AIM WORKING PAPER SERIES







## Asian Institute of Management

### **Entrepreneurship and Innovation Initiatives** among Asian Multinationals: A Cross-**Country Analysis**

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Working Paper 13 - 009

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### Entrepreneurship and Innovation Initiatives among Asian Multinationals: A Cross-Country Analysis

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JANUARY 2013

### ABSTRACT

Innovation has been identified as key to the success of modern corporations (Drucker, 1985; Hamel, 2001; Christensen and Raynor, 2003). The pace of the globalization process and the growth in global markets are shifting the business environment systematically and dramatically. There is a need to reinvent the business model. A successful model appears where organizations emphasize innovation and use corporate entrepreneurship to drive this innovation. Whereas Europe and the United States seem to employ this new model to their advantage in global marketplaces, Asian countries (except for Japan and Korea) seem to be falling behind in innovation and in instituting an entrepreneurial spirit among their managers (Diez and Kiese, 2006; Fidelman, 2008).

In an attempt to understand the extent to which Asian companies have adopted the entrepreneurship/innovation model, a study was conducted among managers in three Asian countries: India, Indonesia, and Thailand. The results suggest that while some of the larger companies in these countries are practicing the entrepreneurship/innovation model, there are still differences from country to country. Specifically, there are significant differences across countries, organization levels, and industry sectors. The results point to important managerial implications related to entrepreneurship/innovation, and the companies that are lagging need to adopt practices and strategies to foster innovation.

JEL: F23, L26, M14, O31, O53

Keywords: Asian countries, corporate support, entrepreneurship, human capital, innovation, organizational factors, India, Indonesia, Thailand.

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#### INTRODUCTION

Innovation has been identified as key to the success of modern corporations (Drucker, 1985; Hamel, 2001; Christensen and Raynor, 2003). In the United States, the successes of companies such as Apple, General Electric, Intel, Procter & Gamble, and 3M are testament to the belief in continuous innovation (Hamel, 2006). In fact, Apple derives 70 percent of its revenue from four products introduced in the past four years (Owens, 2012). Similarly, 3M derives at least one-third of its sales from products introduced in the past five years (Hindo, 2007). The success of global companies such as BMW, LG Electronics, Nintendo, Nokia, Samsung, Tata, and Toyota has often been attributed to their innovative product offerings and systematized approach to using research and development (R and D) for product development (Colvin, 2011). For example, Microsoft's success in the software market has its roots in its process of continuous innovation (Heritage, 2006). Intense competition in many of the industries forces companies to use innovation as a means to introduce unique and distinctive products in the marketplace (Salz 2006).

The pace of the globalization process and the growth in global markets are shifting the business environment systematically and dramatically. The environmental shifts that affect global companies include intensified competition, escalating customer expectations, consolidation of firms within industries, and shifting demand patterns. The old order of business practices is quickly becoming obsolete. There is a need to reinvent the business model, and part of that reinvention appears to be continuous innovation by successful companies and adaptation of an entrepreneurial culture within organizations. Studies have shown that an entrepreneurial corporate culture very often enables innovation. Compared to the vast number of innovations among large U.S. and European multinational companies, the number of innovations that emerge from Asian companies (with the exception of some companies from China and many more from Japan and Korea) is negligible (Diez and Kiese, 2006). The major reasons for lack of innovation among a large number of Asian multinationals in India, Indonesia, Malaysia, the Philippines, and Thailand are the lack of research infrastructure and the scarcity of resources necessary for innovation. Hence, many Asian companies are not at the forefront of innovation and instead tend to be followers in the introduction of new products (Fidelman, 2008).

### LITERATURE REVIEW

In reviewing the literature on entrepreneurship and innovation, it is important to understand the meanings of the two terms. *Entrepreneurial management* (also called *corporate entrepreneurship*) tries to create value through creative ideas and a forward-thinking mentality, hence making a tangible contribution (Engel and Teece, 2012). This approach at the company level tends to create new and different value propositions to change existing nonactive resources into transferable resources that can be combined and converted into a new or more productive configuration. In corporate entrepreneurship, individuals inside organizations pursue opportunities independent of the resources they currently control (Stevenson and Jarillo, 1990).

Strategic corporate entrepreneurship is critical because it affects so many aspects of business and society, including creating value for customers, building wealth for stockholders, and creating benefits for other stakeholders, especially for society at large (Hitt et al., 2011). Corporate entrepreneurship involves extending a firm's domain of competence and corresponding opportunities through new internally generated resource combinations (Burgelman, 1984). In principle, corporate entrepreneurship implies that companies can foster profit-making innovations by encouraging employees to think like entrepreneurs, and then give them the freedom and flexibility to pursue their projects without bureaucratic inertia (Stoner et al., 1995).

*Innovation* is defined as a systematic, purposeful activity, planned and organized, with high predictability. The planning and organization must be defined with respect to both the anticipated results and the results likely to be achieved (Bhattacharyya, 2006). In the current global environment, with its dynamic changes and intense competition for resources and markets, companies' success will depend on how much top management encourages and practices entrepreneurship and innovation. It is generally agreed, and research has shown, that innovation is one of the most critical activities for a firm (Hauser et al., 2006; Miller and Friesen, 1982).

Researchers studying entrepreneurial management development tend to agree that companies who succeed through internal organic growth are disciplined about it and practice it religiously. These companies develop internal mechanisms, systems, policies, and procedures to encourage innovation and entrepreneurial philosophy. They are receptive to innovations, viewing them as opportunities, and hence are willing to take necessary risks. In this system, failures are accepted as unavoidable. Entrepreneurial management requires appropriate human resource

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policies and practices with regard to leadership style, organizational structure, talent recognition, incentives, work culture, and work practices (Wood et al., 2008; Marvel et al., 2007; Wolcott and Lippitz, 2007). The whole organization is committed to the entrepreneurial philosophy, and this philosophy is encouraged by top management and is treated as standard operating procedure. Researcher Joanne Sujansky suggested that to become a vibrant entrepreneurial organization, a corporation must create an environment that encourages entrepreneurship. Her research also recommends avoiding decision-making gridlock, bureaucracy that stifles creativity, and making managers accountable for their actions (Sujansky, 2007).

The innovation and entrepreneurship styles of management are keys to the long-term success of some of the world's largest multinational companies. For example, companies such as General Electric, IBM, and Sony have been successful over a long period. General Electric, which is more than one hundred years old, has a long history of starting up entrepreneurial businesses and nurturing them into sizable industries. For example, it was able to parlay its innovations in electrical appliances and financial services into successful divisions that contribute to its continued success. The General Electric Credit Corporation was largely responsible for triggering the breakthrough that transformed the U.S. financial system into a competitively formidable industry.

Studies have shown that a critical ingredient in internal corporate entrepreneurship is effective leadership by the external board. An effective board is one in which directors achieve a balance between entrepreneurship and corporate management; in other words, they pay attention to corporate renewal and innovation on one hand and corporate governance on the other (Bernard, 2003).

Research on corporate entrepreneurship has grown rapidly over the past decade. Research studies have focused on various aspects of entrepreneurship, including the following:

- the importance of technological entrepreneurship (Antoncic and Prodan, 2008)
- the impact of social, human, and intellectual capital on creating competitive advantage in today's knowledge economy (Dess et al., 2003)
- the importance of human capital and resource configuration (Yiu and Lau, 2008)
- the critical link between innovation and entrepreneurship for generating innovative ideas through entrepreneurship (Dess et al., 2003)

 organizational philosophy and innovation (Beverland et al., 2010; Sujansky, 2007; Ekvall, 2000)

Entrepreneurship and innovation go hand in hand (Miller and Friesen, 1982; Kwaku and Ko, 2001); one feeds the other. Research has shown that an entrepreneurial mind-set and applying creativity to develop innovations are important dimensions for companies to succeed in a highly competitive environment (Ireland et al., 2003; Salwen, 2003; Govindarajan and Trimble 2005). In fact, Sweden has proved this at a whole-industry level. A small country with a population under 10 million, Sweden has been extremely successful in the biotechnology area, particularly in its research output. The key to the success of Sweden's biotechnology industry has been its philosophy of entrepreneurship combined with the research emphasis of both small and large companies in this sector (Mondal and España, 2006). Similarly, studies of Chinese companies have demonstrated that the synergistic effects of combining HRM practices, innovation, and entrepreneurship contribute significantly to new business development and sustained profitability (Wang and Zang, 2005). In the United States, strategic innovation has long been identified as a key to business success and the country's competitiveness in the global marketplace (Markides, 1998).

Research studies have identified the importance of entrepreneurship and strategic thinking, including a resource-based view, in creating value for a firm (Hitt et al., 2001; Hornsby et al., 2008). Study after study has shown that it is important for both growth and survival that entrepreneurship and innovation be encouraged and practiced (Brown et al., 2001). For entrepreneurship and innovation to successfully work in tandem, however, firms must allocate resources, organizations must be flexible, and rewards must be granted for entrepreneurial initiatives.

Studies have also demonstrated the importance of organizational philosophy in developing new products and services. For example, Edvall's study of engineers demonstrated their success in developing new products when their organizational philosophy encouraged innovation (Ekvall, 2000). Similarly, a study showed that team performance among global companies was improved when the organizational philosophy was supportive and encouraged entrepreneurial spirit (Wing, 2005).

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Although numerous researchers have provided evidence that corporate entrepreneurship enhances organizational performance, their results are limited to certain types of firms and certain environmental conditions. Corporate entrepreneurship in public sector companies is limited, and its application among companies in developing countries is virtually unknown (Short et al., 2009; Kearney et al., 2010). It is clear that existing research and the success of many large global companies support the theory that entrepreneurship and innovation are critical to the success of modern firms. However, studies done in this area provide evidence that although Asia is an emerging region with economic growth projected to outpace that of the West, multinationals of Asian origin are not fully participating in this endeavor (Liu et al., 2003; Tang et al., 2008; Yamakawa et al., 2008).

Among the few researchers who have studied corporate entrepreneurship among Asian companies, Zhao and colleagues (2011) explored the relationship between entrepreneurial orientation and firm performance. In a large study of Chinese firms, Zhao and colleagues examined the relationship of entrepreneurial orientation, experimental learning, and acquisitive learning to firm performance. The results of their study showed that entrepreneurial orientation was positively related to experimental learning but had an inverse U-shaped relationship with acquisitive learning. In addition, it appears that both experimental and acquisitive learning enhanced firm performance (Zhao et al., 2011). Another study that investigated the effects of entrepreneurial orientation and the business environment among Chinese firms showed the positive effects of these two factors on firm performance (Chow, 2006). Similarly, in the area of innovativeness, a singular study conducted by Su and colleagues (2009) among Taiwanese firms showed that marketing capability and customer partnerships have a positive interaction effect on process innovativeness (Su et al., 2009).

Moreover, entrepreneurial activity at all levels promotes economic growth and development, a goal of most Asian countries (Minniti, 2008; Antoncic and Hisrich, 2001, 2004). The growing middle-class market in this region offers significant potential for both domestic and global companies, so it is critical that companies in this region embrace innovation and entrepreneurship. A review of current literature indicates that a minimal number of studies have investigated entrepreneurship among Asian companies. The present study attempts to offer a macro view of innovation and entrepreneurship as practiced by Asian multinationals to

understand their thinking and viewpoint in pursuing entrepreneurship and innovation to compete with U.S.- and European-based global companies.

Extant research indicates that three factors are important to an examination of the current state of entrepreneurship and innovation in Asian companies:

- Organizational philosophy is defined by an organizational culture that encourages entrepreneurship and innovation and displays a positive philosophy toward innovation. Aspects related to beliefs, creativity, and stimulation are included in the measurement of this factor; aspects related to the importance of R and D, rewarding innovation, and new ideas are also included in this dimension. Most of these subcomponents that contribute to the overall sense of organizational philosophy have been examined by other researchers (Wood et al., 2008; Marvel et al., 2007; Wolcott and Lippitz, 2007; Sujansky, 2007; Mondal and España, 2006).
- 2) Corporate support is defined by an organizational support structure that includes both senior management's support for fostering innovative ideas and minimal bureaucratic hurdles. In addition, these support systems reward creative and entrepreneurial efforts without penalizing failures. Whereas support structure is a positive motivational variable, minimal bureaucratic hurdles ease the process of innovation. Bureaucratic hurdles measure specific aspects of an organization's rules and policies rather than the organizational culture or philosophy. Corporate support in combination with less bureaucracy encourages creative thinking within an entrepreneurial environment. Previous studies (Sujansky, 2007; Christensen and Raynor, 2003; Brown et al., 2001; Stoner et al., 1995) have examined the corporate support/organizational hurdles dimension from similar aspects.
- 3) *Human capital* measures the importance of creativity and human capital on a firm's growth and competitiveness. It also measures the level of importance an organization places on creativity and human capital. As examined by previous researchers (Wood et al., 2008; Yiu and Lau, 2008; Wolcott and Lippitz, 2007; Wang and Zang, 2005; Dess et al., 2003), this factor relates to recognizing and rewarding creativity while emphasizing the importance of fostering a high level of excellence in human capital resources to enable more firm-wide innovation.

The statements in the survey instrument were designed to measure aspects of the three dimensions and are based on similar instruments in previous studies that have analyzed these aspects of organizational culture, philosophy, and policies.

### **III. RESEARCH OBJECTIVES AND HYPOTHESES**

Past practices and the sense that Asian companies are followers rather than innovators have resulted in the persistent belief that these companies are not sufficiently innovative and do not support or promote an entrepreneurial culture. This belief is corroborated by the notion that these companies have strictly bureaucratic and regimented processes and that together these characteristics inhibit the culture of innovation. However, given the rapid development in Asian economies in recent years, it is useful to analyze whether such traditional views and practices are changing and whether employees in these organizations view innovation as a necessary tool. The primary objective of this study was to analyze this level of innovation and entrepreneurial culture. Moreover, previously unexplored factors—whether this perception differs by country, industry, and employee position in an organizational level, is interesting to note since we believe there should be an analysis regarding whether all levels within an organization perceive innovation in the same way. Extant research on quality management is similar in this respect—numerous studies have explored the notion of whether a companywide quality management initiative is perceived the same way across different layers of the organization.

The following three hypotheses were examined in the study:

**H1:** Companies operating in different countries exhibit significant differences in the level of entrepreneurship and innovation in organizational philosophy, corporate support, and human capital.

**H2:** Companies operating in different industry sectors exhibit significant differences in the level of entrepreneurship and innovation in organizational philosophy, corporate support, and human capital.

**H3:** Employees at different hierarchical levels within organizations exhibit significant differences in the level of entrepreneurship and innovation in organizational philosophy, corporate support, and human capital.

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### **IV. METHODOLOGY**

The data for this study came from a survey of executives in multinational companies from three Asian countries: India, Indonesia, and the Philippines. The sample was collected over a period of one year from mid- to top-level executives in various companies across these three countries. Respondents were from various industries and had varying levels of expertise and work experience.

The survey instrument, which was pre-tested by 45 executives from different countries, was a self-administered questionnaire with scaled statements. Questionnaires were distributed to participants from various Asian multinational companies in India, Indonesia, and the Philippines who were taking part in an advanced managerial training program. Six hundred low-level, middle, and senior managers received the questionnaires. The 193 usable responses (response rate of 32.2 percent) were used to analyze the data.

### Analysis

Table 1 shows the distribution of the respondents' profiles by various categories.

DIMENSIONS	LEVELS	Number (%)
Country	India Indonesia Philippines	40 (20.8%) 85 (44.3%) 67 (34.9%)
Industry Class	Manufacturing Services	81 (42.2%) 111(57.8%)
Position Designation	Top (CEO Level) Middle (Director/VP Level) Lower (GM/Manager Level)	46 (24.0%) 92 (47.9%) 54 (28.1%)

 Table 1. Respondents' Profile (n=192)

As shown in Table 1, the respondents originate from three countries: India, Indonesia, and the Philippines, with Indonesian, then Filipino respondents the two largest groups of respondents. The companies' activities, where the responding executives worked, and their associated industries were used to place the respondents' companies in either the manufacturing or services sector, using the standard North American Industry Classification System (NAICS). The results

show that 42 percent of the respondents are from the manufacturing sector and 58 percent are from service sector organizations.

Since one of the study's objectives is to explore differences of perception on entrepreneurship and innovation across the organizational hierarchy, we also classified each respondent into one of three categories based on his or her position level. The first category, top level, consists of respondents in the chief executive levels, who generally head the entire organization or a comprehensive business unit within a large conglomerate, with both profit and cost responsibilities. The second level, middle level, constitutes respondents who designate their position as director or vice president. Generally, these managers are responsible for specific functions within an organization or business unit and have significant executive power, but they are generally lower in the organizational hierarchy than managers at the top level. Finally, the third level, lower level, constitutes respondents with designations of general manager or manager. It is assumed that respondents at the lower level have narrower responsibilities in terms of scope and function than do those at the middle level. Table 1 shows that about 24 percent constitute the top level, 48 percent constitute the middle level and 28 percent constitute the lower level. Overall, the sample shows an equitable distribution of the various dimensions across the three levels. Given the distribution and size of the sample, the analysis and results draw meaningful conclusions to the study's proposed research questions.

### **Missing Data**

Some respondents could not be categorized, as the data were missing, not clear, or could have fallen into more than one category. In all subsequent analysis, these missing cases were eliminated when required. This was done on a test-specific basis to maximize the sample size for each of the tests.

#### **Survey Instrument Validation**

As is standard practice, the survey items were chosen based on a careful selection of the various dimensions that the constructs were supposed to cover. Items related to a dimension were derived from existing research. In addition, a pretest of the survey was conducted using a sample of graduate students from different countries. The external validity of the collected data was considered by testing the data for normality to assess whether a bias toward a specific company

size or annual sales revenue was present. The results show that there is considerable variation and lack of bias in the data, allowing the results to be generalizable.

### **Factor Reduction**

Although the survey items are oriented toward measuring the general perceptions of the respondents concerning entrepreneurial and innovation-related practices, cultures, and beliefs, we needed to first analyze whether the survey statements actually reflect unitary constructs. Although some variation may be expected across the items, the more consistent the responses are, the more likely the factor measures a cohesive concept. To achieve this, a factor analysis was conducted on the survey items, with factors extracted using the principal component analysis followed by a varimax rotation.

The main criteria used to decide which factors would be used for further analysis were that total variance explained had to be a significant portion for all factors combined; there should be a minimum of three variables per factor; factor loadings (eigenvalues) for each of a factor's variables should be at least 0.30; and the Cronbach's alpha for each factor should be at least 0.5 (Hair et al., 1998).

Although the objective of our study contains the three factors highlighted at the beginning of the paper, we conducted an exploratory analysis to examine the data and to determine if the data resulted in more than these three factors. In the process of determining the factors, a preliminary analysis was conducted using a four-factor solution. The total variance explained by the four factors was about 38 percent; however, the rotated solution for the four factors had only two items loaded with an eigenvalue of greater than 0.3. In addition, one of these items was not unique; that is, it loaded on one of the other factors with a higher loading. Based on these results, we could not justify a four-factor solution.

The three-factor solution explained about 36 percent of the total variance. Several items had factor loadings of 0.3 or higher on each of the three factors, with most of the loadings higher than 0.4. In addition, the specific items that loaded on each factor were logical groupings of the underlying theme of each factor. Subsequent reliability analysis of these three factors shows that there is a high level of reliability across the items that loaded on each factor. Accordingly, we have adopted the three-factor solution for our study, as this solution not only meets the threshold values for factor analysis but also supports the overall premise of the study.

Tables 2 through 4 display the results of the factor analysis, including the survey items that load on each factor, the factor loadings (eigenvalues), and the values of the reliability coefficient or the Cronbach's alpha. Each of the three tables shows the results for a specific factor. The values for Cronbach's alpha for the three factors are 0.769, 0.866, and 0.877, respectively. The results show that there is a high level of congruence among the items measuring a particular factor. The relatively high values of the Cronbach's alpha, which measures the reliability of the factors, and the eigenvalues provide excellent validity for using the factor scores for all subsequent analysis.

For instance, organizational philosophy relates to the overall culture of innovation in an organization and has a very high reliability coefficient of 0.866. The 12 items that load on the factor all relate to various aspects by which organizations support a culture and infrastructure of innovation that promotes and encourages new and imaginative ideas. This indicates that there is a logical reason behind these items loading on the factor. The loadings of the items on the other factors can be explained in a similar manner.

ITEMS	FACTOR LOADINGS
Our organizational structure is rigid and, hence, not conducive to innovation.	732
In my opinion, our organization is progressive and innovative.	.680*
We do not have a culture or corporate structure that is supportive new ideas.	658
Our organizational culture is not very conducive for pursuing entrepreneurial ideas.	622
Our organization is tightly controlled with no room for individual ideas.	596
The organization lacks leadership that fosters innovation.	560
Risk taking is not encouraged in our organization.	487
R&D is critical at our organization and receives enthusiastic support from our senior executives.	.472*
It is difficult to obtain resources for pursuing new ventures within the organization.	466
New products or improved processes are viewed as waste of scarce resources in our organization.	414
Taking unnecessary risks adversely affects your performance evaluation and potential for promotion.	344
Our organization believes in growth opportunities in all sectors of our business.	.334*

Table 2 Factor Loading for Organizational Philosophy (Cronbach Alpha = 0.866)

\*Reverse-coded item

# Table 3. Factor Loading for Corporate Support(Cronbach Alpha = 0.877)

ITEMS	FACTOR LOADINGS
There is a formal process that is established to pursue entrepreneurial ideas.	.586
Once an idea is proposed, it is immediately passed on to a permanent new project team.	.574
Innovation and creativity are the foundations of our organizational success.	.538
Outside consultants specializing in creativity are brought in to train us in creative thinking.	.530
Our organization has a knack to take an existing idea and make it a great idea.	.530
Managers whose ideas succeed are rewarded generously.	.519
Being an innovator is sure way to rise up in our organization.	.492
Our organization believes in investing in people to achieve success.	.458
In our organization creative culture is stimulated by easing up the bureaucratic process.	.442
Our senior executives constantly push us to come up with innovative ideas for new products or services.	.439
Each and every division, department and unit in our organization is encouraged to tap into the newer technological breakthroughs for innovative products.	.438
We feel that our organization is entrepreneurially driven.	.418
Our organization is the envy of our competitors in terms of new product innovation.	.409
When a project team is assembled for developing new ventures, the person who initiated the idea is automatically put in charge of the project team.	.394
If new venture ideas fail, the organization takes this failure seriously.	.322

# Table 4. Factor Loading for Human Capital<br/>(Cronbach Alpha = 0.769)

ITEMS	FACTOR LOADINGS
We are encouraged to come up with new ideas.	.581
Our fundamental task is to pursue opportunities.	.549
"Out-of-the-box" ideas are encouraged within our organization.	.486
Our organization believes that every employee can come up with innovative ideas.	.482
The internal corporate structure and the senior executives are open to new ideas.	.460
Our organization does not believe in "imagination breakthroughs."	405*
We have the freedom to pursue a product or service that we feel has market potential.	.377

\*Reverse-coded item

It is important to test for the discriminant validity of the factors, since each unique factor should not measure the same concepts as any of the other factors (Campbell and Fiske, 1959). In other words, measurement error should not exist between multiple factors. This was further confirmed in a subsequent study (Campbell, 1960), in which specific recommendations were

made to measure the correlation index between two factors, x and y, as equal to:  $\frac{r_{xy}}{\sqrt{r_{xx} \cdot r_{yy}}}$ , where

 $r_{xy}$  is the correlation between factors x and y, and  $r_{xx}$  and  $r_{yy}$  are the reliability coefficients of factors x and y, respectively. If the calculated value of the index is less than 0.85, the two factors under consideration are distinct from each other and there is discriminant validity between them. Table 5 shows the results of the correlations and the correlation index among the three factors. The results show that the index to measure discriminant validity, the correlation index, is less than 0.85. The results indicate that the three factors are unique and each factor measures distinct concepts.

 Table 5

 Correlation Coefficients and Correlation Indices between Factors

Factors	Organizational Philosophy	Corporate Support	Human Capital
Organizational Philosophy		0.629 0.721	0.574 0.703
Corporate Support			0.660 0.803

Notes: The first number in each cell indicates the bivariate correlation coefficient The second number in each cell indicates the correlation index for the factor pair

Each respondent's individual survey items under each extracted factor were normalized by taking the average scores over the items, and the resulting factor scores are used as the main variables for further analysis.

The overall scores for the three factors are shown in Table 6. It should be noted that items that are reverse coded are adjusted before determining these factor scores. In addition, the organizational philosophy is coded as a negative factor based on previous research (Stevenson and Jarillo, 1990; and Diez and Kiese, 2006); hence, the statistics for this factor should be treated in the manner opposite the statistics for the other two factors. (Most of the items loading on that factor were reverse-coded items, i.e., aspects that discourage a positive disposition of the organizational philosophy to innovation and entrepreneurial culture. Thus, the scores on the

items and the underlying factors are to be looked at in the reverse manner—a higher score implies a less favorable disposition of that factor to entrepreneurship and innovation.)

Statistics	Organizational Philosophy	Corporate Support	Human Capital
Mean	3.097	3.481	4.075
Standard Deviation	0.697	0.585	0.535
Coefficient of Variation	0.225	0.168	0.131
Skewness	0.565	-0.597	-0.775
Kurtosis	0.541	0.124	1.099

**Table 6. Overall Statistics for the Factors** 

### **V. DISCUSSION OF RESULTS**

The overall mean values for the organizational philosophy factor show an average level for the scores (3.079 on a 5-point scale), while the other two factors show a relatively higher level of perception. The results show that perception of the factors related to entrepreneurship and innovation are generally high among the respondents and may point to a shift away from the perception of Asian companies as followers. This encouraging sign indicates that these companies are now more aware of global competition and feel the need to innovate and be more creative than before.

External validity of the sample data also implies that the findings cannot be generalized if the sample is systematically biased toward one side of the distribution. Skewness and kurtosis are normally used to test for normality of the distribution and thereby eliminate the possibility of bias in the data. These two measures are tested for the three factors to analyze whether the data are biased toward a specific end of the 5-point Likert scale. Analysis of the skewness shows that it varies from -0.775 to 0.565 and the kurtosis ranges from 0.541 to 1.099. These values are well within the accepted limits of skewness (less than 2) and kurtosis (less than 5) (Ghiselli et al., 1981). The results show that there is considerable variation and lack of bias in the data.

The main hypotheses were tested using a univariate ANOVA, with the three factors as the dependent variables. Since the factors are distinct from one another, we treat them as separate dependent variables. In addition, we are more interested in examining differences across the dimensions of country, industry, and organization level. Hence, we have analyzed the main effects of these dimensions with respect to the scores for the three factors. Table 7 shows the results.

The results show that the country and organizational level dimensions are significant at the 0.01 level for the organizational philosophy factor, while the industry sector is significant at the 0.05 level for the corporate support and human capital factors. The mixed results show that all three dimensions have a significant effect on at least one of the factors, indicating that there are differences across multiple levels in these dimensions. It is interesting to note the nonsignificant differences in these results. The non-significant tests reveal that, regarding organizational philosophy toward entrepreneurship and innovation, there is a surprising congruence of perceptions across manufacturing and services, while there is a significant difference between these two sectors on the other two factors. It seems that while the perception of the overall philosophy may be homogeneous across industries, the actual support for this philosophy regarding the extent of corporate support and the level of recognition for the value of human capital differs across the sectors. On the other hand, there appears to be a difference between countries and position with the organization regarding the overall philosophy toward innovation and entrepreneurship. However, there are no significant differences on the other two factors for these two dimensions. In summary, there is partial support and partial rejection for all three hypotheses for this study. Both Hypotheses H1 and H3 are accepted for the organizational philosophy factor, but not for the other two factors. Hypothesis H2 is accepted for the corporate support and human capital factors and is rejected for the organizational philosophy factor.

Further analysis of these overall results was undertaken to understand the results.

Dimensions	Organizational Philosophy	Corporate Support	Human Capital
Country	9.503	1.000	0.950
	(0.000)**	(0.370)	(0.389)
Industry Sector	1.547	4.674	5.970
	(0.215)	(0.032)*	(0.015)*
Organization Level	4.955	1.493	0.391
	(0.008)**	(0.227)	(0.677)

### **Table 7. Univariate ANOVA Results**

\*Significant at 0.05 level

\*\*Significant at 0.01 level

### **Post Hoc and Contrast Tests**

In order to understand the specific differences across the levels of the three dimensions, a series of post hoc and contrast tests were undertaken. Absent any a priori theory-based support, we did not hypothesize these relationships but we tested for them. Since the country and organization level dimensions have three levels, we adopted post hoc tests for them. A simple contrast test was adopted for the other dimension, industry sector, since it has only two levels. The results for the post hoc tests are shown in Tables 8 and 9.

Table 8 shows the results with the country dimension. The significant difference across specific levels occurs for the respondents from India versus respondents from both Indonesia and the Philippines. As shown in Table 8, there is no significant difference between the Indonesian and Filipino respondents. Note that the scores on the organizational philosophy factor are negatively-oriented; that is, a higher score implies a lower level of perception that the organization has a positive outlook and philosophy for innovation and entrepreneurship. Given that the post hoc comparisons show that the scores from the respondents from Indonesia and the Philippines are higher than those from the respondents in India, it is evident that the Indian companies have a higher and more favorable philosophy toward innovation and entrepreneurship. Based on these results, Indonesian and Filipino companies have some catching up to do relative to the Indian companies.

Base Country	Compared Country	Organizational Philosophy
India	Indonesia	5609*
	Philippines	3483*
Indonesia	Philippines	0.2126

## Table 8.Post Hoc Tests(Differences across Countries)

(Mean difference values are base country scores-compared country scores) \*Significant at 0.05 level

Table 9 shows the results for the organizational philosophy factor across the three categories of organization level. Once again, a higher score indicates a less positive disposition toward innovation and entrepreneurship. The results show that there is a significant difference in this perception between the highest level (chief executive) and the lowest level (general manager/manager). The results indicate that while there may be congruence in the perception of the overall organizational philosophy toward innovation and entrepreneurship between adjacent hierarchical organization levels, nonadjacent pairs of such levels show significant differences. Moreover, the lower the level in the organization, the lower the positive disposition toward this philosophy. It is evident that organizations need to do more to promote and establish a more homogeneous philosophy that permeates multiple levels of the organizational hierarchy. Previous research has shown similar differences in perception across multiple organizational levels; that is, the perception of a certain philosophy at higher levels of the organization may not match that at lower levels (Hornsby et al., 2009).

Base Organization Level	Compared Organization Level	Organizational Philosophy
CEO level	Director/VP level	0.2220
	GM/Manager level	0.4328*
Director/VP level	GM/Manager level	0.2108

## Table 9.Post Hoc Tests(Differences across Organizational Level)

(Mean difference values are base organization level scores-compared organization level scores) \*Significant at 0.05 level

The contrast tests for the industry sector essentially detail the differences between the manufacturing and services sectors on the two factors where there are significant differences,

corporate support and human capital. The mean scores for the two sectors on the two factors are reported in Table 10. The table shows that the service sector in the Asian countries does better than the manufacturing sector for both factors. The results from the previous ANOVA analysis (Table 7) show that this difference in the means between the two sectors is significant for both corporate support and human capital. This study's sample provides evidence that manufacturing companies have a significantly lower level of corporate support for entrepreneurship and innovation. Likewise, the importance of human capital is significantly lower in manufacturing companies than it is in service companies.

 Table 10

 Contrast Test (Differences across Industry Sector)

Sector	Corporate Support	Human Capital
Manufacturing	3.377	3.966
Services	3.561	4.157

### **VI. CONCLUSIONS AND LIMITATIONS**

This study has analyzed empirical data based on responses from working professionals in three Asian countries. While Asian companies are traditionally viewed as followers rather than innovators in entrepreneurship and innovation, it is clear from this study that this perception is changing with the prevalence and continued growth of the globalized economy. Companies in these countries appear to be realizing that innovation is required to prosper. The generally high scores on the factors examined in this study that support and promote the overall emphasis on innovation and entrepreneurship support this theory.

While the main results show an overall trend of increasing innovation and entrepreneurship culture, there are some major differences among specific factors. Specifically, the three countries are not the same across all the factors. Regarding organization philosophy toward entrepreneurship and innovation, Indian companies fare better than Indonesian and Filipino companies. There is also a difference in perception on this factor across hierarchical levels within organizations. The results show that there is a congruence of the level in the perception between adjacent hierarchical levels; this congruence breaks down with nonadjacent levels. In this study, we have used three organization levels to examine this effect. The results show that the perception-related scores concerning organization philosophy grow more disparate when one goes from the highest organization level to the lowest organization level. This result corresponds to the findings of Hornsby and colleagues that a positive relationship between managerial support and entrepreneurial action is more positive for senior- and middle-level managers than it are for lower-level managers. Furthermore, they also observed that managerial level provides a structural ability to "make more of" organizational factors that support entrepreneurial action (Hornsby et al., 2009).

These results point to a lack of communication in organizations regarding a corporatewide philosophy on innovation and entrepreneurship. Clearly, companies have to do more in this area; chief executives may have a great vision regarding innovation and entrepreneurial culture, but that vision may not be perceived at other levels, which can create confusion and lead to misunderstandings regarding the company's priorities.

There are no differences across countries or organization levels regarding the other two factors, corporate support and human capital. On the other hand, there are significant differences between manufacturing and service organizations with respect to both factors. The results indicate that service companies do better on these two factors by providing a better level of corporate support for innovation and by instilling a better recognition of the aspect of human capital. Service companies are inherently more labor-intensive than manufacturing companies, thus this result is encouraging, indicating that such companies recognize the importance of human expertise in the employee base. However, since this comparison is made with manufacturing companies, which are inherently more capital-intensive, additional studies are required to further our understanding of this factor.

In conclusion, the results reveal some important differences across Asian organizations with respect to innovation and entrepreneurship culture. Practicing managers should be aware of differences across countries, organization levels, and industry sectors so that they can formulate appropriate strategies for their organizations. This is particularly true because of the differences found across hierarchical levels and industry sectors. These results show that managers need to examine communication across organization levels to create a more universal perception of a specific philosophy for all employees; in addition, depending on the company's specific industry, managers should place more importance on recognizing and preserving the value of human capital within the organization. The results showing differences between countries are also important. While differences in philosophy across multiple countries are expected to a certain

extent because of cultural differences and country-specific factors, multinationals need to be careful about this factor: a multinational operating in various countries should have an overall corporate philosophy for innovation that should be acceptable to all employees, irrespective of location.

### Limitations

As with any empirical research, there are certain limitations in this study. The sample is obviously restricted to the three countries. In addition, some of the factors need further examination for a more complete understanding of their relationship to entrepreneurship and innovation. For instance, the differences between the manufacturing and services sectors have to be examined further: the higher scores for service companies are a positive sign for these companies; however, the higher scores are relative to the manufacturing companies in the sample. Further analysis is also required regarding specific industries within the services sector. In addition, longitudinal analysis can examine the patterns in time-based trends for these companies.

Overall, while this study was restricted to a sample across three countries, the results offer valuable insights concerning how entrepreneurial spirit and innovation are perceived in Asian organizations. Taking a cross-country perspective makes the results more relevant, as the results show country-specific differences. Asian companies are coming out of the traditional "follower" mentality with regard to innovation, but to progress further and achieve a more sustainable level of these philosophies, the companies must resolve industry- and country-specific differences so that they can be more effective in their business and strategies.

### References

- Antoncic, Bostjan, and Igor Prodan, (2008), "Alliances, Corporate Technological Entrepreneurship and Firm Performance: Testing a Model in Manufacturing Firms," *Technovation* 28, no. 5: 257–265.
- Antoncic, Bostjan and Robert D. Hisrich, (2004), "Corporate Entrepreneurship Contingencies and Organizational Wealth Creation," *Journal of Wealth Management*, 23, no. 6: 518-550.
- Antoncic, Bostjan and Robert D. Hisrich, (2001), "Corporate Intrepreneurship: Construct Refinement and Cross-Cultural Validation," *Journal of Business Venturing*, 16, no. 5: 495-527.
- Bernard, Taylor, (2003), "Board Leadership: Balancing Entrepreneurship and Strategy with Accountability and Control," *Corporate Governance: The International Journal of Effective Board Performance* 3, no. 2: 3–5.
- Beverland, Michael B., Julie Napoli, and Francis Farrelly, (2010), "Can All Brands Innovate in the Same Way? A Typology of Brand Position and Innovation Effort," *Journal of Product Innovation Management* 27, no. 1: 33–48.
- Bhattacharyya, Satyabir, (2006), "Entrepreneurship and Innovation: How Leadership Style Makes the Difference," *Vikalpa: The Journal for Decision Makers* 31, no. 1: 107–115.
- Brown, Terrence E., Per Davidson, and Johan Wiklund, (2001), "An Operationalization of Stevenson's Conceptualization of Entrepreneurship as Opportunity-Based Firm Behavior," *Strategic Management Journal* 22, no. 10: 175–190.
- Burgelman, Robert A., (1984), "Designs for Corporate Entrepreneurship," California Management Review 26, no. 2: 154–166.
- Campbell, Donald T., (1960), "Recommendations for APA Test Standards Regarding Construct, Trait and Discriminant Validity," *American Psychologist*, 15, no. 8: 546-553.
- Campbell, Donald T., and Donald W. Fiske, (1959), "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix," *Psychological Bulletin*, 56, no. 2: 81-105.
- Christensen, Clayton M., and Michael E. Raynor, (2003), *The Innovator's Solution: Creating* and Sustaining Successful Growth. Boston: Harvard Business School Press.

Colvin, Geoff, (2011), "World's Most Admired Companies," Fortune, 163, no. 4: 109-112.

- Chow, Irene. Hau-Siu, (2006), "The Relationship between Entrepreneurial Orientation and Firm Performance in China," *S.A.M Advanced Management Journal*, 71, no. 3: 11-20
- Dess, Gregory, Duane R. Ireland, Shaker A. Zahra, Steven W. Floyd, Jay J. Janney, and Peter J. Lane, (2003), "Emerging Issues in Corporate Entrepreneurship," *Journal of Management* 29, no. 3: 351–378.
- Diez, Javier Revilla, and Mathias Kiese, (2006), "Scaling Innovation in South East Asia: Empirical Evidence from Singapore, Penang, and Bangkok," *Regional Studies* 40, no. 9: 1005–1023.
- Drucker, Peter, (1985), Innovation and Entrepreneurship. New York: Harper Business Press.
- Ekvall, Göran, (2000), "Management and Organizational Philosophies and Practices as Stimulants or Blocks to Creative Behavior: A Study of Engineers," *Creativity and Innovation Management* 9, no. 2: 94–99.
- Engel, Jerome, and David J. Teece, (2012), "John Freeman: Entrepreneurship and Innovation
  Defined—A Personal Remembrance," *Industrial and Corporate Change* 21, no. 1: 245–248.
- Fidelman, Mark, (2008), "Where Are India's Innovative Companies, Products, and Solutions?" *Emerging Market Report* (May 9): 1–12.
- Ghiselli, E.E., J.P. Campbell, and J.P. Zedeck, (1981), *Measurement Theory for the Behavioral Sciences*. San Francisco: Freeman.
- Govindarajan, Vijay, and Christopher R. Trimble, (2005), "Organizational DNA for Strategic Innovation," *California Management Review* 47, no. 3: 47–76.
- Hair, J.F., R.L. Tatham, R.E. Anderson, and W. Black, (1998), *Multivariate Data Analysis*, 5th ed. Upper Saddle River, NJ: Prentice Hall.
- Hamel, Gary, (2001), "Avoiding the Guillotine," Fortune, April 2, p. 144.
- Hamel, Gary, (2006), "Innovation," Harvard Business Review 79, no. 5: 149–158.
- Hauser, John, Gerard J. Tellis, and Abbie Griffin, (2006), "Research on Innovation: A Review and Agenda for Marketing Science," *Marketing Science* 25, no. 6: 687–717.
- Heritage, Catherine, (2006), "Microsoft: Innovation through HR's Partnership," *Strategic HR Review* 5, no. 3: 24–27.
- Hindo, Brian, (2007), "At 3M, a Struggle between Efficiency and Creativity," *Business Week*, June 11, pp. 8–14.

- Hitt, Michael A., Duane R. Ireland, and Michael S. Camp, (2001), "Strategic Entrepreneurship: Entrepreneurial Strategies for Wealth Creation," *Strategic Management Journal* 22, nos. 6–7: 479–491.
- Hitt, Michael A., Duane R. Ireland, David G. Sirmon, and Cheryl A. Trahms, (2011), "Strategic Entrepreneurship: Creating Value for Individuals," *Academy of Management Perspectives* 25, no. 2: 57–75.
- Hornsby, Jeffrey S., Daniel T. Holt, and Donald F. Kuratko, (2008), "The Dynamic Nature of Corporate Entrepreneurship: Assessing the CEAI," Academy of Management Proceedings: 1–6.
- Hornsby, Jeffrey S., Donald F. Kuratko, Dean A. Shepherd, and Jennifer Bott, (2009),
  "Managers' Corporate Entrepreneurial Actions: Examining Perception and Position," Journal of Business Venturing 24, no. 3: 236–247.
- Ireland, Duane R., Michael A. Hitt, and David G. Sirmon, (2003), "A Model of Strategic Entrepreneurship: The Construct and Its Dimensions," *Journal of Management* 29, no. 6: 963–990.
- Kearney, Claudine, Robert D. Hisrich, and Frank W. Roche, (2010), "Change Management through Entrepreneurship in Public Sector Enterprises," *Journal of Developmental Entrepreneurship* 15, no. 4: 415–437.
- Kwaku, Atuahene-Gima, and Anthony Ko, (2001), "An Empirical Investigation of the Effect of Market Orientation and Entrepreneurial Orientation: Alignment on Product Innovation," *Organization Science* 12, no. 1: 54–74.
- Liu, Sandra S., Xueming Luo, and Yi-Zheng Shi, (2003), "Market-Oriented Organizations in an Emerging Economy: A Study of Missing Links," *Journal of Business Research* 56, no. 6: 481–491.
- Markides, Constantinos, (1998), "Strategic Innovation in Established Companies," *MIT Sloan Management Review* 39, no. 3: 31–42.
- Marvel, Mathew R., Abbie Griffin, John Hebda, and Bruce Vojak, (2007), "Examining the Technical Corporate Entrepreneurship Motivations: Voices from the Field," *Entrepreneurship Theory and Practice* 31, no. 5: 753–768.

- Miller, Danny, and Peter H. Friesen, (1982), "Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum," *Strategic Management Journal* 3, no. 1: 1– 25.
- Minniti, Maria, (2008), "The Role of Government Policy on Entrepreneurial Activity: Productive, Unproductive, or Destructive," *Entrepreneurship Theory and Practice* 32, no. 5: 779–790.
- Mondal, Wali, and Juan España, (2006), "Patent Rights, Mergers and Entrepreneurship in the Biotechnology Industry of Sweden," *Journal of American Academy of Business, Cambridge* 8, no. 1: 172–175.
- Owens, Jeremy C., (2012), "Biz Break: Apple Has Another Quarter of Mind-Boggling Revenues and Profits," *Mercury News.com*, April 24.
- "Leadership in High-Performance Teams: A Model for Superior Team Performance," *Team Performance Management* 11, nos. 1–2: 4–11.
- Salwen, Peter, (2003), "Fostering Innovation and Entrepreneurialism in a Value-Driven Organization," *Leadership and Management in Engineering* 3, no. 3: 153–159.
- Salz, Peggy Anne, (2006), "High Performance: The Key to Sustainable Success Is Unfettered Innovation," *The Wall Street Journal*, (March 8, 2006): A8.
- Short, Jeremy C., Todd W. Moss, and G.T. Lumpkin (2009), "Research in Social Entrepreneurship: Past Contributions and Future Opportunities," *Strategic Entrepreneurship Journal* 3, no. 2: 161–194.
- Stevenson, Howard H., and Carlos J. Jarillo, (1990), "A Paradigm of Entrepreneurship: Entrepreneurial Management," *Strategic Management Journal* 11, no. 4: 17–27.
- Stoner, James A.F., Edward R. Freeman, and Dariel A. Gilbert Jr., (1995), *Management*. Upper Saddle River, NJ: Prentice Hall.
- Sujansky, Joanne G., (2007), "Corporate Politics," Leadership Excellence 24, no. 6: 20.
- Su, Yu-Shan, Eric Tsang, and Mike Peng, (2009), "How Do Internal Capabilities and External Partnerships Affect Innovativeness?" Asia Pacific Journal of Management, 26, no. 2: 309–331.
- Tang, J., Z. Tang, L.D. Marino, Y. Zhang, and Q. Li, (2008), "Exploring an Inverted U-Shape Relationship between Entrepreneurial Orientation and Performance in Chinese Ventures," *Entrepreneurship Theory and Practice* 32, no. 1: 219–239.

- Wang, Zhongming, and Zhi Zang, (2005), "Strategic Human Resources, Innovation and Entrepreneurship Fit: A Cross-Regional Comparative Model," *International Journal of Manpower* 26, no. 6: 544–559.
- Wing, Linda S., (2005), "Leadership in High-performance Teams: A Model for Superior Team Performance", *Team Performance Management*, Vol. 11 Iss: 1-2 (4 11)
- Wolcott, Robert C., and Michael J. Lippitz, (2007), "The Four Models of Corporate Entrepreneurship," *MIT Sloan Management Review* 49, no. 1: 75–82.
- Wood, Christopher C., Daniel T. Holt, Timothy S. Reed, and Bryan J. Hudgens, (2008),
  "Perceptions of Corporate Entrepreneurship in Air Force Organizations: Antecedents and Outcomes," *Journal of Small Business and Entrepreneurship* 21, no. 1: 117–131.
- Yamakawa, Y., M.W. Peng, and D.L. Deeds, (2008), "What Drives New Ventures to Internationalize from Emerging to Developed Economies?" *Entrepreneurship Theory and Practice* 32, no. 1: 59–82.
- Yiu, Daphne W., and Chung-Ming Lau, (2008), "Corporate Entrepreneurship as Resource Capital Configuration in Emerging Market Firms," *Entrepreneurship Theory and Practice* 32, no. 1: 37–57.
- Zhao, Yongbin, Yuan Li, Soo Hoon Lee, and Long Bo Chen, (2011), "Entrepreneurial Orientation, Organizational Learning, and Performance: Evidence from China," *Entrepreneurship Theory and Practice* 35, no. 2: 293–317.

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