INNOVATION MANAGEMENT IN CHINA: WHAT CASTS A CLOUD?

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ABSTRACT
This study aims at analyzing, discussing and reporting the results of the qualitative study which is conducted to audit the management of the innovation process in Chinese (i.e. located in China) small and medium sized companies. The analysis is based on the five critical factors for innovation management: strategic orientation, effective external linkages, supporting processes, supportive organizational context, and organizational learning (Tidd et al., 2005). Prior to the present study, authors: Fees and Lankau (2008) conducted a quantitative exploratory survey research employing a structured questionnaire in order to analyze the status quo of innovation management in China and Germany. The results of their studies revealed several deficiencies with regard to managing innovation capabilities in Chinese companies; however, qualitative research is needed to explore the richness, depth, and complexity of this phenomenon. To probe into the issue further, the data analysis of this study adopts a triangulation strategy, i.e., to draw conclusions by comparing and contrasting the data from the interviews and the survey questionnaires.

The research uses a case study methodology and involves analysis of in-depth interviews with eight CEOs, and senior managers of the Chinese organizations.

As a result of the data analysis, three clusters (low potential, mediocre potential, and high potential) with differing patterns of behavior are formed. Overall, each case shows several deficiencies under each key dimension, yet, in few cases we find positive preconditions for successful innovation management.

Moreover, several negative attributes such as shortsightedness, centralization, and lack of systematic approach which cast a cloud on horizon of the successful innovation management are found to be dominant among the majority of cases.

KEYWORDS
China, Innovation management, Innovation capabilities, Organization and innovation

INTRODUCTION
China has the highest rate of economic growth over the world over the past 20 years. However, despite the fact that the growth rates of the Chinese economy during the last two decades are remarkable and will sooner or later provide the country with a leading role in world economy, Chinese economists and politicians are concerned with the huge growth rates which are not accompanied by appropriate profitability figures: China is in the role of being the world’s workbench, the country “… has been relying too much on foreign funds and technology to manufacture for the world at the expense of its resources and the environment” (Hu, 2006, p. 9). Evidence shows that many core innovation assets have not been utilized as expected in China. Guan (2002) asserts that technological developments in many Chinese firms rely heavily on imported hard technology.

In order to ensure sustainable growth it is seen as necessary to enhance the country’s innovation capacity. In 2006 the Chinese government launched a national campaign to enhance its capability for
innovation (China Daily, 2006). The base for this campaign is the “mid-and-long-term national plan for the development of science and technology (2006-2020)” (State Council of the People’s Republic of China, 2006). The implementation of the plan is starting with the 11th five-year plan for science and technology (S&T), issued in 2006: “The 11th five-year plan makes an important step forward. It is a major change, i.e., it seeks to establish a basis of what it calls independent innovation” (Stiglitz, 2006).

The Chinese government decided to spend huge amounts of money for this project; for 2007 an investment of 70 billion Yuan in S&T was planned.

The political initiatives and activities have put the spotlight on the macro-economic level, focusing on technological aspects: questions like how to develop the National Innovation System (NIS) or decisions about investments in key technologies are dominant. Although, the macro perspective is very important and necessary, it is not sufficient. Besides the macro-economic factors the micro-economic perspective –dealing with the company’s internal capability for innovations- has to be analyzed and managed. “So, the question is not whether to innovate or not, but rather how to do it successfully?” (Tidd, Bessant, and Pavitt, 2005)

In order to find out how Chinese companies are prepared for the “innovation challenge”, Fees and Lankau conducted an empirical study in 2008. They analyzed 173 Chinese and 163 German Small and Medium Sized Enterprises’ (SME’s) internal capabilities for successful innovation management. Later they compared the results of the analyses. Table 1 below shows the aggregate differences that exist between the two samples.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Germany</th>
<th>China</th>
<th>Δ</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>5.2</td>
<td>2.9</td>
<td>2.3</td>
<td>***</td>
</tr>
<tr>
<td>Learning</td>
<td>5.4</td>
<td>3.6</td>
<td>1.8</td>
<td>***</td>
</tr>
<tr>
<td>Strategy</td>
<td>3.9</td>
<td>3.6</td>
<td>0.4</td>
<td>*</td>
</tr>
<tr>
<td>Linkages</td>
<td>4.2</td>
<td>4.1</td>
<td>0.1</td>
<td>N.S.¹</td>
</tr>
<tr>
<td>Processes</td>
<td>3.1</td>
<td>3.0</td>
<td>0.1</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

¹:N.S. = Not Significant

As depicted above, it can be seen that, the German SMEs have scored significantly better than the Chinese SMEs in three dimensions of innovation management. These are in descending order according to the differences measured, Innovative Organization, Organizational Learning and Strategy.

Within the dimensions of External Linkages and Processes both countries’ SMEs showed about the same performance. Here, differences in the scores are only marginally in favor of the German SMEs and might be due to random variations.

Considering these results, a need for more detailed research to probe the issue further coupled with the authors’ curiosity prompted us to delve into the Chinese organizational structure through conducting interviews with top management and find out what is happening there. Thus, this study aims at analyzing the data collected from the interviews done with CEOs, and top managers of Chinese organizations.

**LITERATURE REVIEW**

In the dynamic environment of today, an inability to innovate will eventually cause businesses to stagnate and to go out of their businesses (Yam, Guan, Pun, and Tang, 2004). Many studies concentrated on the issue of innovation- more specifically technological innovation. Their results showed that technological innovation could bring positive impacts, enhancing the competitiveness of firms (Dierickx and Cool, 1989; Guan 2002). Thus far, governments, academics, industries as well as research institutes have shown a growing amount of interest on the importance of innovation and how innovations could be better managed. As a case in point, the UK Office of Science and Technology sees innovation as ‘the motor of the modern economy, turning ideas and knowledge into products and services’ (Office of Science and Technology, 2000). In the same fashion, the UK Department of Trade and Industry (DTI) sees technical innovation as one of the drivers of national competitiveness and
explores the ways to encourage companies to develop and ameliorate their innovation management processes and performance (Yam et al., 2004).

Recently, McCall Jr. (2008) conducted a study on formidable challenges faced by those who lead innovation. In his article, he presented ‘four common innovation mistakes’; namely, confusion about the leader’s role, a too narrow focus, mixed messages, and laissez-faire talent development that leaders shouldn’t do to obtain competitive advantage through innovation management.

In case of China, “during the central planning era of China, research was conducted by research institutes; resultant products were manufactured by factories, and the distributed by distributors” (Yam et al., 2004, p. 1124). In that time “manufacturing firms had neither the mandate nor incentive to introduce innovation and change” (Ibid). However, China has experienced a series of innovation reforms in 1990’s. Over the past two decades, the Chinese innovation system has been immensely impacted by the transformation of the Chinese economic system from a centrally planned to a free market economy (Brockhoff and Guan, 1996; Liu and White, 2001a, b). The Chinese government has made spectacular progresses towards a more effective and efficient national innovation system vis-à-vis its past performance under central planning. Changes come from everywhere: government legislation, administrative system, evaluation system, R&D funding system, and redistribution of innovation activities among research institutes, manufacturers, universities and government departments (Yam et al., 2004). Moreover, the complexities and dynamism of this transitional environment of China makes the job of conducting the business more challenging because the firms are not only confronted with the challenges of new competition but also collapsing capabilities (Li and Atuahene-Gima, 2001). However, there are quite a number of studies conducted to shed light on the Chinese National Innovation System (De Luca and Atuahene-Gima, 2007; Farhoomand, 2005; Motobashi and Yun, 2005; Li and Atuahene-Gima, 2001). As an illustration, Motohashi and Yam (2005) investigated the existing linkages of S&T activities between industry and science in the context of innovation system reforms (Also see: Gu, 1997; Farhoomand, 2005). Farhoomand (2005) examined the national innovation systems of China and the Asian newly industrialized economies (ANIEs); namely, Taiwan, South Korea, Singapore, and Hong Kong in order to find the differences that exist between the ANIEs and China in terms of their respective strategies. Also, based on the comparison, he tried to assess the likelihood of China in achieving a comparable level of innovation as the ANIEs.

However, the managerial issues with regard to innovation are increasingly discussed based on marketing literature targeting at factors such as market knowledge (Day 1994; Li and Calantone 1998), cross-functional collaboration (Kahn and Mentzer 1998; Song and Parry 1997) or under the key word of “R&D management in China” (von Zedtwitz, 2004). There are also very interesting studies running at Chinese universities and institutes, e.g. at Tsinghua University or at the Institute of Policy and Management at the Chinese Academy of Sciences in Beijing.

Scholars believe that building a self-sustaining capability for innovation is a leadership challenge, i.e. innovation is something that has to be spearheaded by the CEO (Skarzynski and Gibson, 2008). “Without the full engagement and commitment of the company’s leadership team, the idea of making innovation a core competence doesn’t stand a chance” (Ibid). Additionally, the top management team’s strategy with regard to innovation should be clearly communicated to employees who “are regarded as major sources of change, creativity, learning, and innovation” (Huang, Vliert, and Vegt, 2005). That is why ‘strategy’ is an important dimension of our study framework.

**METHODOLOGY**

A qualitative study is designed to investigate, in details, the deficiencies in managing the innovation capabilities; namely, the dimensions of organization, learning and strategy in Chinese companies. The qualitative approach is chosen mainly because qualitative data have strong potential “to supplement, validate, explain, illuminate, or reinterpret quantitative data gathered from the same setting” (Miles, and Huberman, 1994, p. 10). In the same fashion, Westbrook suggests that combinations of quantitative and qualitative approaches provide the most complete or insightful understanding of the problem (1994).

This study focuses on eight interviews with CEOs, and senior managers of the Chinese organizations located in China. Table 2 illustrated the specification of each company. The study employs a purposive non-random sampling in which the number of people interviewed is less important than the criteria...
used to select them. The characteristics of individuals are used as the basis of the selection. These criteria are prioritized as follows:

- Holding a critical position in the organization,
- Being familiar with different departments of the organizations and their scope of activities,
- Having a pivotal role in developing the organization strategy, and implementation of it.
- Being Feasible to access the interviewees

The respondents of this study are selected CEOs, and senior managers of the organizations. The respondents were approached via a third party (our networks in China). In case the CEO could not make himself available, he had been asked to nominate another senior manager that authors could approach. Participants’ interviews were treated with the utmost confidentiality, and they were ensured that their contributions would neither be attributed to them as individuals nor to the companies they represent. Table 2 below illustrates the specifications of the cases studied:

<table>
<thead>
<tr>
<th>Case</th>
<th>Ownership</th>
<th>Origin of TM1</th>
<th>Industry</th>
<th>Age</th>
<th>Target Sales Market</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Production</td>
<td>10</td>
<td>International</td>
<td>700</td>
</tr>
<tr>
<td>Case 2</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Service</td>
<td>10</td>
<td>Local</td>
<td>470</td>
</tr>
<tr>
<td>Case 3</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Production</td>
<td>7</td>
<td>International</td>
<td>130</td>
</tr>
<tr>
<td>Case 4</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Production</td>
<td>5</td>
<td>International</td>
<td>50</td>
</tr>
<tr>
<td>Case 5</td>
<td>Chinese</td>
<td>Chinese</td>
<td>Service</td>
<td>9</td>
<td>International/Local</td>
<td>135</td>
</tr>
<tr>
<td>Case 6</td>
<td>Foreign</td>
<td>Chinese</td>
<td>Production</td>
<td>7</td>
<td>International</td>
<td>153</td>
</tr>
<tr>
<td>Case 7</td>
<td>JV</td>
<td>Chinese</td>
<td>Production</td>
<td>8</td>
<td>Local</td>
<td>300</td>
</tr>
<tr>
<td>Case 8</td>
<td>JV</td>
<td>Chinese</td>
<td>Production</td>
<td>9</td>
<td>International/Local</td>
<td>500</td>
</tr>
</tbody>
</table>

1: TM: Top Management

Our fundamental principle of interviewing was to provide a framework through which respondents can express their own understanding in their own terms. Therefore, we used the semi-structured interview, and open-ended interview style. A combination of types would work better. The main reason is that “predesigned and structured instruments blind the researcher to the site” (Miles, and Huberman, 1994, p. 35). However, qualitative research “lives and breathes through seeing the context; it is the peculiarities that produce the generalities, not the reverse” (Ibid). However, due to the fact that part of the aim of our study was of confirmatory nature, and not purely exploratory we designed a semi-structured instrument.

The interview mode was face-to-face. This mode was chosen due to three chief reasons: firstly, the data collected is more detailed, richer and due to the face-to-face it is a means of validating the data; secondly, it produces a better response rate; thirdly, it allows the researcher to ‘sell’ the thing to the potential respondents in a way far better than that of questionnaire and telephone interview. Additionally, in case the CEOs did not have a good command of English, the interview was done in the Chinese language and then the hand notes were translated into English. Each interview approximately lasted for one hour.

How pre-structured should our qualitative research design be? As Wolcott (in Miles, and Huberman, 1994, p. 17) puts it, there are pluses in open mindedness, keenness, and eagerness to walk into a research setting searching for queries and answers, yet it is “impossible to embark upon research without some idea of what one is looking for and foolish not to make that quest explicit”. Thus, “tighter designs are a wise course” which provides clarity and focus by lighting up the road of research. However, much qualitative research lies in between (Miles, and Huberman, 1994). Therefore, authors structured the design of the study around the concept of Tidd, Bessant, and Pavitt's book of “Managing Innovation” which is one of the leading textbooks in the field of innovation for consecutive years. The aim is to provide an integrative approach to the management of innovation, i.e. considering market, technological, and organizational issues. The concept is not focusing on a single dimension of innovation, such as R&D, or market orientation, organization structures and processes, because reality has revealed that this is not sufficient. The integrated approach does not favor a “one best way” solution, but seeks for the links that exist among the various dimensions, while at the same time
considering the specific technological and market environments. The process of innovation management is seen as being essentially generic, although internal and external factors will influence its optimum shape. Tidd et al. (2005) identified five key areas relevant to the successful innovation management: namely, Strategy, Organization, Process, Linkage, and learning. So the main questions of our interviews were designed around these dimensions. The analysis of these areas allows a description of how an organization handles the question of innovation (“innovation audit”).

Qualitative Data Analysis (QDA). The analysis induction process is undertaken according to the coded data while avoiding intensive coding early in the analytic process. The researchers collect, code, sort, sift, analyze, and contrast the data to show the structure and relationship between key elements: five dimensions relevant to a successful innovation management mentioned earlier and the Chinese style of management. Also, we reaped the benefit of the iterative and recursive fashion of analyzing the data by constantly returning to early steps in order to come up with new things, possible associations, and patterns. The data collected from each company has been firstly treated as a single case study; later on, the data from cases were put together in a meta-matrix (excel file) for the sake of running multiple-case analysis and drawing conclusions based on similarities, and peculiarities of the cases.

In this study we use multi-case designs. One aim of studying multiple cases is “to increase the generalizability, reassuring researchers that the events and processes in one well-described setting are not wholly idiosyncratic” another is “to see processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus to develop more sophisticated and more powerful explanations” (Miles, and Huberman, 1994, p. 172). Also, authors chose a mixed strategy as a combination of case-oriented and variable-oriented approaches to analyze the interviews. In this paper we will only present the first most important results which concern Chinese companies. In the follow-up studies we will address the issue in Germany and compare the results of two qualitative studies with one another.

Theoretical Model. Based on Tidd et al.’s model of five key elements for successful innovation management authors expanded a model through inventing new sub-dimensions under each key dimension and linking them to the successful innovation management. The expanded model, then, underwent a morphosis, was pruned, tested and revised through the process of analyzing the data collected from interviews. Later on, new elements, more specifically, codes were tagged to the discovered situation-specific pieces of information and four major clusters were formed. Figure 1 below depicts the five main dimensions and their sub-dimensions.
This model links five key elements of innovation management. Strategy, Organization, Linkage, Process, and Learning are connected directly to one another and as whole if all of them are at place - they provide the organization with a fruitful precondition for successful innovation management. In addition, each sub-dimension is directly linked to one key dimension and indirectly to key dimensions in a loop. That is each existing element in this model plays a role in managing innovation successfully.

In what follows we elaborate briefly on each element.

**Strategy** assesses the extent to which a company has a clearly defined and formulated strategy, is it communicated throughout the organization and well explained to employees? Is the strategy flexible and changing to adjust with the turbulent environment? Are there any discussions taking place about the future, how often, who is involved, what departments? And finally, to what extent is the organization decentralized and allows individuals to contribute to the organization.

**Organization** assesses the structure of the organization. Is it top-down, or bottom-up? How rough or flexible it is? The way the responsibilities are shared and how decisions are made. How communication takes place in such a structure and how teams are being built, and supported. **Process** touches upon the existence of sound process to come up with new ideas. The way they are screened, handled, and materialized. From the outset to the end!

**Linkages** is an assessment of how the relationship between company and suppliers, customers, competitors, universities, research institutes, consulting companies and experts look like? Is there any collaboration? How often? How do they maintain it? To what does it lead at the end?

**Learning** is an assessment of the lessons learned from the mistake and the experience gained through the interactions. It assesses the way the company records the mistakes and effectively communicate it through the organization. It also touches upon employees’ qualification issue and advancement of their knowledge. Whose responsibility is it to attend to this issue?
RESULTS AND ANALYSIS

The results of the analysis of each interview as a separate case are presented below. Each case is analyzed based on five key dimensions. In what follows, the details of each dimension are mentioned very briefly based on interviewees’ quotes; however, when necessary, the authors provided the exact wordings in quotes (italicized).

Case 1
Strategy: Top Management has a clear strategy.
- Not communicated
- Strategic analysis day-by-day-driven
- CEO is most important source of innovation

Linkages: Tight collaboration with suppliers and important customers
- No collaboration with universities and other companies
- From time to time help from consultants

Organisation: Clearly defined structure with precise responsibilities
- CEO very strong (all important decisions)
- Communication top-down
- Only project-based team-work (order fulfillment)
- Task focused employees; suggestions have no influence

Processes: Ideas typically come from Top Management
- Discussions with suppliers on innovations
  “For technical stuff sometimes ideas from R&D”

Learning: Employees have to take care of themselves for further education
- “As long as job is done we don’t think about further education.”
- “Instead of developing employees we look for qualified ones in market or other companies; training belongs to top management only.”
- “We have internal review meetings talking about the mistakes.”

Case 2
Strategy: Top Management has a clear strategy.
- Not communicated
- Strategic analysis is done by a special department

Linkages: Good relationship with suppliers and big customers (otherwise purely commercial relationship)
- No collaboration with universities: “Research plays no role for us.”
- Having only commercial relationship with other companies
- From time to time get help from consultants

Organisation: Clearly defined structure with precise responsibilities: “Every department has a very clear objective to achieve.”
- CEO is very strong: “Decisions are always taken by the CEO”
- Communication top-down
- Only project-based team-work (order fulfillment)
- Task focused employees; “We copy ideas by looking at foreign companies.”

Processes: Ideas typically come from Top Management
- No process to put ideas into practice

Learning: “Only managers are qualified, normal employees are no so!”
- “We do training only in case of urgent need.”
- “We have training courses only for Top Management.”
- Discussions happen among employees.
Case 3

Strategy: Top Management has a clear strategy. Communicated and explained to “head of departments, but low level employees are not aware of company strategy.”
To watch competitive environment “CEOs talks with the managers of foreign customers.” They see copy right as a problem!
No regular permanent discussions, but “immediately if required!” Majority of discussions about future challenges take place in top management
“External issues do not affect the formation of company strategy”
CEO is most important source of innovation.

Linkages: Tight relationship with suppliers, but not regular, “yet friendship plays a role.” “We form development by chance”
Purely commercial relationship with customers
Once a year collaboration with universities
Cooperation with the companies based on a commercial basis- “we are afraid of having a spy in the company.” From time to time get help from experts to solve technical problems

Organization: Clearly defined structure with precise responsibilities: “Under CEO control, just like a pyramid.”
CEO is very strong: “Important decisions are always taken by the CEO”
Top-Down Communication, “sometimes employees write to Top Management.”
“We form quite often cross-functional teams.”

Processes: Employees express ideas through suggestion box.
“Ideas come from CEO, and R&D dept., almost 20% of our innovation is from R&D. R&D focuses on application development 80%.”
No systematic process to search for the ideas and select among them
Put ideas into practice based on Top Management experience
Appreciation: money, career development, salary raise

Learning: “Employees are responsible for self-improvement because training cost a lot to management.”
“We compare ourselves with other companies to learn.”

Case 4

Strategy: Top Management has a clear strategy. Communicated: “low level employees don’t know about it.”
Watch competitive environment through CEO networking
Discussions about future challenges happen in top management.
“External issues play no role.”
CEO is most important source of innovation.

Linkages: Good relationship with suppliers: “we’re trying to change the basic material for our products with the help of suppliers.”
Commercial relationship with customers
“Top management learns the new technology and teaches it to head of each department. Later, head of each department passes the knowledge down to employees.”
Cooperation with the companies on a commercial basis
Connection to experts and consultants is based on the situation

Organization: Clearly defined structure with precise responsibilities
“Directly controlled by CEO”
CEO is very strong: “Important decisions are always taken by the CEO”
Top-Down Communication, “official and serious data-based meetings”
Within department teamwork
Team’s goals come from CEO.

Processes:
Ideas come from CEO: “CEO’s friends give good suggestions.”
Employees express ideas through suggestion box
Appreciation: if company successfully implements it, then the idea holder is rewarded.
No systematic process to search, to select and to put ideas into practice

Learning:
Only top managers undergo training
Normal employees receive training only in urgent cases.
“We solve small problems by talking, for huge problems like quality problems, we do a research to find the source and the responsible person.”

Case5
Strategy:
No formulated strategy- flexible- depends on the market
Watch competitive environment through attending exhibition, talking with friends in other branches: “We watch our competitors and learn.”
Discussions about future challenges happen in top management
“External issues such as cultural attitudes affects our decisions .”

Linkages:
Good relationship with suppliers
Commercial relationship with customers
“Market research plays no role for us.”
No cooperation with the companies, “just other branches”
Regular connection to experts and consultants

Organization:
Precise responsibilities
Decisions are made by CEO
Top-Down Communication
Different departments work very tightly together, “we form cross- functional teams quite often.”

Processes:
Ideas come from CEO
Employees express ideas through suggestion box- talk with head of department
Appreciation: money
No systematic process to search for the ideas, to select and to put them into practice

Learning:
Urgent based training
“We learn from mistakes through oral communication with one another.”

Case6
Strategy:
Top Management has a clear strategy.
Communicated through end of year big meeting: Low-level employees are Invited.
“Top management draws end-of-year conclusions and inform employees of the new year plans.”
Strategic analysis is day-by-day-driven. “We don’t attend exhibition, we copy products.”
Discussions about future challenges happen in top management- relevant employees are involved!
“Cultural issues affect our strategy formulation.”
“Urgent issues from departments are taken into account.”
R&D is important: “We used to have one and plan to have it again.”

Linkages:
Good relationship with suppliers “based on our friendship”
No contact with customers
Innovations come from the parent company
Links to universities are based on parent company orders
No cooperation with other companies
"From time to time top management gets consultancy"

Organization: Clearly defined structure with precise responsibilities
Decisions are made by "appropriate employees without extensive
Formalization; managers in each department has some degree of
power to make decisions but they need to discuss it with top management."
Communication is top-down- "sometimes bottom-up, if an employee has an
idea he can talk with top manager."
Within department teamwork: "we organize workshops to teach them about
the importance of teamwork,... we give them resources but team goals come
from management."

Processes: Ideas come from CEO
Employees express ideas through suggestion box, talk with head of
department- filling out written forms.
Appreciation: No fixed process- "job promotion, sometimes travel
expenses"
"Based on the project we use new ideas, find a leader, and build a team."

Learning: "We have training for top and middle managers....we have urgent based
training for employees.... training costs a lot and adds to our expenses."

Case 7
Strategy: Top Management has a clear strategy
Communicated through end of year big meeting- Low-level employees learn
about it.
"Top management has a department under his control to watch the
competitive environment. And we use the information for strategy
formulation."
Discussions about future challenges happen in top management- relevant
employees are involved!
R&D is important- Innovations mainly come from R&D

Linkages: Good relationship with suppliers "based on the situation"
Tight collaboration with customers: "We meet regularly."
No links to universities
Links with other companies: "We share experiences 2, 3 times a year."
"Very often we get consultancy from external experts."

Organization: Clearly defined structure but overlapping responsibilities
Decisions are made by experts in the area
Communication is mainly top-down "like a pyramid",
"sometimes bottom-up"
Only project-based team-work

Processes: Ideas come from employees: "Employees are encouraged by top and middle
management to develop good ideas... they have management support."
Not fixed but there are some processes
Appreciation: Money

Learning: "We have training for middle managers and normal employees..."
"Good experience shall be communicated among employees. Employees
should suggest new soft-skills, ideas,..."

Case 8
Strategy: Top Management has a clear strategy. "Middle management is involved in
strategy formulation."
Not communicated
Strategic analysis is day-by-day-driven.
Discussions about future challenges happen in top management

Linkages: Good relationship with suppliers “we have monthly meeting.”
Good relationship with customers but not on a regular basis
Innovations come from the parent company
No Links to universities and other companies

Organization: Clearly defined structure with precise responsibilities: "under the CEO control"
Clearly defined processes for decision making, but decentralized: “We have democracy.”
Communication is top-down- “but sometimes bottom-up”
From time to time we build project-based team-work, no team training

Processes: Ideas come from CEO and employees
Employees express ideas through suggestion box, and monthly surveys-
Managers have reading club and group discussions.
“Top management selects ideas by talking with middle managers.”
Appreciation: HR takes action. E.g. cash, job promotion

Learning: “70%, they are responsible for their training and development, 30% we have in-house training for middle management.”
“We have handbooks for solving small problems, and for big problems we stick them on the blackboard and discuss.”

DISCUSSION

In view of the results, it can be seen that even if each company is a unique case with regard to its setting, organizational goal, resources, size and scope of activities; however, almost all our eight cases show similar positive performance with regard to having a clear strategy, watching competitive environment, having good relationship with suppliers, and having clearly defined organizational structure with precise responsibilities. As Miles and Huberman put it, “each case must be understood in its own terms, yet we hunger for the understanding that comparative analysis can bring” (1994, p. 172). Therefore, by comparing the cases’ similarities and differences, pieces of information are clumped together forming three main clusters; namely, low potential which contains companies with weak preconditions for a successful innovation management, mediocre potential which includes companies having at least few supportive potentials concerning the issue, and finally high potential which comprises companies having stronger preconditions than the other two for a successful innovation management. In what follows, we present the clusters in details.

Cluster 1: Low Potential
Taking a closer look at our cases we could detect a pattern in which companies (cases 1, 2, 3, 4, 5) shared several similarities with minor variations. These characteristics are: not communicating the strategy to all employees as the building blocks of their organization; having a very centralized organizational structure where CEO/ top management keeps a tight rein on the system being the main source of new ideas, innovation, strategy development; having top-down mode of communication described by cases as pyramid. Employees suggest their ideas at best through suggestion box.

What’s more, they have purely commercial relationship with their customers, and if there is a good relationship, the customer should be a big one or an important one, in simple terms, a profit making one, and not simply a normal or new customer; the members of this cluster have almost no systematic or tight collaboration with universities, research institutes to build teams to accomplish mutual projects; they do not have a regular connection with consulting agencies and experts from outside the organization; they have almost no connections with other companies or competitors in the market to pool their capabilities and resources and form mutual projects to bring about breakthroughs, and if they have any connection with other companies it is only a mere commercial relationship which does not fulfill our interpretation of collaboration.

These organizations are mainly of the opinion that employees are responsible for themselves with regard to training and development, and knowledge improvement. Training and development mostly
belongs to top management level, and not simple employees holding no managerial position unless there is an urgent case! They view training as an expense and not an investment.

In these organizations, ideas mainly come from top management. Obviously, they lack having a systematic approach to search for novel ideas inside the organization, to select the cream of the crop from the pool and to implement the idea by finding the right champion and backing him up till the final stage of innovation implementation.

As for recording and communicating past experiences in order to learn from the mistakes, they suffer from lacking a systematic approach. Sometimes discussions happen among the employees, or they have some internal meetings, but surely there is no data base and fixed procedure to communicate the knowledge.

All members of this cluster are owned and run by the Chinese.

**Cluster 2: Mediocre Potential**
Cases 6 and 8 show at least few supportive attributes with regard to managing innovation potentials successfully.

As for case 6, top management has a clear strategy. The company’s organizational structure is to some extent decentralized. Appropriate employees make decisions without extensive degree of formalization; communication is sometimes bottom-up and employees can talk with top manager. Employees can suggest ideas through some procedures like filling out some forms and talking with department heads. There are some processes in place to find innovative ideas, the champion, and build the team; however, these processes are not very well established. Workshops are organized for teams on the importance of teamwork.

Case 8 has a good relationship with customers but not on a regular basis. It has a sort of decentralized organizational structure and there is sometimes bottom-up communication. Ideas move from employees to top management through monthly surveys. Managers have reading clubs and group discussions, and they have methods such as handbook and blackboard discussions for problem solving.

As for these two cases’ ownership, case 6 is a subsidiary of a foreign company and it has a mixed management team (Chinese and foreign members). Case 8 is a joint venture with purely Chinese top management team.

**Cluster 3: High Potential**
Case 7 seem to be the best in our class having strong potentials for a successful innovation management. Its top management has a clear strategy. It has a tight regular collaboration with its customers. It has links with other companies sharing experiences 2, 3 times a year; and it seeks consultancy from external experts very often. Decisions are made by the experts in the area. However, communication mode is still mainly top-down, but sometimes bottom-up and ideas come from employees because they are encouraged by top and middle management. Even if they have some processes in place to search and select new ideas, they are not systematic. They have training for normal employees and good experiences shall be communicated among them.

Case 7 is a joint venture with a mixed management team (Chinese and foreign members).

**CONCLUSION**
The findings of our qualitative study on the five key dimensions of successful innovation management are in line with the results of the quantitative study conducted by Fees and Lankau (2008). The qualitative study by taking the multiple-case analysis approach helps us gain a deeper understanding on the subject, and form three clusters with differing patterns of behavior.

Furthermore, case-by-case analysis reveals several negative attributes which cast a cloud on the blue horizon of successful innovation management. To name a few, we can mention centralization, mistrust, shortsightedness, and lack of systematic approach. Based on the Western viewpoint on how innovation potentials should be managed by an organization, it should be noted that an organization which is highly centralized, reluctant to establish relationship with the universities and research
institutes, ignorant of having connections with other companies—which could be rooted in mistrust as few cases mentioned deliberately—and characterized by shortsightedness due to viewing employee training and educational advancement as expense or cost rather than a fruitful investment with long term return in forms of better employee qualification, lower turnover, employee loyalty, and organizational efficiency does not seem to have the fruitful preconditions of the successful innovation management.

In follow of what has been just mentioned above, further research is required to investigate the influence of variables like the role of ownership, age and size of the company etc., and establishing systematic processes to search and select the novel ideas from inside and outside the organization and to streamline these ideas up to implementation.

The results of these studies can be employed to develop concrete improvement measures, which could be a stepping stone for Chinese managers to make a shift in their management style heading towards the horizons of successful innovation management which at the end could hopefully bring overall success to the micro-economy level of the country. Needless to say that the suitability of taking the Western management paradigms to analyze East-Asian management practices should be systematically evaluated.

REFERENCES
Farhoomand, A F 2005a, ‘Nationally innovation systems of China and the Asian newly industrialized economies: A comparative analysis’ Asia Case research Centre, The University of Hong Kong.
Farhoomand, A F 2005b, Small business management and entrepreneurship in Hong Kong: A casebook, Hong Kong University Press, Hong Kong.


