceptions of the importance of managerial characteristics in the Chinese market economy.

The contributions of the study are the following: (1) it traces how broader macro-economic transitions necessitate changes in business curricula and the requisite skill sets to meet the needs of the economy, (2) it identifies a set of KSAs that contribute to managerial effectiveness in a market economy, (3) it assesses the perceived importance of these KSAs among business school graduates, both at the time of China's entry into the World Trade Organization (WTO) as well as five years after entry, and (4) it identifies KSAs that may warrant greater emphasis in the educational process, and also highlights other KSAs where the educational process appears to have been successful.

The next section of the paper provides a literature review. That section is followed in sequence by the conceptual model and descriptions of the KSAs with their proposed relationships. A discussion of methods, the sample, and the constructs and data collection follows. The results, discussion and implications sections comprise the final segments in the paper.

Literature Review

China's economic transition has been from a centrally planned economy to a socialist market economy where all forms of property (state-owned, collective and private) co-exist. At the same time, the state has maintained a prominent role in many sectors of the economy. This transition from a centrally planned to a socialist market economy has brought concomitant changes in the institutions that established the 'rules of the game' for business behavior (Meyer & Rowan, 1977; North, 1990; Scott, 2001). These institutional changes affected economic transactions by altering the political, social and legal rules governing exchanges between entities. Managers of companies operating in the transitional economy needed new and different competencies to be effective. Consequently, the KSAs required for individual managers and business school graduates in China's socialist market economy also changed and evolved over time.

Economic Transitions and Institutional Changes in China

As China transitioned from a centrally planned to a socialist market model, both formal and informal institutional mechanisms evolved and changed (Child & Tsai, 2005; Tan, Yang & Veliyath, 2009), thus creating uncertainty regarding established rules and standards. During the transition process, China followed a principle of 'pragmatism', balancing the pace of reform with the need to maintain social stability (Lin, 1998; Tan, 2005). Due to sensitive political and social considerations, institutional reforms were non-linear, often displaying a mix of progress and regression (Nee, 1992; Nolan, 1995). In the early stage of transition, the state dominated economic activity and its functions. The formal, regulatory institutional mechanisms that supported a market economy such as property rights, company and contract laws and legal frameworks for managing and settling disputes were either nonexistent or just evolving. As the state gradually relinquished its role, the institutional authority structure was in flux and economic exchanges became more market-based rather than based on central mandates. There was an increasing presence of private firms, collectively owned firms, and multinational joint ventures, in addition to the traditional state-owned enterprises (SOEs).

The broad stages of economic transition, the characteristics of the economic system in evidence during each stage, the predominant transactional mechanisms employed, and the corresponding sets of KSAs and competencies required of Chinese managers and business school graduates are shown in Figure 1.



Figure 1^a
**China's Stages of Economic Transition with Accompanying Characteristics,
 Transactional Mechanisms and Relevant Individual Level Managerial Skills,
 Abilities, and Competencies**

Stages of Economic Transition	Characteristics of Economic System	Transactional Mechanisms	Individual Skills, Abilities, and Competencies
<i>Initial Stage</i> : (1979 to late 1980s): Gradual and progressive opening up of the economy.	Dominant central planning; Heavy State (SOE) ownership and presence in economy.	Top down administrative fiat; Assigned quotas	Conformity; Obedience; Loyalty
<i>Second Stage</i> (Early 1990s to late 1990s): Mixed dual mode economy with faster private sector growth; Increased pace of transition.	Emergence of market oriented private sector; Increased presence of private enterprises and MNCs; Privatization of SOEs; Controlled market economy.	Access to scarce resources based on connections; Guanxi; Greater experimentation with contracts and joint ventures	Connections; Guanxi; Opportunism overtakes conformity
<i>Third Stage</i> (Late 1990s onward): Economic functioning based on market principles.	Establishment of legal and regulatory frameworks; Greater reliance on Market institutions; State relinquishes control of economy.	Reliance on market mechanisms; Arms length contracts; Greater transparency	Adaptability; Business acumen; Communication skills; Entrepreneurial behavior; Social motivation skills

^a Adapted from Tan, Yang and Veliyath (2009)

Initial Stage (from 1979 to the late 1980s). During the initial stages of economic transition, multiple systems of business ownership (i.e., existing SOEs, along with a nascent private sector) and governance co-existed (Boisot & Child, 1996). This stage was characterized by: (1) the absence of a legal framework for property rights and (2) the lack of a stable political structure (Peng & Health, 1996). Private enterprises survived with difficulty since they were operating without legal status and at odds with official Marxist ideology.

There were several significant events that helped to set the stage for the market transition. In 1982, constitutional amendments decreed that the rights of self-employed individuals should be protected (Dong, 1999, p. 416). Then, the Private Enterprise Law (approved in 1988) referred to self-employed individuals and private enterprises as 'useful supplements' to socialist public ownership (Dong, 1999, p. 417). In that same year, the State Council released the 'Tentative Stipulations on Private Enterprises', which defined a private firm as a for-profit organization that was owned by individuals and employed more than eight people (Chen, 2007).

In this initial stage, central planning continued to be emphasized. Economic exchanges were based on administrative orders and production quotas were assigned to SOEs. As a result, the important KSAs for managerial success were conformity to party philosophy and principles, obedience to authority, and loyalty to mentors and superiors (as shown in first row of Figure 1). Market oriented managerial skills were not required and there were few business schools in existence during this early phase of transition.

The period between 1988 and 1992 was characterized by political turmoil and overshadowed by the events of the Tiananmen Square protests and crackdown in 1989. During this period the pace of economic reform slowed down.

Second Stage (early 1990s to 1997). Deng Xiaoping's 1992 call for the deepening of the market transition (Chen, 2007) and the release of proposals on 'promoting the development of individual and private enterprises and the company law' in 1993, promoted an increasing presence of privately owned businesses as well as the entry of multinational corporations (MNCs) into many economic sectors. There was a greater reliance on contracts and joint venture organizational arrangements between SOEs and private businesses (mainly MNCs) during this phase, as shown in Figure 1.

However, since institutional arrangements to ensure the effective operation of the market system were not fully in place and there was still heavy government interference, managers were compelled to rely on their political connections or *guanxi* to obtain approvals and permits, to access critical resources, and to complete their transactions. However, as the presence of private businesses increased, individual initiative and opportunism began to overshadow conformity and loyalty as required managerial skill sets. Business schools were set up in collaboration with Western business schools and Western curricula were adopted. At the same time, there was a continuing emphasis on traditional content and pedagogical philosophy that were holdovers from the state planned economic system.

Third Stage (1997 and later). The Fifteenth Party Congress proclaimed nonpublic ownership as an important component of China's 'socialist market economy' in 1997. Thus the third stage of China's economic transition began and the growth of private enterprises accelerated as China's entry into the WTO in 2001 approached.



Motivated by WTO entry requirements, the central government expedited the establishment of a legal system to support the effective operation of the market economy. There were several positive events during this period: (1) an increasing number of Chinese citizens began using the legal system to resolve disputes, (2) there was a large increase in the number of professional law firms in China, (3) progress was made in establishing commercial statutes (required for China's entry into the WTO), and (4) a regulatory framework and related legislation covering many spheres of economic activity were established (Child & Tse, 2001). All businesses, including private companies, MNCs, and SOEs began to execute economic transactions based on market-principles and arms-length transparent contracts.

The managers of Chinese companies were now increasingly competing with more knowledgeable and sophisticated MNC managers from all over the world. Market oriented skills such as *entrepreneurial behavior, communication skills, adaptability, social motivation skills, and business acumen* became necessary requirements for managers and for business school graduates (see Figure 1).

Knowledge, Skills and Abilities (KSAs) Required for Success in a Market Economy

Under the planned economy, there was little need for the 'discipline' of management, and government-funded universities did not focus on teaching the skills needed to function successfully in commercial enterprises. The majority of higher education institutions in China did not equip their students with the managerial, financial, academic, and technical expertise required for contributing to economic stabilization and long-term growth (World Bank, 1997). Instead, the educational system emphasized conformity and rote learning (Redding & Witt, 2009).

With the transition to a market economy, China needed managers who understood market-based management techniques (Zimmerman & Fey, 2001). To meet this critical demand, Chinese authorities permitted the top Chinese universities to collaborate with Western institutions to offer state-approved MBA programs (Thompson, 2002; Lavelle, 2006). As a result, Chinese business curricula changed substantially during this current stage of economic transition.

For this study, Western as well as Eastern studies were reviewed and the most important knowledge, skills, and abilities (KSAs) for the Chinese market economy were identified as: *entrepreneurial behavior, communication skills, adaptability, social motivation skills, and business acumen*.

Entrepreneurial Behavior. Churchill (1992) defined entrepreneurship as the process of uncovering and developing an opportunity to create value through innovation and

seizing that opportunity without regard to either resources (human and capital) or the location of the entrepreneur in a new or existing company. Corporate Entrepreneurship is defined as a means of accumulating, converting, and leveraging resources for competitive purposes (Floyd & Woodridge, 1999), and developing and using product, process and administrative innovations to rejuvenate and redefine the firm and its markets or industries (Covin & Miles, 1999). Thus, entrepreneurial behaviors may be exhibited in both well established firms as well as in start-ups.

As China's economy transitioned from a planned economy to a market economy, entrepreneurial behavior in both new and existing firms became a necessity (Tan & Tan, 2005). Entrepreneurial behavior has been associated with the success of leading Chinese private firms and has contributed to China's overall economic success (Cooke, 2008; Li, Zhang, & Matlay, 2003). For example, small- and medium-sized enterprises account for 75 percent of new jobs nationwide (Loyalka & Dammon, 2006). In most of these firms, entrepreneurship has played an important role (Daokui, Fent, & Jiang, 2006).

Much research has focused on the attributes of successful entrepreneurs and the importance of preparing individuals with entrepreneurial competencies (e.g., Carland & Carland, 2010; Ahmad, Halim, & Zainal, 2010). Among the entrepreneurial traits most mentioned are: high achievement motivation, need for control, internal locus of control, autonomy, independence, assertiveness, self-confidence, initiative, optimism, imagination, persistence, single mindedness, decisiveness, competitiveness, a propensity for risk taking, a tolerance of ambiguity, tenacity and passion (Baum & Locke, 2004; Cromie, 2000; Deakins, 1999; Koh, 1996; Teoh & Foo, 1997). Confucianism, the alternative major philosophical doctrine in China, encourages continuous self-improvement, hard work and diligence, all of which seem to have a substantial impact on entrepreneurial reasons and motives (Pistrui, Huang, Oksoy, Zhao, & Welsch, 1999).

Communication Skills. Communication is the process by which information about policies, procedures, finance, and customer feedback is conveyed to others in organizations (Vandenberg, Richardson, & Eastman, 1999). It is the process by which people interactively create, sustain, and manage to explain 'the how' of activities (Dainton & Zelle, 2005, p. 2). As such, communication skills may be the most important skills required for managers to get their ideas across, resolve conflicts, persuade and influence others and to rise in the corporate ranks (Berry, 2010). Communication (oral expression, presentation, and written communication) was one among 12 identified 'super-competencies' (Dulewicz, 1994). Communication skills have been ranked highly in many studies of Western management KSAs (Acar, Guo, & Saxton, 2007; American Institute of Certified Public Accountants, 2009; Ellis, 2008; Gillard & Price, 2005). With advances in technology, diversity, and globalization, it



has become increasingly important for managers to be able to communicate effectively (Linstead, Fulop, & Lilley, 2004).

English is accepted as the language of international business and the Chinese view English both as a means to interact with the outside world as also the means to accessing Western scientific knowledge and technological advances (Shaobin, 2002). As a result, Chinese students study oral and written English in school starting in elementary school and it is a compulsory subject in college entrance examinations (Shaobin, 2002). There is a trend toward hiring Chinese nationals for managerial positions in multinational corporations for their language skills, local contacts, and understanding of domestic markets (Roberts & Arndt, 2005). The competition for top jobs is intense and a premium is given to English-language skills (Hadi, 2008).

Adaptability. Adaptability, which has also been linked to personal flexibility (Goodman, 1994; Herr, 1992), is defined as a repertoire of skills and cultural competencies that relates to a person's ability to master change and cross-cultural migration influenced by the global economy (Goodman, 1994; Herr, 1992). Adaptability is critical for success in a fast-changing global economic environment. Adaptability has been described as a meta-competency by Baird and Griffin (2006) and can be developed through learning and practicing three different types of flexibility: cognitive, emotional and dispositional (Calarco & Gurvis, 2006).

The five-factor model of personality (Judge, Bono, Ilies & Gerhardt, 2002) includes openness to experience as a key personality trait. Openness to experience is the disposition to be imaginative, nonconforming, unconventional and autonomous (Judge et al., 2002). It represents the tendency to be creative, imaginative, perceptive and thoughtful (Judge & Bono, 2000). Openness has been linked to intellectual flexibility and risk taking (Peterson, Smith, Martorana & Owens, 2003) as well as divergent thinking (McCrae, 1987). Open individuals have a strong need for change and are better able to understand and adapt to others' perspectives (Costa & McCrae, 1988). Openness taps many of the same personality traits as adaptability. Thus, openness to experience and adaptability are highly linked.

Social Motivation Skills. Emotional intelligence (EQ) is the ability to be aware of one's own feelings as well as others' feelings, to differentiate among them, and to use the information to guide one's thinking and behavior (Salovey & Mayer, 1990). EQ includes the following five dimensions (Rahim, Psenicka, Polychroniou, Jing-Hua, et al., 2002; Connolly, 2002): self-awareness, self-regulation, and motivation (all of which are cognitive and internal to the individual), as well as empathy and social skills (which are other directed and are applicable in group settings).

Black, Morrison, and Gregersen (1999) proposed 'emotionally connecting with other people' as an important characteristic of effective global leaders. Emotionally

connecting with others involves a sincere interest in and concern for others, a heightened ability to listen and a deep capacity to understand different viewpoints (Morrison, 2000). Task-related social interaction skills pertain to an understanding of how to interact with other people, the ability to manage these other people and how to accomplish organizational tasks in social settings (Insch, McIntryre and Dawley, 2008). A number of previous studies in the Chinese context have also identified leadership and team-building skills as important competencies (Gao & Li, 2004; Qiao & Wang, 2009; Stivers, Adams, & Liu, 2007; Wharton, 2009).

We propose social motivation skills as a skill set combining internal cognitive skills with social skills. Social motivation skills enhance an individual's ability to accomplish tasks in team or group settings, and will be required by Chinese business graduates in an increasingly international, market-oriented Chinese economy.

Business Acumen. Business acumen, a critical leadership skill for today's managers, is the ability to acquire and leverage human, financial, informational, physical, and technological resources to accomplish the organization's strategic mission (O'Brien & Ferris, 2009). It includes competencies in financial management, human capital management, and technology management, in addition to being able to exploit the organization's physical assets (op. cit.). Business acumen includes an understanding of how strategies, decisions, and actions interact to impact the overall performance of the organization (Obrien & Ferris, 2009). Business acumen also involves the ability to manage people, execute strategy, generate revenues, maximize assets and acquire capital to successfully run a business (Kaplan, 2006, p. 48).

Both Brake (1997) and Connor (2000) have noted the importance of business acumen for global leadership. Brake (1997, p. 44) proposed three leader characteristics: (1) business acumen, (2) relationship management, and (3) personal effectiveness. Thus, there is a critical need to understand more about business acumen, a necessary competency for develop global leadership skills.

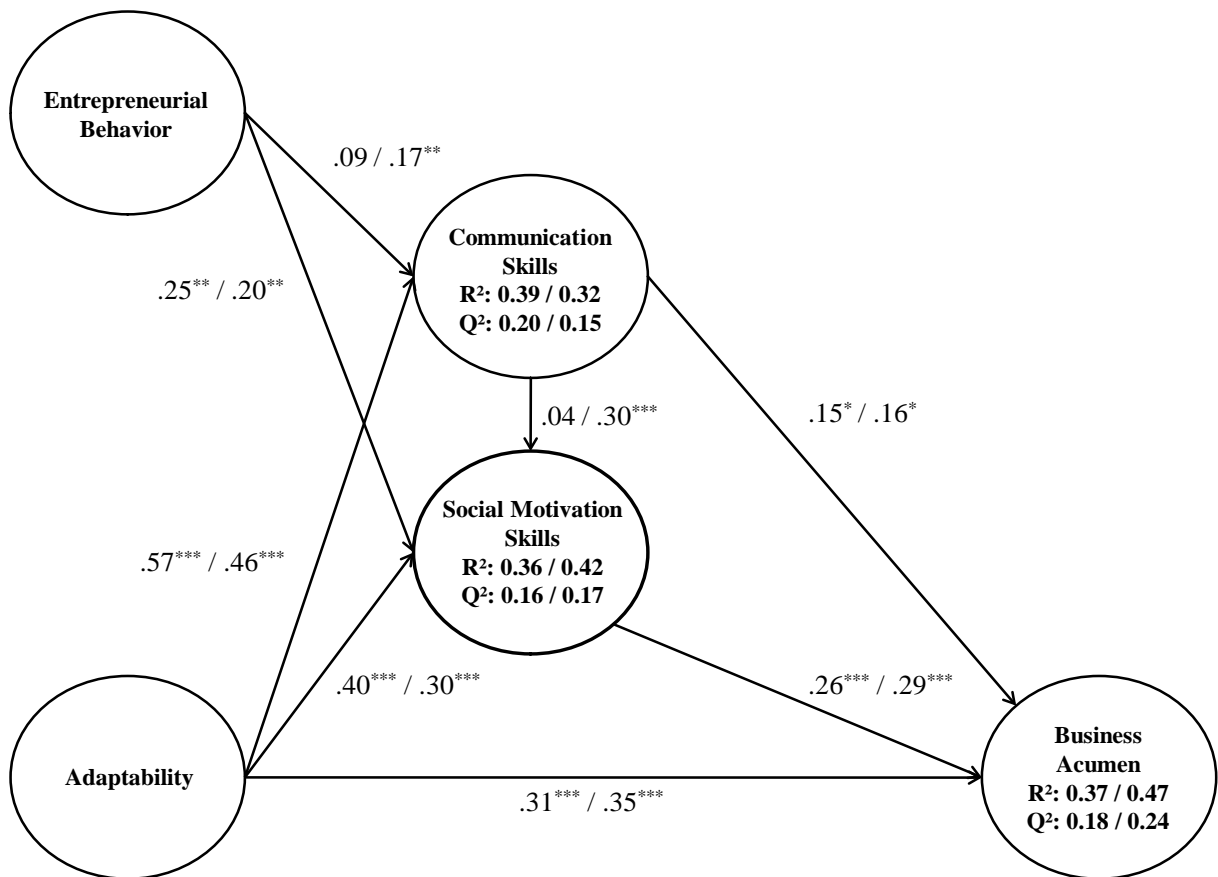
Global economic trends are converging to increase the importance of business acumen in leadership. Prince (2008) suggested that we can expect research in the area of business acumen to increase and, that it will increasingly impact leadership development. Management programs that help develop leaders with business acumen (along with other skill sets) are being developed by best practice organizations (Giganti, 2003; Intagliata, Ulrich, & Smallwood, 2000). Such leaders will have the requisite skills and competencies to manage organizations in complex, diverse, and uncertain global business environments. To date, very little empirical research has examined the presence of business acumen, (a critical competency in the market economy) among Chinese managers.



Model and Relationships

A theoretical model of the relationships between the KSAs is proposed for Chinese business majors. The constructs in the model are: *entrepreneurial behavior*, *communication skills*, *adaptability*, *social motivation skills*, and *business acumen*. The theoretical model including the latent variables, path coefficients and explained variances for the latent constructs is shown in Figure 2.

Figure 2
The Knowledge Skills and Abilities Model¹



¹Path coefficients for 2001/2006 are provided along the linkages.

*** sig. at 0.01

** sig. at 0.05

* sig. at 0.10

Figures in parentheses within the circles indicate the endogenous constructs' R-squared as well as Q-squared values for 2001/2006 respectively.

Proposed Relationships

The exogenous variables in the model were entrepreneurial behavior and adaptability. The endogenous variables were communication skills, social motivation skills and business acumen. The model was obtained through an iterative procedure involving several stages. Our model primarily builds on global leadership skills which have been proposed by multiple scholars (Black, Morrison & Gregersen, 1999; Brake, 1997; Bueno & Tubbs, 2004; Connor, 2000; Morrison, 2000). When discussing global leadership skills, these authors have discussed adaptability, communication skills, entrepreneurial behavior, social motivation skills and business acumen, all of which are examined in our model.

Connor (2000) suggested six characteristics of global leaders: (1) business acumen; (2) personal influence and communication skills; (3) global perspective; (4) strong character, (5) motivational and inspirational skills (social motivation), and (6) entrepreneurial behavior. Since both entrepreneurial behavior and communication skills are listed in the above attributes, we propose:

P1a: More entrepreneurial behavior will be associated with better communication skills.

In addition to entrepreneurial behavior, Connor (2000) also proposed *social motivation skills* as being an essential characteristic among global managers. Brake (1997) mentioned entrepreneurial spirit as a component of business acumen, in addition to influencing, negotiating and community building (which are all tied in with social motivation skills). Thus, entrepreneurial behavior and social motivation skills are related and we propose:

P1b: More entrepreneurial behavior will be associated with improved social motivation skills.

Adaptability and openness are associated with greater leadership and with being able to make better decisions (LePine, Colquitt, & Erez, 2000), as well as with achievement (Griffin & Hesketh, 2005) and performance (Parent & Levitt, 2009). These characteristics of leadership skills are also closely associated with communication skills. Brake (1997) argued that curiosity and learning, improvisation and thinking agility (all components of personal effectiveness and linked to adaptability), as well as communication skills (a component of relationship management) are global leadership characteristics. Thus, we propose:

P2a: Greater adaptability will be associated with better communication skills.

Black et al. (1999) posited both inquisitiveness (related to adaptability) and ‘the ability to establish emotional connections’ (related to social motivation skills) as characteristics of global leaders. Likewise, Brake (1997) argued that curiosity, learning, improvisation and thinking agility (all components of personal effectiveness and which are all also linked to adaptability), as well as influencing, negotiation and community building (all



of which are tied in with social motivation skills) are characteristics of global leadership skills. Thus, we propose:

P2b: Greater adaptability will be associated with improved social motivation skills.

Brake (1997) also proposed that curiosity and learning, improvisation and thinking agility (all components of personal effectiveness and which are also linked to adaptability) as well as business acumen are all global leadership characteristics. Likewise, Black et al. (1999) proposed that inquisitiveness to learn (related to adaptability) as well as global business know-how (related to business acumen) are characteristics of effective global leaders. Thus, we propose:

P2c: Greater adaptability will be associated with improved business acumen.

Communication skills are of crucial importance for a modern commander-in-chief to be efficient and successful (Ropski, 2008). Interpersonal competence is also closely tied to the commander's communication abilities. Bueno and Tubbs (2004) identified the following important global leadership competencies: communication skills, motivation to learn, flexibility, open-mindedness, respect for others, and sensitivity. The last two competencies of respect for others and sensitivity are both related to social motivation skills. Additionally, in Connor's (2000) suggested six characteristics of global leaders, both communication skills and social motivation skills are included. Thus, we propose:

P3a: Improved communication skills will be associated with improved social motivation skills.

Brake (1997) posits both cross cultural communication skills as well as business acumen as being critical global leadership characteristics. The Aspen Institute Business and Society Program's new model for business leadership identified both communication skills and value-based decision making (an aspect of business acumen) as important skills (McGraw, 2005). Connor (2000) also proposed that both communication skills as well as business acumen as characteristics required among global leaders. Thus, we propose:

P3b: Improved communication skills will be associated with improved business acumen.

Both social motivation skills and business acumen are observed in global leaders and appear to be closely related. Brake (1997) proposed that relationship management (related to social motivation skills) as well as business acumen were characteristics of global leadership. Black et al. (1999) also proposed both the ability to emotionally connect (associated with social motivation skills) as well as both global and organization business know-how (associated with business acumen) to be characteristics of effective global leaders. Thus, we propose:

P4: Improved social motivation skills will be associated with improved business acumen.

Methods

This section describes the sample, data collection, analysis and results.

Sample

The target population was comprised of business students at a major university in northeast China. These university students were drawn from all over China and therefore provide a representative sample of business students. The data were collected at different times while the study's authors were teaching at this national university in northeastern China. The classroom setting provided the opportunity to survey the business students.

Survey respondents were 286 students in senior level undergraduate business classes. Identical questionnaires were administered over two separate time periods. Initially, 145 responses were collected in December 2001. Another 139 responses were collected from students at the same university in December 2006 as a follow-up, five years after China's entry into the WTO. Among the 2001 respondents, the average age was 21.24 years; 52.41 percent were male and 47.59 percent were female. Among the 2006 respondents, the average age was 21.18 years; 37.59 percent were male and 62.41 percent were female. Independent sample t-tests indicated no significant difference in age distribution between the 2001 and 2006 respondents ($t = 0.54$; ns). However, the Pearson Chi-Square test indicated a significant difference in gender in the 2006 group compared with the 2001 group ($p < 0.01$). The 2006 group had a significantly larger percentage of females. In subsequent analyses we checked for the effects of gender differences and found no significant effects of gender on the model or on the dependent variables in the study. Therefore in the succeeding analyses the effects of gender differences are not discussed.

Construct Measures and Data Collection

To operationalize the study's constructs, we relied primarily on multi-item measures (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, and Kaiser, 2012) used in prior research (Adams, Stivers and Bin, 2003; Stivers et al. 2007). Since all of the items represent manifestations of the underlying constructs, the statements were modeled as reflective and not formative (Diamantopoulos & Winklhofer, 2001). In addition to items applicable across multiple contexts, some of the items were specific to Chinese culture and the economy, such as having good connections (*guanxi*), writing skills in Chinese, oral communications skills in Chinese, knowledge of government objectives, and so forth. Items were measured using five-point Likert-type scales ranging from '1 = unimportant' to '5 = very important'. Table 1 provides an overview of the items.



The construct entrepreneurial behavior was based on two sources. Prior research identified hard work and responsibility as important elements of Chinese *entrepreneurial behavior* (e.g., Pistrui et al., 1999). Two items reflecting these characteristics were included to measure this construct. A third item was added to represent another entrepreneurial characteristic – willingness to take risk. The reliability of this construct exceeded .80 for both studies.

Communication skills were measured using Stivers et al.'s (2007) six-item scale that assessed the respondents' listening, writing, and oral communication skills. In light of this study's objectives, these skills were evaluated in terms of both the Chinese and English languages. One item from Stivers et al.'s (2007) original scale 'listening skills in Chinese' was eliminated during confirmatory factor analysis due to marginal loadings. Reliabilities for this scale for the two studies were .87 and .84, respectively. Consistent with the study's conceptualization of *adaptability*, six items capturing different facets of the respondents' cognitive, emotional and dispositional flexibility were used to measure this construct. These include, for instance, time management skills, the ability to deal with change, being flexible and having good connections (i.e., *guanxi*).

Items for the construct *social motivation skills* were adapted from Stivers et al.'s (2007) measure of ethics. Specifically, four items were used that represent a skill set combining internal cognitive skills with social skills (i.e., honesty, discipline, kindness, and motivational skills). Reliabilities for this construct for the two studies were .80 and .78, respectively. Lastly, to measure *business acumen*, five items relating to the respondents' business area knowledge and skills were also obtained from the Stivers et al. (2007) study. Reliabilities for this construct for the two studies were .84 and .85, respectively.

Questionnaire items were developed in English, translated into Mandarin Chinese, and then back-translated by a second individual into English to ensure the accuracy of the original translation. Brislin, Lonner, and Thorndike (1973) recommend this translation process, with adjustments made in the Mandarin translation as needed.

Analysis

To estimate structural equation models (SEM), researchers can use either covariance-based methods (Jöreskog, 1977) or the variance-based partial least squares (PLS) path modeling approach (Wold, 1974). Drawing on comparisons of the two approaches by Fornell and Bookstein (1982) and Hair, Ringle, and Sarstedt (2011), we chose to apply PLS path modeling. PLS path modeling aims at maximizing the explained variance of the endogenous constructs, making it more suitable for exploratory research settings (Hulland, 1999; Ringle, Sarstedt, and Straub, 2012). Furthermore, since PLS path

modeling is based on a series of ordinary least squares regressions, it is not sensitive to sample size, which proves particularly beneficial in complex model set-ups (Hair, Sarstedt, Ringle, and Mena, 2012; Henseler and Sarstedt, 2012). In our research, model-specific sample sizes (i.e., for 2001 and 2006) fully met the suggested rules of thumb as brought forward by, for example, Hair et al. (2011). Finally, the method does not require normally distributed data (Mooi and Sarstedt, 2011), and thus overcomes a problem of most empirical studies (Hair, Sarstedt, Pieper, and Ringle, 2012). The statistical software application SmartPLS 2.0 (Ringle, Wende, & Will, 2005) was used to compute the PLS path models.

Results

To assess the SEM results, including differences over time, we established separate PLS path models for sample data from 2001 and 2006. To analyze the PLS path modeling results, we follow Henseler, Ringle, and Sinkovics (2009) as well as Hair et al.'s (2011) suggestions and first assess the measurement models, followed by the structural model(s).

Assessment of the measurement models (see Table 1) reveals that for both 2001 and 2006, most indicators exhibit loadings above 0.70 and that the constructs' average variance extracted (AVE) values were 0.50 or above. The one exception was the adaptability construct in 2006 where some items exhibited lower loadings and an AVE value that was slightly below the generally suggested threshold (Henseler et al., 2009). But since the construct's composite reliability values were excellent and to ensure content validity of the construct, none of the indicators was removed (Hair et al., 2011). All the remaining constructs achieved high composite reliabilities of 0.70 and above.

To assess the discriminant validity of the constructs, we used two approaches. First, we examined the indicators' cross loadings, which revealed that no indicator loaded higher on the opposing construct. Secondly, we applied the Fornell and Larcker (1981) criterion by comparing the square root of the two constructs' AVE with the opposing construct's correlation. Both analyses clearly indicated the constructs exhibited discriminant validity. Overall, these results provided clear support for the measures' reliability and validity.



Table 1

Latent Constructs and Item Loadings		
	Item Loadings	
	2001	2006
Entrepreneurial behavior (CR ₂₀₀₁ = 0.82; CR ₂₀₀₆ = 0.80; AVE ₂₀₀₁ = 0.60; AVE ₂₀₀₆ = 0.57)		
• Working harder than others	0.72	0.68
• Willingness to take responsibility	0.84	0.84
• Willingness to take risks	0.77	0.74
Adaptability (CR ₂₀₀₁ = 0.86; CR ₂₀₀₆ = 0.84; AVE ₂₀₀₁ = 0.51; AVE ₂₀₀₆ = 0.46)		
• Planning and goal-setting skills	0.60	0.70
• Having time management skills	0.71	0.57
• Ability to adapt	0.71	0.59
• Being flexible	0.69	0.82
• Ability to deal with change	0.81	0.76
• Having good connections (guanxi)	0.75	0.61
Communication skills (CR ₂₀₀₁ = 0.87; CR ₂₀₀₆ = 0.85; AVE ₂₀₀₁ = 0.58; AVE ₂₀₀₆ = 0.54)		
• Listening skills in English	0.69	0.50
• Business writing skills in Chinese	0.78	0.80
• Business writing skills in English	0.85	0.82
• Oral communication skills in Chinese	0.65	0.76
• Oral communication skills in English	0.82	0.76
Social Motivation skills (CR ₂₀₀₁ = 0.80; CR ₂₀₀₆ = 0.78; AVE ₂₀₀₁ = 0.51; AVE ₂₀₀₆ = 0.50)		
• Being honest with all people	0.65	0.49
• Being kind	0.883	0.76
• Ability to motivate others	0.69	0.83
• Being well-disciplined	0.65	
Business Acumen (CR ₂₀₀₁ = 0.84; CR ₂₀₀₆ = 0.85; AVE ₂₀₀₁ = 0.52; AVE ₂₀₀₆ = 0.54)		
• Having quantitative skills	0.73	0.78
• Knowledge of government objectives for business	0.57	0.78
• Ability to delegate	0.71	0.63
• Ability to read and interpret financial statements	0.80	0.73
• Ability to manage costs	0.76	0.73

Notes: Ratings of perceived importance for success in a market economy on a five-point Likert scale ranging from '1 = unimportant' to '5 = very important'; CR= composite reliability

Figure 2 illustrates the results of the analyses of the structural models. The central criterion for the structural model's assessment is the coefficient of determination R². For both models the R² values of the focal construct (business acumen) are very good

(2001: 0.37; 2006: 0.47), providing support for the model's predictive validity (Hair et al., 2011). The same holds for the other endogenous constructs, communication skills and social motivation skills, whose R^2 values range between 0.32 and 0.42. To assess the predictive relevance of the exogenous latent variables, we computed the cross-validated redundancy measure Q^2 using the blindfolding procedure (Geisser, 1974; Stone, 1974). All Q^2 values range considerably above zero, thus indicating the exogenous constructs' predictive relevance.

In the next step, we examined structural model relationships. This included assessing their significance by means of bootstrapping (Henseler et al., 2009). To do so, we used subsamples of 5,000 with the number of cases corresponding to the group-specific sample sizes. Figure 2 shows the path coefficients including the corresponding significance levels.

The first set of propositions (i.e., P1a and P1b) proposed a relationship between entrepreneurial behavior and communication skills as well as social motivation skills, which is generally supported by the results. However, the relationship of entrepreneurial behavior to communication skills was significant only in 2006. The absence of a significant relationship in 2001 is likely due to the absence of entrepreneurial behavior among undergraduates prior to China's WTO entry in 2001. Operating as they were under the vestiges of a centrally planned economy, these undergraduate business majors may not have yet realized how important entrepreneurial behavior was to success in a fully functioning market economy. They were certainly cognizant of the importance of communication skills as is evident by the large amount of explained variance (39%) for communication skills in 2001. Entrepreneurs must develop strong communication and relationship skills that enable them to advance their businesses.

In contrast, the relationship of entrepreneurial behavior with social motivation skills (P1b) was supported in both time frames. The success of entrepreneurs is often influenced by both formal and informal support from others (Carrier, Raymond, & Eltaief, 2004; Levent, Masurel, & Nijkamp, 2003). Gupta, MacMillan, and Surie (2004) describe the entrepreneurial leader as having the ability to create visionary scenarios that are capable of mobilizing a 'supporting cast' to enact that vision.

The second set of propositions (i.e., P2a, P2b and P2c) related adaptability to communication skills, social motivation skills and business acumen. All three relationships were supported in both time frames. Individual adaptability and flexibility is especially important while learning to write and communicate in a language that is not one's native tongue. Since the epistemological origins, structure and syntax of each language (e.g., Chinese and English) are very different, individuals might have to unlearn their current ways of conceiving about and practicing a language in order to learn a foreign language that is very different from their native tongue. Therefore,



personal adaptability and flexibility are extremely important to enhance communication skills through learning a new language.

Adaptability is shown to be important for enhancing social motivation skills. Individuals need to be able to empathize, to sense and to adjust to the needs of others when they are operating in a team or in a group. While engaging in group-based tasks, individuals need to motivate others and ensure that the group accomplishes its assigned tasks and meets its performance goals. To gauge and understand which of several different critical factors affects business performance, individual adaptability is important. Moreover, curiosity, learning ability, improvisation and thinking agility (all aspects of adaptability), as well as business acumen, are all common characteristics of global leaders. Communication skills were associated with increases in social motivation skills only in 2006. The absence of a relationship in 2001 suggests that at the time of China's WTO entry, students may not have perceived that communication skills were important for motivating and facilitating team performance. Perhaps these students had not fully grasped that in a market economy managers needed to motivate employees to perform through inducements and encouragement. This is in contrast with giving orders, which was characteristic of the management style during the earlier phases of China's economic transition. The relationship of communication skills with business acumen was evident in both time periods providing support for proposition 3b. Finally social motivation skills were strongly associated with business acumen in both 2001 and 2006 providing support for proposition 4.

To further evaluate whether path coefficients differed significantly across the two time frames, we carried out multi-group comparisons (e.g., Rigdon, Ringle, & Sarstedt, 2010; Rigdon, Ringle, Sarstedt, and Gudergan, 2011; Sarstedt, Henseler, and Ringle, 2011) applying Chin and Dibbern's (2010) permutation test procedure. This analysis revealed two significant differences. Specifically, the path coefficients from entrepreneurial behavior to communication skills as well as those from communication skills to social motivation skills were greater in 2006 at the 5% significance level. None of the other relationships were significantly different between the two time frames.

We used bootstrapping results to compare the 2001 and 2006 models in terms of their predictive validity. More precisely, we compared differences in bootstrap sample-specific R-squared estimates using independent samples t-tests. The results suggest that the R-Squared values for both business acumen ($t=23.66$; $p < 0.01$) and social motivation skills ($t=17.16$; $p < 0.01$) were significantly higher in 2006 compared to 2001. These results provide additional evidence that the Chinese educational system had succeeded in conveying the importance of market oriented competencies and skill sets like social motivation skills and business acumen to their business school graduates over the examined time period. Surprisingly, the R-Squared values for communication skills were significantly lower in 2006 compared to 2001 ($t=11.79$; $p < 0.01$). Once China had entered the WTO, written and oral communication skills (especially in

English) began to be emphasized in order to prepare students to function in the new market oriented environment. English is universally considered the lingua franca of global business. The lower perceived importance of communication skills in 2006 perhaps reflects that having improved their proficiency on this dimension over the five-year time frame since WTO entry, Chinese business students no longer perceived communication skills to be a critical requirement. Overall the results suggest that there had been some movement and positive changes in the Chinese educational system over the examined five year time period.

Discussion

China's educational system was originally established under the centrally planned economy and did not adequately prepare and equip students with the business acumen required to compete in a global market economy. This lack of preparation became a critical weakness for China after WTO entry. Subsequently many private businesses and foreign multinationals entered and began competing in the previously restricted economic sectors in China. These newer entrants required employees with different skill sets than those possessed by earlier generations of Chinese managers who had worked with State Owned Enterprises.

The study's results provide reason for optimism. In both time frames, students were generally aware of the importance of each of the study's constructs. Students in 2006 exhibited greater awareness of the importance of major competencies like social motivation skills and business acumen for effective functioning in a market economy. Most of the path coefficients in the model were significant in both time frames suggesting that students also sensed the relational sequences (i.e., antecedent variable-consequent variable) in the bilateral relationships between individual KSAs. The only exceptions occurred in 2001 in the relationships between entrepreneurial behavior and communication skills, as well as between communication skills and social motivation skills. The parameters indicated a better overall model in 2006. One notable exception to this pattern of improved results was communication skills, which appear to have diminished in perceived importance in 2006. Overall however, the picture that emerges in the five years following China's WTO entry is one of Chinese business schools appearing to succeed in instilling a greater awareness of the importance of these KSAs.

An enhanced awareness of these important competencies will spur shifts away from the more traditional top-down management styles practiced in China. As portrayed in the chronological progression of China's economic transition in Figure 1, each distinct stage of economic transition was characterized by differences in economic structure, the nature of participating firms and transactional mechanisms, all of which necessitated different sets of knowledge, skills and abilities for Chinese managers. Consequently, business schools and their curricula had to adapt to equip their graduates with these



required skills. These requirements became exigent upon China's entry into the WTO in 2001.

Tempering the reasons for optimism, however, were reductions in the perceptions of the importance of communication skill sets among Chinese business undergraduates over the examined time frame. These findings also might be a manifestation of the improvements that had already taken place in the educational process over the examined time period. Students may have not perceived communication skills to be as critical because many of them already possessed adequate communication skills (in Chinese as well as English) as a consequence of their education.

Since the links between entrepreneurial behavior and communication skills as well as between communication skills and social motivation skills were stronger in 2006, it could be inferred that the 2006 student sample perceived communication skills as a means to acquiring social motivation skills and business acumen. The bootstrapping procedure also indicated that the 2006 model results represented a better model fit. This finding also provided some confirmation that our market-oriented model of knowledge, skills, abilities and competency development was perceived as more relevant five years after China's WTO entry. Thus, there appears to have been some progress in the Chinese educational system's goals of producing graduates equipped with the knowledge, skills and abilities to function in a market economy.

Implications

It is important for business schools operating in a market economy to adjust to the changing needs of for-profit businesses. They must do this in order to be relevant, to satisfy the need for resources, and to be able to find jobs for their graduates. These imperatives are more critical in a transition economy like China's, because both the institutions and the rules-of-the-game are constantly changing during the process of transition (North, 1990; Scott, 2001). Moreover, China's transition was gradual, extending over more than a quarter of a century. Under these conditions of transition, business schools will require more effective environmental scanning and forecasting mechanisms as well as advanced adaptive capabilities. These attributes will enable business schools to identify and incorporate the curricular changes necessary to enable them to continue offering relevant course offerings that inculcate the necessary skill sets in their graduates.

The findings from our study, in addition to being important for businesses in China, may also be relevant for business schools in other transition economies that seek to train and supply human capital with the requisite sets of skills and the business acumen necessary to operate in their respective country contexts. Our study did not directly assess the presence of these KSAs and competencies among business graduates. That would have required obtaining responses on this questionnaire from the employers of

these Chinese graduates. While that is a limitation of this research, it also represents a potential area for future research. The study also only reports on a limited set among the broader compendium of knowledge, skills, abilities and competencies required for business graduates in a fully functioning market economy. Undoubtedly as the Chinese economy continues to evolve further and integrate with the world economy, other as yet unknown capabilities and skill sets might emerge that will be a part of the necessary skill set for the global Chinese manager of tomorrow. These might include inter-cultural competencies as more China-based companies vault into the list of the world's largest corporations and become multinational corporations that are truly global both in scope and operations. Future studies could incorporate these emergent competencies along with other KSAs that have already been discussed in the literature.

Our data were generated from students at a single university in a single country. Therefore, a potentially fruitful line of further inquiry would be to conduct a comparative assessment of both the perceived importance of as well as the presence of these capabilities in Chinese graduates compared with business school graduates from advanced market economies such as the U.S., graduates from business schools based in Europe, as well as graduates from other important emerging economies. To avoid the pitfalls of common method variance, future studies could also survey employers as well as university faculty and administrators to obtain their perceptions of the importance and presence of these KSAs among business school graduates.

Overall our study generated findings that are interesting and spotlighted areas of potential emphases for the attention of faculty and administrators at Chinese business schools. In addition, the study also revealed several possible avenues for further research.



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