

Major Determinants Affecting the Autonomy of Multi National Corporation Subsidiaries in China

Canon Tong

International Graduate School of Business

University of South Australia

Adelaide SA, Australia

E-mail: canon.tong@unisa.edu.au

Anthony Wong

Newcastle Graduate School of Business

University of Newcastle

Callaghan NSW, Australia

E-mail: awong@cihe.edu.hk

Eddie Yiu-fai Kwok

Target Link Enterprises Limited

Email: eddieyfkwok@hotmail.com

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Abstract

In recent years, studies of multi-national corporations (MNC) have shifted their focus from the perspective of the MNC itself to the perspective of transnational networks, which has resulted in greater recognition of the role and function of MNC subsidiaries. China's membership of World Trade Organization has offered more opportunities for MNC in China with the consequence that many of their subsidiaries have become international players where subsidiary autonomy is considered an essential competency. World famous MNCs set up subsidiaries in succession to occupy a market share in China. Therefore, it is worthy to study MNCs' Chinese subsidiaries' behaviour. This quantitative study therefore examined the role

and autonomy of MNC subsidiaries in China and their relationship with their parent corporations. This quantitative study analysed the way in which the literature on subsidiary autonomy has evolved and identified determinates of such autonomy. The findings revealed that there are correlations between MNC procedure justice, subsidiary integration, subsidiary local responsiveness, and subsidiary relative capability and their influence on subsidiary autonomy. This suggests that the role of a subsidiary is highly influenced by its position in the MNC network.

Keywords: multinational corporations, subsidiary autonomy, dyadic relationship, MNC dependence, knowledge inflow, knowledge outflow, subsidiary network, subsidiary's resources, China

Introduction

After 30 years of development under its open door policy, China has gained worldwide recognition for its economic achievements and has been very successful in attracting foreign investments. According to the Peoples Republic of China's Ministry of Commerce, from 1978 to 2008 China's total foreign investments amounted to US\$8597.49 billion. Statistics show that the types and amount of foreign direct investments (FDI) in China have undergone remarkable change. The total investment in the country and individual investment per company have increased dramatically. A significant shift from labour intensive to technology intensive investments has occurred and large multinational corporations (MNCs) have entered the Chinese market systematically (Deng, 2005).

Deng (2005) cited a report in the Merchants Weekly Journal claiming that MNCs will continue to be an integral part of China's economic system. The report also stated that China is now Volkswagen's biggest market worldwide, and is the second biggest market for Nokia, INTEL, Lucent, Samsung, LG, Philips, and Kodak. Ever since China's membership of the World Trade Organisation (WTO), regulations and restrictions imposed on many industries have been lifted or relaxed to a great extent, offering more opportunities for MNC enterprises. This has manifested in a growth of subsidiaries operating in China.

Recent research on MNCs has shifted from a headquarters-centric perspective (Teece, 1986; Hymer, 1976) to a transnational network perspective (Yao and Xi, 2003; Zhao, 2002; Hedlund, 1993; Bartlett and Ghoshal, 1989; Hedlund 1986; Perlmutter, 1969). Under the network perspective, the role and function of MNC subsidiaries (hereafter referred to as subsidiaries) have been widely discussed (Bartlett and Ghoshal, 1990; Porter, 1986). Through the past 30 years of economic development, the role of subsidiaries in China has changed. Some subsidiaries no longer play a submissive role, dictated to by headquarters but have achieved international player or product mandate status (Roth and Morrison, 1992). Therefore, the behaviour of MNC and their subsidiaries in China is considered worthy of academic attention. To boost understanding of the crucial roles MNC and their subsidiaries play in China, this study focused on the behaviour of MNC subsidiaries in China.

This research attempted to answer the overarching research question. What are the issues and factors impinging on autonomy of MNC subsidiaries in China? To address this broad question, four sub-questions were formulated: What is the level of influence of the MNC-subsidiary dyadic relationship on the autonomy of MNC subsidiaries in China? What is the level of influence of subsidiary-MNC dependence on the autonomy of MNC subsidiaries in China? What is the level of influence of subsidiary resources on the autonomy of MNC subsidiaries in China? What is the level of influence of subsidiary network characteristics on the autonomy of MNC subsidiaries in China?

In order to address the sub-questions, a conceptual model was developed based on the following four constructs: MNC-subsidiary relationship, subsidiary-MNC dependence, subsidiary resources, and network characteristics. Hypotheses were established to test the conceptual model using appropriate methodologies. The results provide a description of the roles of MNC subsidiaries in China and how their roles are influenced by a subsidiary's position in a MNC network. Subsidiary behaviour has been examined from a MNC network perspective, with emphasis on the effects of interdependent relationships between a MNC and its subsidiaries, and the intrinsic characteristics and resources of subsidiaries. It is expected to make a contribution to the body of work commenced by Birkinshaw and Hood (1998) by demonstrating how a subsidiary's behaviour is simultaneously influenced by its MNC parent

company, its own characteristics and resources, and the local environment. It will add to the current understanding of subsidiary evolution, subsidiary roles, and MNC-subsidiary relationships, all of which are main research streams in contemporary MNC-subsidiary studies. As the research was conducted in China, the results could be applicable to MNC subsidiaries in other developing countries.

Furthermore, this research may have implications for state and local government policy making. China's government has recognized the importance of MNC subsidiaries to the national economy by providing tax relief and other support for these corporate entities. In order to maintain a level of competitiveness equal to or better than local firms, MNC subsidiaries need to understand the implications of hiring local expertise and of sourcing local components, practices that will impact both the complexity and pace of China's global integration and local responsiveness. Policies that influence this type of corporate strategy will have implications for the integration of subsidiaries into a MNC network and their self-determination. Further studies in the area of political and economic policy initiated by local and state governments will shed more light on the area studied in this research.

Literature Review

Subsidiary autonomy

Autonomy is related to the division of decision-making power between an organization and its subunits. Autonomous subunits are able to independently employ resources to solve their particular problems (Garnier, 1982). Taggart and Hood (1999) argued that autonomy is the result of an on-going bargaining process between a company's centre and its subsidiaries. Vachani (1999) concluded that there is an inverse relationship between the degree of control of a MNC over its subsidiaries and subsidiary autonomy. Deferring to studies from scholars such as Taggart and Hood (1999), Birkinshaw and Morrison (1995), and Garnier, Gates and Egelhoff (1986), this study defines subsidiary autonomy as: the degree of decision-making power authorized by a MNC to its subsidiaries.

When a subsidiary makes all its own decisions without consulting its parent company, it has the highest level of autonomy; when all decisions in subsidiaries must be submitted to their MNC for approval, a subsidiary has very low or no autonomy. It should be noted that definition of subsidiary autonomy carries the assumption that autonomy is simultaneously affected by two factors: control and coordination (Hou, 2005). Firstly, autonomy may not be given to subsidiaries due to their parent company's wish to retain control over subsidiaries' activities. Secondly, full autonomy may not be given to subsidiaries because of having to operate in coordination with the rest of the MNC network.

Factors affecting Autonomy of Subsidiaries

Birkinshaw (1997) demonstrated that the concepts of heterarchy (Hedlund, 1986) and a MNC network (Bartlett and Ghoshal, 1989) provide access to the concept of subsidiaries as semi-independent organizations in a diversified system. Within the context of a multinational network, some subsidiaries will necessarily have higher autonomy (Ghoshal and Nohria, 1989) and differences among subsidiaries could be understood from two points of view.

One of the views suggests that subsidiary autonomy is related to their roles and structure, which the parent company will decide. This is in consideration of the capabilities of subsidiaries, the complexity of their environment, and their strategic importance from the perspective of their parent company (Bartlett and Ghoshal, 1989; Ghoshal and Nohria, 1989). The second point of view contends that since subsidiaries are the original possessors of the

ability to make strategic choices, their strategies should not be designated and constrained by a parent company. What's more, with the development of their abilities, subsidiaries are able to exercise their discretion and negotiate with their parent companies rather than simply passively accepting strategic roles designated to them. Subsidiaries, therefore, should have considerable autonomy. Birkinshaw (1997) stated that the above two points are complementary even if a parent company recognizes that complete control is not possible or unnecessary. Therefore the right to autonomy and control is a trade-off between the two.

The autonomy of subsidiaries has been discussed by many scholars. However, many previous researches have been overlook, including a relatively recent research on MNC networks (Ghoshal and Bartlett, 1990); and the influences of management characteristics, entrepreneurship, and subsidiary autonomy (Birkinshaw, 1997). This study therefore probed influences on the autonomy of subsidiaries from perspectives that have been omitted in previous studies and included factors that other researchers have completely ignored.

MNC-subsidiary relationship

Research on the MNC-subsidiary relationship is rooted in the theory of structural context (Lawrence and Lorsch, 1967; Thompson, 1967), which maintains that every subsidiary has to respond to its own environment with appropriate forms of organization. As the environments faced by subsidiaries differ considerably, the issue of how best to cope with varying organizations is extremely important. Research topics have included MNC centrality and power over subsidiaries, degrees of formalization, coordination mechanisms, and cultural control (Birkinshaw and Hood, 1998b; Ghoshal and Noihria, 1989). In general, senior management decides on the relationship between parent and subsidiary (Perlmutter, 1969).

Decision stages in the internationalization of the relationship between parent and subsidiary companies (Johanson and Vahlne, 1977). Their studies contended that the process of the expansion of enterprises' overseas businesses can be divided into four stages: the export stage; the sales subsidiary stage; the overseas production stage; and a subsidiary of the network stage. This four-stage development was said to be a continuous, gradual process, which progressed in parallel with the geographical scope of the transnational corporation's overseas expansion, and the evolution of the business mode. This inevitably brought about changes in the organizational structure of a multinational corporation, as well as the evolution of the parent-subsidiary corporate relationship.

The parent company controls and coordinates over subsidiaries (Ghoshal and Nohria, 1989). Their studies suggested that a parent company should adopt different management strategies depending on the combination of environment and resource factors. They also argued that control and coordination of subsidiaries can be centralized, normalized, or standardized. Among all topics in the MNC-subsidiary relationship stream, the characteristics of their relationships have been the topic of most concern, while little account has been taken of the relationships between MNC's internal units. Birkinshaw and Hood (1998b) contended that the reason for the lack of inconsistency among conclusions reached by scholars studying MNC-subsidiary relationships lies in them having overlooked the connection between subsidiaries inside a network. Particularly worth mentioning is the fact that in today's MNC organizational environment, almost all activities involve interaction between internal units. At the same time, Birkinshaw and Hood (1998b) maintained that despite the advantages of a MNC network organizational structure being so attractive, the relationship between an MNC and its subsidiaries, still the most critical relationship in a network, deserves the attention of researchers.

MNC network perspective

The two factors of autonomy defined for this study, namely control and coordination, are important elements of the MNC network perspective (Hedlund, 1993; Bartlett and Ghoshal, 1989; Hedlund, 1986; Perlmutter, 1969). The MNC network perspective differs from the MNC unit perspective (Teece, 1986; Hymer, 1976) in that it has moved academic focus from the MNC organization and its strategy, to connections between units in a MNC network. Hedlund (1986) advanced the idea of heterarchy, an organizational structure in which each unit of a MNC shares and utilizes a MNC's resources and knowledge with flexibility, as contributing to a MNC as a whole. Bartlett and Ghoshal (1989) further developed the idea by contending that from a MNC perspective, a MNC is in a unitary and federative configuration. They claimed that on one hand units within a MNC network maintain specific and diverse roles within the MNC hierarchy, while on the other hand a MNC coordinates the activities of all subsidiaries in order to maximize effectiveness for the whole organization.

It is therefore reasonable to conclude that from the MNC network view there are two main determinants of subsidiary autonomy: a subsidiary's role, and a subsidiary's characteristics. The former defines the different roles each subunit plays in a network, and the latter determines the unique features of each subunit.

Subsidiary roles

The different roles that each subsidiary play determines the degree of autonomy it possesses. Certain units in a MNC network are granted more autonomy, either because they are perceived by a MNC as strategic or because they have made their own strong strategic choices (Ghoshal and Nohria, 1989). The effect of these two factors on autonomy can be explained by the integration-responsiveness framework (Prahalad and Doz, 1987). In the first scenario, close integration of MNC business indicates greater interaction between different markets worldwide, which requires greater coordination and a sacrificing of subsidiary autonomy in the interests of global integration strategy (Gates and Egelhoff, 1986). In the second scenario, subsidiaries that face a local environment which is complicated and volatile, or in which consumers' demands for localization is strong, need to have more autonomy so that local managers can bring their crucial local knowledge into play (Ghoshal and Nohria, 1989; Gates and Egelhoff, 1986). Therefore, the role of a subsidiary, shaped mainly by the factors of integration and local responsiveness, may be a key determinant of its level of autonomy.

Subsidiary characteristics

Under the network perspective, a subsidiary's characteristics is one of two key determinants (the other determinant is a subsidiary's role) of its autonomy. Researchers have discovered certain characteristics that affect the extent of a subsidiary's autonomy (Ghoshal and Nohria, 1989; Gates and Egelhoff, 1986; Garnier, 1982). The following two sections discuss these characteristics on the basis of two rationales: the resource dependence perspective (Pfeffer and Salancik, 1978) and the resource-based view (Barney, 1991; Wernerfelt, 1984).

Resource dependence perspective

In a MNC network, resources can be classified as either tangible or knowledge resources (Gupta and Govindarajan, 1991). According to Pfeffer and Salancik (1978), the extent of resource dependence lies in the criticality, accessibility, and substitution of resources. Compared with tangible resources, knowledge resources, including technological know-how and management expertise are more applicable to these three criteria (Roth and Morrison,

1992; Gupta and Govindarajan, 1991; Ghoshal and Bartlett, 1988). Therefore, the amount of knowledge resources possessed by a subsidiary can be considered an important determinant of its potential autonomy.

Resource-based view

The resource-based theory holds that a subsidiary's resources determine its growth dynamics (Barney, 1991; Wernerfelt, 1984). Among a subsidiary's tangible and intangible resources, entrepreneurship has been defined as the initiative and active behaviour that leads to non-fortuitous success of a subsidiary, and therefore is considered an essential determinant of autonomy (Birkinshaw and Hood, 1998). Based on this literature and the gaps identified, a number of research questions were formulated for this research.

A review of relevant literature on the influences of subsidiary characteristics on their autonomy, reveals that characteristics such as the age and size of the company as well as differences in their products from those of their parent company do not provide an adequate explanation for all the general characteristics of subsidiaries (Gate and Egelhoff, 1986); the obvious omission is the influence of a subsidiary's resources on its actions. In particular, from the standpoint of a MNC network, not all subsidiaries play a passive role. On the contrary, some subsidiaries may even possess scales of economy or resource that exceed their parent company (Ghoshal and Bartlett, 1990). Therefore, in any discussion of subsidiary autonomy, the influence of a subsidiary's accumulated resources and its ability to act independently of its parent company cannot be ignored.

This study investigated the roles of subsidiaries from a network perspective and the influence of subsidiaries' resources on their autonomy, both of which have been given little attention by other researchers. Procedure justice between parent companies and subsidiaries, as well as the appointment of subsidiary management personnel by the parent company, were also included in order to measure the control exerted by parent companies over their subsidiaries. This study not only heeds the call for researchers to focus on the actions of subsidiaries in developing countries, but it also provides a statistical analysis of a comparatively large sample to make up for the analytical inadequacies of previous studies.

Research Framework and Hypotheses

This study analyses the level of influence of four independent constructs on the dependent construct (autonomy of subsidiaries) as shown in Figure 1. Each consists of at least two factors drawn and operationalised by a number of variables. Based on the research questions, hypotheses were postulated to test the conceptual model. These hypotheses suggest that there are relationships between several of the independent constructs and autonomy.

Level of influence of the MNC-subsidiary dyadic relationship on autonomy of a subsidiary

Level of influence of the MNC-subsidiary dyadic relationship on autonomy of a subsidiary is the first relationship that was tested by two hypotheses. Some researchers have shown that when a MNC appoints expatriates as managers of its subsidiaries, it aims to achieve consistency between subsidiaries and the whole MNC in policies and cultures (Rosenzweig and Nohria, 1994). Expatriate managers act as carriers to communicate MNC policies and ideologies. This research postulated that the appointment of an expatriate as a subsidiary's CEO is mainly for the purpose of aligning a subsidiary's behaviour in accordance with its MNC overall policies, which results in lower autonomy than if a local manager was appointed.

Hypothesis 1a The nationality of a subsidiary's CEO being the same as its MNC positively influences the level of autonomy of the subsidiary.

Procedural justice theory was applied to MNC management to learn how procedural justice influences global strategies (Kim and Mauborgne, 1993). Procedural justice is critical in implementing global strategy because many MNC managers care not only about what global strategies are being implemented, but also about how to formulate them. Judgment of procedural justice is related to positive attitudes. Furthermore, when commitment, trust and harmony come into play, procedural justice plays a vital role in the effective operation of global strategy; and when hierarchical power gradually dissipates in a MNC, procedural justice becomes more essential. If managers of subsidiaries regard the process of global strategy formulation as impartial, they tend to act as positive implementers of strategies. Therefore when the degree of MNC-subsidiary procedural justice is considered high, MNCs tend to admit that a subsidiary possesses more knowledge from local markets and thus authorizes more power for decision-making with the view of gaining greater benefit for the whole MNC. Meanwhile, if an MNC's subsidiaries are empowered with the legitimacy to challenge the standpoint of its parent MNC, it would be less likely for the MNC to dominate its subsidiaries, which may result in higher subsidiary autonomy (Kim and Mauborgne, 1993).

Hypothesis 1b Higher levels of fairness in decision-making MNC positively influence the level of autonomy of a subsidiary.

Level of influence of the subsidiary-MNC dependence relationship on autonomy

The level of influence of the subsidiary-MNC dependence relationship on autonomy is the second hypothesis postulated using three sub-hypotheses. The proportion of equity ownership, regarded as the entry mode of subsidiaries, is an indispensable factor to consider when a MNC enters the host country (Hill, Hwang and Kim, 1990; Woodcock, Beamish and Makino, 1994). On the principle of making full use of both a MNC's and local advantages while avoiding respective disadvantages, a MNC decides the percentage of subsidiary equity it would like to hold, which will affect the autonomy of its subsidiaries.

Hypothesis 2a Higher levels of equity held in a subsidiary by its MNC negatively influence a subsidiary's autonomy.

When the majority of resources used by a subsidiary come from its parent MNC and other subsidiaries, a subsidiary is highly dependent on its MNC and therefore has low autonomy. Gupta and Govindarajan (1991b, 1994) stated that high knowledge inflow to a subsidiary from a MNC reduced subsidiary autonomy, while knowledge outflow to a MNC from its subsidiary increased subsidiary autonomy. When considerable amounts of resources inflow to a MNC come from local markets, a subsidiary becomes less dependent on its MNC and therefore has higher autonomy. Pearce (1999) mentioned the importance of the source of local research and development (R&D): dependence on a MNC can be reduced by internalizing a subsidiary's local talents and cooperative strategy. Birkinshaw and Ridderstrale (1999) perceived that control of resource is the source of subsidiary power relative to its MNC. If subsidiaries have the right of control over and access to local resources, they can enhance their influence against their MNC by leveraging limited resources and external relations. In turn, when a subsidiary is able to export knowledge to its MNC, it means that each MNC unit becomes dependent on it and the subsidiary possesses power of decision-making in certain functions; this is what Gupta and Govindarajan (1991) called counter-dependence. In either case, where a subsidiary depends on its local market for large

amounts of resources, or exports a high proportion of its knowledge to the parent MNC, the subsidiary's autonomy increases.

Hypothesis 2b Greater dependence by a subsidiary on knowledge inputs from its MNC negatively influences its autonomy.

Taggart and Hood (1999) agreed that the proportion of resource outflow to other subsidiaries, and inflow from outsiders and local markets would affect the autonomy of a subsidiary. They found that subsidiaries with high autonomy tended to be highly dependent on local resources. In addition, from the perspective of social exchange theory, Andersson and Forsgren (1996) assumed resource control as the source of power and that the source may be multidirectional (top down, bottom up, horizontal). This implies that once subsidiaries control certain resources, they are able to control and influence their MNC to a certain degree.

Hypothesis 2c Greater knowledge outputs from a subsidiary to its MNC positively influences a subsidiary's level of autonomy.

Level of influence of subsidiaries' resources on its autonomy

The level of influence of subsidiaries' resources on its autonomy is the third hypothesis tested through two sub-hypotheses. Entrepreneurship increases visibility of a MNC and reliability of subsidiaries (subsidiary behaviours are observable), which brings more autonomy to subsidiaries, enabling them to determine their own optimum operational strategy and promote productive innovative activities (Russel, 1999).

Hypothesis 3a Higher levels of entrepreneurship of a subsidiary positively influence its autonomy.

Comparative capability of subsidiaries refers to the resources and abilities possessed by subsidiaries compared with other subunits (Roth and Morrison, 1992). Comparative capabilities of subsidiaries exert influences on autonomy in three ways: whether subsidiaries are more capable of implementing certain functions; whether subsidiaries have power; and whether subsidiaries have more knowledge about their resources than their MNC.

Hypothesis 3b Higher levels of capability of a subsidiary compared to other subsidiaries positively influence its autonomy.

Level of influence of the subsidiary network on its autonomy

Level of influence of the subsidiary network on autonomy is the fourth hypothesis tested using three sub-hypotheses. Subsidiaries' global integration means the degree to which the subsidiary should coordinate with its MNC (including other subsidiaries) when performing certain activities. An increasing degree of integration between a subsidiary and its MNC indicates a lower possibility to undertake independent operations and a high level of subsidiary dependency both on other subsidiaries as well as the parent MNC. As a result, subsidiary autonomy is negatively affected.

Hypothesis 4a Higher degree of global integration with its MNC negatively influences autonomy of a subsidiary.

Local responsiveness refers to the extent subsidiaries react to local competition and consumer demands (Taggart, 1998). According to the information processing perspective (Egelhoff, 1991, 1988, 1982), the design of an organization must correspond to the demands of its external environment. When there is fierce competition, uncertainty is high, consumer

demand is sophisticated, and institutional factors such as government regulations exist, subsidiaries' managers are generally more familiar with their local situations. In this case, a MNC must authorize more autonomy to its subsidiaries so as to improve their performance.

Hypothesis 4b Higher levels of local responsiveness by a subsidiary in its region positively influences autonomy of a subsidiary.

Network theory (Burt, 1992) states that if members have similar transaction partners, they are in fact in a position of structural equivalence, with the implication that there is potential fierce competition between organizations, and the possibility of mutual substitution is high.

Hypothesis 4c Greater possibilities of substitution by other subsidiaries in the MNC network negatively influence autonomy of a subsidiary.

A summary of the hypothesised relationships for the conceptual model are depicted in Appendix 1.

Research Design and Methodology

A quantitative research methodology was used in this study.

Population and sample

A list of MNCs with Chinese subsidiaries is published by Dun & Bradstreet Co., Ltd. as "List of Foreign Enterprises in China." Those that met all three selection criteria were considered as the population for this study. These criteria required a subsidiary having more than 50% of its equity held by its MNC (usually foreign company); more than 50 employees and have operated for more than two years in China; and with operations in at least one of electronics, manufacturing and non-financial services sectors.

The study employed purposive sampling to invite all 2,500 companies that meet the criteria stated above to participate in an online survey. All were sent a questionnaire with the expectation that a small but usable number would respond.

Characteristics of the Sample

The 132 questionnaires returned by respondents represent a response rate of 5.28% which is low but not unexpected from such high level managers. After seventeen questionnaires were discarded due to non-responses to individual questions, the remaining 115 questionnaires (4.6%) qualified for further analysis and were keyed into a statistical package (SPSS) using a data file template. After the data file was scanned for irregularities, frequency tables and descriptive statistics tables were produced to check for possible typographic errors in the data set.

As can be seen from Table 1 below, most subsidiaries that responded to this survey had been established for more than 10 years (64.8%) and 92.2% established for more than 5 years. This shows their stability in terms of their collaboration and operations with their parent MNC. The organisations are also large in terms of number of employees with 87% having more than 200 staff.

Table 1 Descriptive statistics – demographics

	Frequency	Percent
Establishment		
< 2 years	1	0.9
2 - 5 years	8	7.0
6 - 10 years	43	37.4
11 - 20 years	49	42.6
> 20 years	14	12.2
No of staff		
51 - 200	15	13.0
201 - 500	43	37.4
500 - 1000	50	43.5
> 1000	7	6.1
Type of industry		
Communication, computer and consumer electronics	34	29.6
Others	81	70.4
Manufacturing ability		
No ability	34	29.6
With ability	81	70.4
Experience trading in Asian/Chinese markets		
No	40	34.8
Yes	75	65.2
Nationality of parent company		
America	42	36.5
Korea or Japan	42	36.5
Europe	31	27.0
Structure of ownership		
Wholly owned by the parent company	65	56.5
Joint venture with local company	50	43.5
Ownership share		
< 50%	1	0.9
50 - 60%	9	7.8
60- 70%	13	11.3
70 - 80%	14	12.2
80 -90%	8	7.0
> 90%	70	60.9
CEO nationality		
Non-Chinese	75	65.2
Chinese	40	34.8

The table also shows that only 29.6% of subsidiaries are involved in communications, computer and consumer electronics while the majority are involved in other sectors which were not specified. Just over 70% of these organisations claimed they are able to serve as

manufacturers and some 30% stated that they may not be able undertake manufacturing possibly due to their smaller structure in terms of employee size. Most subsidiaries (65.2%) have experience trading in Asian and Chinese markets, which could mean that these organisations have been set up as wholly owned subsidiaries or with joint venture structures in order to serve large fast growing Asian markets, including China. About 36.5% of these MNC parent companies are American owned, with another 36.5% being owned by Korean and Japanese while the remaining 27% are being owned by European. Both wholly owned (56.5%) and joint venture (43.5 %) type of organisations responded to the survey. Most subsidiaries (60.9%) have more than 90% MNC share ownership while 23.5% of subsidiaries have parent ownership of between 60% and 80%. Around 35% of subsidiaries have Chinese CEOs, which seems reasonable in a MNC structure.

Data Collection

Questionnaires were sent to CEOs of MNC subsidiaries in China. The information of the selected companies did not include their CEOs' email addresses; hence those organisations were called personally to request the CEO's email address. Most organizations were willing to provide their CEOs' email addresses. Where addresses were not obtained these firms were deleted from the invitation list. Only 115 useable questionnaires were returned. This was not unexpected since internet surveys are known to have low response rates of less than 10% (Maholtra, 2007). The companies that were sent the questionnaire had subsidiaries engaged in the three selected industries. Financial institutions are not within the scope of this investigation because the financial sector was and is in turmoil due to the worldwide financial crisis.

Dependent Variable

On the basis of the indexes put forward by scholars (Vachani (1999); Birkinshaw, Hood and Jonsson (1998)) for measuring autonomy of subsidiaries, this study adapted those indexes to specify the degree of decision-making authorized by MNCs so as to measure the degree of their subsidiaries' autonomy. For each of the nine strategic decision identified, the extent of decision-making power given by MNCs to their subsidiaries in China were measured by a subsidiary manager choosing one of the following seven options. They are a parent company has absolute decision-making power; a parent company plays a decisive role in decision-making, with participation of its subsidiary in a suggestive manner; a subsidiary and parent company jointly make decisions, with the later dominating; a subsidiary and parent company jointly make decisions on an equal basis; a subsidiary and parent company jointly make decisions, with the former dominating; a subsidiary has absolute decision-making power but has to inform its parent company; and a subsidiary has absolute decision-making power and does not have to inform its parent company.

The measures of the degree of subsidiary autonomy include the decision-making power of the subsidiary on manufacture, marketing, management, research and development, finance, corporate structure, strategic planning, foreign market expansion, and budgeting.

Independent Variables

The independent construct of level of influence of the MNC-subsidiary dyadic relationship on autonomy of MNC subsidiaries in China is made up of two factors – CEO's nationality, and the procedural fairness of decision-making. CEO's nationality was measured using a dichotomous nominal scale, to identify if the CEO is of Chinese nationality or foreign nationality. Procedural fairness of decision-making however was measured using a

seven-point Likert-type scale. Procedural fairness is described based on four areas of interest as defined by Kim and Mauborgne (1993).

The measures of the degree of procedural fairness include during the decision-making procedure, the extent to which the manager of the subsidiary could oppose the decision made by the parent company, the amount of knowledge the manager of the parent company has about Chinese market before his engagement in the decision-making of the Chinese subsidiary, during the decision-making procedure, the adequacy of communication between the MNC parent company and the subsidiary, and the consistency of decision-making procedure assigned by parent company to each subsidiary

The second independent construct was the level of influence of subsidiary-MNC dependence on autonomy of subsidiaries in China. This was measured based on the three factors – equity share belonging to a MNC, the inflow of knowledge from a MNC to a subsidiary, and the outflow of knowledge from a subsidiary to a MNC. The equity share was measured using multinominal responses to six choices from less than 50% to over 90% share (Garnier, 1982). This was described as the legal dependence of subsidiaries on its parent company. The inflow and outflow of knowledge are factors adapted from Gupta and Govindarajan (1991) as shown below.

The measures of the degree of knowledge inflow to subsidiary include level of subsidiary dependence on the inflow of management expertise from the MNC, the inflow of management expertise from other MNC subsidiaries, the inflow of management expertise from the Chinese local manufacturers, the inflow of management expertise from the foreign manufacturers, the inflow of technology know-how from the MNC, the inflow of technology know-how from other MNC subsidiaries, the inflow of technology know-how from the Chinese local manufacturers, and the inflow of technology know-how from the foreign manufacturers.

The measures of the degree of subsidiary knowledge outflow to MNC include the capability of a subsidiary to transfer management expertise to its MNC, to other MNC subsidiaries, to transfer management expertise to Chinese local manufacturers, to transfer management expertise to foreign manufacturers, to transfer technology know-how to its MNC, to transfer technology know-how to other MNC subsidiaries, to transfer technology know-how to Chinese local manufacturers, and to transfer technology know-how to foreign manufacturers.

The third independent construct consist of two factors – the level of entrepreneurship exhibited by subsidiary and the relative capability of one subsidiary over another in a network. Entrepreneurship was measured using the work of Birkinshaw, Hood and Jonsson (1998) while relative capacity came from the study by Roth and Morrison (1992) and Birkinshaw, Hood and Jonsson (1998). The measurement items for these two constructs are shown below.

The measures of the degree of entrepreneurship include willingness of the top-level leaders to pursue innovative activities, richness of top-level leaders' experience in innovative activities, the scale of the newly established department (if any) responsible for the new project, the frequency that the subsidiary supports the new opportunities by establishing cross-functional units, forming new teams, and employing resources, the encouragement of risk-taking that the subsidiary imparts to the employees and the degree to which risk-taking is regarded as positive attitude.

The measures of the degree of relative capacity include research and development, and production capability compared with other subsidiaries, manufacture capability compared

with other subsidiaries, marketing capability compared with other subsidiaries, management capability compared with other subsidiaries, innovation capability compared with other subsidiaries, the overall technological level of the subsidiary compared with the MNC parent company, and the overall technological level of the subsidiary compared with other MNC subsidiaries.

Global integration, local responsiveness and substitution by other subunits make up the fourth independent construct, subsidiary's resources. These factors are derived from Taggart (1997a, 1998); Hannon, Huang and Jaw (1995); Jarrillo and Martinez (1990), and Roth and Morrison (1990). The measurement items for these three constructs are shown below.

The measures of the degree of integration include the necessity to coordinate with the parent company in marketing strategy, in strategic planning for future development, in purchasing, in technology know-how, and in research and development.

The measures of the degree of responsiveness include interaction between the subsidiary and local research and development organizations, between the subsidiary interacts and local companies, initiative of responsiveness to the requirement of local people, compliance with local government policies and initiative of responsiveness to the demand of local consumers.

The measures of the degree of substitution include fierceness of competition between a Chinese subsidiary and other MNC subsidiaries in products, execution, and function, similarity between a subsidiary and other subsidiaries in performing their functions (similarity in production, research and development, and market), the probability of immediate replacement of a subsidiary's function by other MNC subsidiaries, and the potential of other MNC subsidiaries to replace a subsidiary's function.

Control Variables

Besides measures used to operationalise the abovementioned constructs, seven classification questions were developed to collect the demographic factors of the responding organisations. These seven questions are nationality (cultural differences) of a MNC, MNC's experience in Asia and China, whether the subsidiary is engaged in manufacturing, industrial sector of the subsidiary, degree of global integration of the subsidiary's industry, size of the subsidiary, and age of the subsidiary.

Questionnaire Design

For the research questionnaire, each variable's operational definition was based on related theory and literature. Most questions were adapted or adopted from past studies as it adds to construct validity and reliability of measures. A few questions (CEO nationality, equity share) adopted a dichotomous scale but most used a Likert-type scale. These scales were used in a Malaysian study conducted by Edwards, Ahmad and Moss, in 2000. The Likert-type scale tested the level of agreement versus disagreement or level of satisfaction versus dissatisfaction with a statement (question) or item (Cavana, Delahaye and Sekaran, 2001). A seven-point Likert rating scale approach was used to measure most items in each construct of the conceptual model.

Upon completion of a test paper-based questionnaire among a few academics, amendments were made to partially revise the questionnaire before the electronic version was developed. The same academics reviewed the web-based version for ease of use and to evaluate the time it would take to complete all the questions. Invitations to participate were then dispatched. The questionnaire of this study is shown in Appendix 2.

Data Analysis

Prior to analysis, the collected data was keyed into a SPSS data file. A simple eye balling method was used to ensure the data was keyed in correctly. This was further verified using descriptive analysis where minimum and maximum values for each item were observed to check on irregularities.

Descriptive analysis

The data collected consisted of both categorical and metric values. Referring to the questionnaire in Appendix 2, Part I to VIII and Part X questions used an interval scale. Hence with this continuous form of data, descriptive analysis was carried out using mean, standard deviation, skewness and kurtosis. Being the average value, a mean roughly describes respondents' overall view of each item.

Validity analysis

Validity shows correctness (Nunnally, 1978), and high validity indicates the variables in the questionnaire can truly measure the constructs. The content validity of the questionnaire is reliant on all independent, dependent, and control variables in this research being derived from relevant literature with some modifications depending on specific conditions. These constructs have been pretested and revised by scholars and experts. In terms of convergent validity, the research employed principal component analysis to test convergent validity of the measurement of each research variable. This tests whether a set of variables represents a construct to form a single dimension, signifying the meaning of the construct but by a reduced number of variables.

Reliability analysis

Reliability explains whether variables used to measure the constructs have consistency (Nunnally, 1978). This research used Cronbach's alpha, which is a popular way of measuring reliability in a limited time. Cronbach's alpha reliability measure assumes that when items in questionnaire measure the same construct, there should be high correlation among each item, with those of low correlation being rejected. Nunnally (1978) advised that items with values of reliability over 0.7 may be accepted.

Measurement assessment was carried out using factor analysis and Cronbach's alpha reliability test. They ensure that measurements meet construct and discriminant validity. The key components of subsidiary autonomy are Corporate Structure (CS), Strategic Development (SD) and Product Strategy (PS). Each was designed with 3, 4 and 2 items respectively, with the factor loading patterns for component 1 (CS), component 2 (SD), component 3 (PS) that seem to converge and discriminate as described in the CS explains 38.07% of the variances in 3 items. SD explains 16.62% of variances with 4 items. PS explains 11.61% variance with 2 items. In total 66.30% of variances is explained by the 9 items. These 3 factors recorded Eigen values above. All three factors produce Cronbach's alphas in excess of the minimum requirement (0.6) set by Nunnally (1978). CS's Cronbach's alpha is 0.73; SD's is 0.873; and PS's is 0.67. Therefore, all constructs for Subsidiary Autonomy have been reliably measured and fulfil the requirement for convergent and discriminant validity theory.

Factor analysis of the four independent variables has item loading values from 0.6 to 0.9 and the items are within their corresponding factor in each independent variable. The Cronbach's alpha value of reliability test for each factor has value between 0.7 and 0.9 which shows that

the variables have high construct and discriminant validity.

Hypotheses testing

Factor analysis, cluster analysis, ANOVA, multi-regression and dummy variables were used to test relationships hypothesised in the model that included nine factors influence on subsidiary autonomy. With this in mind, a hierarchical regression analysis was carried out to analyse the data collected. The assumption of normality of residuals which signifies the generalisability of findings is tested to ensure the data is suitable for the hierarchical regression.

Testing the strength of relationship

Under hierarchical regression, various tests are conducted in order to obtain various conclusions. These tests include a test to identify the strength and direction of a relationship. Strength of a relationship is tested using the adjusted R² value. The strength of relationship was measured using Cohen's (1992) recommendations that if the value of R² is around 0.01, the strength of relationship is weak; if the value of R² is around 0.09, the strength of relationship is medium; and if the value of R² is around 0.25, the strength of relationship is strong.

Nature of relationship

Identifying the nature of a relationship between constructs is essential as the nature of a relationship can help understand if the independent construct influences the dependent construct. Checking the sign of each coefficient show whether the influence is a positive (increases a subsidiary's level of autonomy) or negative relationship (decreases autonomy).

Results

Hypothesis Testing

A summary of statistics for testing hypothesis is shown in the ANOVA coefficients table (Appendix 3). The ANOVA coefficients table shows that model 1 with "inclination of control exercised by MNC" is significant with $F = 20.65$, $p\text{-value} = 0.0001$. Model 2 with "degree of reliance on MNC" is also significant ($F = 48.89$, $p\text{-value} = 0.0001$). Model 3 and 4 with "degree of resourcefulness of subsidiary" and "nature of subsidiary in the MNC network" are significant with $F = 74.72$, $p\text{-value} = 0.0001$ and $F = 120.84$, and $p\text{-value} = 0.0001$ respectively.

Hypothesis 1a examines whether the nationality of a subsidiary's CEO being the same as its MNC positively influences the level of autonomy of the subsidiary and Hypothesis 1b examines whether higher levels of fairness in decision-making MNC positively influence the level of autonomy of a subsidiary. Model 1 consisting of "nationality of CEO" is a good fit. However, within this model, the "fairness in decision-making" has a significant influence ($t = 12.81$, $p\text{-value} = 0.0001$) while "nationality of CEO" is not a significant influence ($t = -0.35$, $p\text{-value} = 0.73$) on the level of subsidiary autonomy. The "B" value for "fairness in decision-making" shows a positive sign, indicating that the higher the "procedural justice" exerted by a MNC on its subsidiary, the higher the subsidiary autonomy. Thus, for Hypothesis 1a about a subsidiary's CEO is not supported whilst Hypothesis 1b about higher levels of fairness in decision-making is supported.

The results of the testing of Hypotheses 1a and 1b verify whether a MNC appoints native as the CEO of subsidiaries or sends an expatriate instead has little to do with subsidiary

autonomy: the nationality of the CEO will not affect a MNC's control over a subsidiary. Literature indicates that a MNC appointing an expatriate as the CEO may help facilitate integration between a subsidiary and a MNC, while hiring a native CEO may enhance local responsiveness; through these two channels, a MNC could take control of subsidiary autonomy. A MNC's policy of appointing native or expatriate as a CEO of a subsidiary does not necessarily indicate the intention to control a subsidiary. Therefore, the appointment of CEO is susceptible to various factors, rather than for the single purpose of controlling a subsidiary.

Hypothesis 2a examines whether higher levels of equity held in a subsidiary by its MNC negatively influence a subsidiary's autonomy, Hypothesis 2b examines whether greater dependence by a subsidiary on knowledge inputs from its MNC negatively influences its autonomy, and Hypothesis 2c examines whether greater knowledge outputs from a subsidiary to its MNC positively influences a subsidiary's level of autonomy. Model 2 adds significant change to the complete model adding 33.3% change in the level of influence on subsidiary autonomy. However, the percentage "equity share" of a MNC in a subsidiary is not significant ($t = 0.43$, $p\text{-value} = 0.67$), although "inflow of knowledge" significantly influences subsidiary autonomy ($t = -5.19$, $p\text{-value} = 0.0001$). On the other hand, "outflow of knowledge" is not a significant influence ($t = -0.91$, $p\text{-value} = 0.37$). Further the "B" value shows a negative sign for "inflow of knowledge." Thus, for Hypothesis 2a about higher levels of equity held in a subsidiary by its MNC is not supported, Hypothesis 2b about greater dependence by a subsidiary on knowledge inputs from its MNC is supported whilst Hypothesis 2c about greater knowledge outputs from a subsidiary to its MNC is not supported.

The characteristics of a MNC-subsidary relationship, including the extent of subsidiary equity control by MNC and the flow of knowledge resources between subsidiary and MNC, do not influence the subsidiary autonomy. The result implies that the phenomenon of non-equivalence in power due to dependency among organizations may not be applicable under a MNC network organization. Under a MNC network, however, flow of subsidiary resources is considerably imperative and advantageous to a MNC, as pointed out by Gohshal and Bartlett (1988); a MNC carries the mission of internal knowledge creation, dissemination, adoption and learning. From the view of resource dependence, resource inflow causes uncertainty in an organization, which could be reduced by introducing strategies like the mechanism of buffering and connection building. In the case of subsidiaries in a MNC network, however, resource dependence on MNC may not be the source of organization uncertainty. Rather, it may be one of a MNC's goals to disseminate and utilize resources and capabilities. For these reasons, the hypothesis concerning resource dependence is not significant.

Hypothesis 3a examines whether higher levels of entrepreneurship of a subsidiary positively influence its autonomy whilst Hypothesis 3b examines whether higher levels of capability of a subsidiary compared to other subsidiaries positively influence its autonomy. Model 3 in ANOVA table shows a 13.9% increase when the "degree of resourcefulness of subsidiary" is taken into consideration as a related factor to subsidiary autonomy. "Entrepreneurship" is not a significant factor ($t = -1.23$, $p\text{-value} = 0.22$). However, "relative capability of the subsidiary" is significantly and positively related to subsidiary autonomy ($t = 9.23$, $p\text{-value} = 0.0001$). Thus, for Hypothesis 3 on the level of influence of subsidiaries' resources on its autonomy that Hypothesis 3a is not supported but Hypothesis 3b is supported.

Hypothesis 4a examines whether higher degree of global integration with its MNC negatively

influences autonomy of a subsidiary, Hypothesis 4b examines whether higher levels of local responsiveness by a subsidiary in its region positively influences autonomy of a subsidiary whilst Hypothesis 4c examines whether greater possibilities of substitution by other subsidiaries in the MNC network negatively influence autonomy of a subsidiary. Model 4 shows that the factors relating to the nature of a subsidiary in a MNC network make a 9.1% change in the variation of subsidiary autonomy. This is because “global integration” of the MNC ($t = -3.62$, $p\text{-value}=0.0001$), the “local responsiveness of the subsidiary” ($t= 2.02$, $p\text{-value}= 0.046$) and the “substitutability of the product/service” ($t=10.44$, $p\text{-value} = 0.0001$) are all significant. The “B” values for these factors show positive signs indicating all three are positively related to the subsidiary of autonomy. Thus it can be concluded for Hypothesis 4, on level of influence of the subsidiary network on autonomy, both three Hypotheses 4a, 4b and 4c are supported.

The role a subsidiary plays in a MNC network, that is, the degree of subsidiary integration into a MNC and local responsiveness have great influences on subsidiary autonomy. In terms of integration, the ‘across’ density affects subsidiary autonomy; in other words, the more a subsidiary is integrated into a MNC, the lower the autonomy it possesses. In terms of local responsiveness, the higher the ‘within’ density is, the more autonomy a subsidiary has. Therefore, the research concludes that the role a subsidiary plays in a MNC network affects the degree of its freedom in decision-making.

Relative competitiveness of a subsidiary affects the decision-making power granted to it by its MNC. In the research, the competitive ability of a subsidiary served as the dependent variable, with the control variables of subsidiary integration into MNC and local responsiveness served as the independent variables. The study found that local responsiveness has a significance impact on subsidiary competitiveness.

With regard to the possibility of substitution by other subsidiaries (the view of apposition construction), a subsidiary is granted more autonomy if it is quite impossible for it to be replaced by other subsidiaries. While the view of a MNC network proves to have a great effect on subsidiary autonomy, the view of apposition construction or subsidiary substitution does not. The research infers that some internal operational characteristics of a MNC network may contribute to such findings. For instance, when a MNC initiates the establishment of a subsidiary, it will take into consideration the positioning of a subsidiary, differentiating a subsidiary from others in a relationship, task division and supplement. Nevertheless, such is not the common case in a general industry network, most of which are formed by originally independent organizations.

Discussion

Contributions to theories

Birkinshaw and Hood (1998b) claimed that there are three perspectives of subsidiary research: MNC-subsidiary relationship perspective, subsidiary roles perspective, and subsidiary evolution perspective. The four constructs that make up the research model for this study, namely a MNC’s control of its subsidiaries, subsidiary dependence on its parent MNC, subsidiary characteristics in a MNC network, and subsidiary resources, embody the three streams of research. Results from this empirical study indicate that the four constructs will affect autonomy of a subsidiary to varying degrees, which echoes Birkinshaw and Hood’s (1998b) finding of the importance of the three streams. The results also reveal that studies of subsidiary behaviour would not be complete without the concurrent investigation of subsidiaries’ resources, the characteristics of the MNC-subsidiary relationship, and

subsidiaries' roles in MNC networks. Further, Anderson, Hakansson and Johanson (1994) contended that it is necessary to take into account the external business network context of an organization when examining the dyadic business relationship between organizations. For the same reason, a study of subsidiary autonomy or MNC-subsidary relationships should investigate the interactive relationship between a subsidiary and the whole MNC network (Ghoshal and Bartlett, 1990).

Therefore, to study subsidiary autonomy this research postulated that it is imperative to consider the constructs of the MNC-subsidary relationship, subsidiary characteristics in a MNC network, and the degree of a subsidiary's resources and capabilities. Empirical results from this study show that it is easier to explain the behaviour of subsidiaries when the three constructs are incorporated into a model.

If a MNC is regarded as a network organization, it is necessary to investigate whether it is appropriate to observe the behaviour of MNC units using characteristics of such a network organization. In this study, the unit of analysis is a MNC subsidiary rather than the whole MNC. This study postulates that a subsidiary's determinants of behaviour can be observed from a MNC network point of view. Ghoshal and Bartlett (1990) raised the concept of 'within density' and 'across density' to demonstrate the distribution of a MNC's internal power and resource configuration. The concepts are in line with that of embeddedness, which was put forward by scholars of international cooperation (Andersson and Pahlberg, 1997; Andersson and Forsgren, 1996).

The study's proposition is that the MNC network perspective and federation perspective can be used to describe the behaviour of a MNC organization, revealing that MNCs have a form that is both unitary and federative in organizational structure (Ghoshal and Bartlett, 1990), but more towards a unitary organisation. Thus the parent MNC is obliged to carry out the important task of maintaining fair relations between subsidiaries. This study on MNCs as network organizations found several critical issues, in a MNC network, procedural justice (mutually beneficial behaviour) exerted on subsidiaries by a MNC increases subsidiary autonomy; the degree of control exerted by a MNC over its subsidiary as a result of high equity ownership does not affect subsidiary autonomy, knowledge flow is normal and does not decrease subsidiary autonomy, interaction between subsidiaries and the whole MNC network influences a subsidiary's autonomy, connections with local environments increase a subsidiary's autonomy, MNC must control the degree of subsidiary entrepreneurship, and discrepancies in subsidiary capabilities affect a subsidiary's autonomy.

Contributions to practice

Findings from this research suggest that Chinese MNCs need to understand the essentiality and complexity of MNC management, such as the complexities stemming from local environments, importance of using local resources, characteristic of the industry, and subsidiaries' resources. Decision-makers should consider some of the factors highlighted by this research in their subsidiary management practices; for example, how much autonomy should be authorized to their subsidiaries, and how can they motivate subsidiaries to contribute more value to the whole organisation.

Because MNCs in China are still at an initial stage of development, management of overseas subsidiaries are inclined to be centralised even though each subsidiary network is different. Overseas subsidiaries should be encouraged to establish good relationships with local partners and governments so that they can quickly grasp market trends, access market information, gather business intelligence and possibly influence government policy. Having

sufficient information to grasp opportunities with the autonomy to speedily make decisions will stimulate subsidiary innovation, thus potentially leading to greater contributions to MNCs throughout China (Zhang, 2007).

Due to differences in subsidiaries' positions in a MNC network, including forms of interaction between subsidiaries and other units in a MNC, as well as between subsidiaries and local markets, a MNC can be required to manage a lot of differentiated subsidiaries. These differences include scale of market, importance of market, subsidiary capabilities, and future development potential. Consequently, Chinese MNCs should understand how to fully utilize its assets all over the world. Taking a MNC network perspective would be of great help for management of MNCs in general and for Chinese MNCs in particular.

With the acceleration of global economic integration, MNCs are playing an increasingly important role in economic development of many countries. Most countries, including China, are taking measures to attract foreign investment, promote domestic enterprises, and improve management of MNCs and their subsidiaries. China faces many challenges in relation to attracting foreign investment and management including how to attract high quality, long-term and continued foreign investment, how to improve the quality of foreign investment, and how to effectively promote foreign subsidiaries and domestic enterprises to establish a cooperative network.

The issues for any host government are to attract high-quality transnational corporations to invest, strengthen partnerships with multinational affiliates and local organizations, and promote subsidiary development consistent with economic objectives. Ways of doing this are to encourage domestic enterprises to set up partnership with MNCs and encourage domestic enterprises to participate in MNC global supply chains, strengthen competition between domestic subsidiaries in the same industry, and promote the establishment of cooperative relations between subsidiaries and local organizations.

When managing subsidiaries, parent MNC should employ different management techniques and determine the level of decision-making authority based on a subsidiary's resources and capabilities, in accordance with the level of interaction that the subsidiary has with the local environment, and taking account of individual differences.

The successful operation of MNCs provides a valuable asset for the development of any country. Only by actively learning from advanced management concepts and modes of business operation, will it be possible to create superior performance. This study provides a research framework and empirical data that may be used to not only help with the management of MNC subsidiaries but also to contribute towards China's economic development.

Limitations and future research directions

As it is not possible to cover all factors contributing to the relationships between dependent and independent variables, all research has limitations. The following sections address the limitations of this research within which its findings should be interpreted. Some potential areas for further research are also suggested.

This research focussed on subsidiaries of multinational enterprises in China, and the behaviour characteristics of Chinese MNC subsidiaries as variables. Some variables, such as subsidiary roles, were basically measured by comparing subsidiaries across MNCs. Owing to the difficulty of studying all units under the control of one MNC and collecting data of each unit, so far most researchers have adopted the same method used in this study, namely,

studying a number of subsidiaries belonging to different MNCs in a certain area, with characteristics MNCs and industries as control variables to minimize defects of this method. The limitation of this method, however, is that it is less accurate or objective than horizontally measuring a subsidiary with other subsidiaries in the same MNC.

For future research, it would be useful to take a single MNC as the study object, using the method of Tsai and Ghoshal (1998) to explore the differences among subsidiaries in the same MNC. The advantage of this method is that MNC demographics and management style become fixed parameters rather than variables, which would enable a study to concentrate on subsidiary relationships and impacts from their external environments. Therefore, it is suggested that researchers study differences in behaviours of all subsidiaries in a single MNC, and make comparisons with the findings from this research and past similar studies. It is further recommended that future studies be undertaken not only of a number of subsidiaries with the same MNCs but combine this approach with data collection across MNCs in the same study to provide a richer understanding of how subsidiaries interact within and across a MNC network.

This study adopted a cross-sectional data collection method to analyse the interactive relationships between variables drawn mainly from theories found in the literature. To be able to better probe causal relationship between variables, it is better to collect data across time. If data could be collected across time, these changes could be observed and their impact on postulated relationships could be measured. Thus it is recommended that researchers could undertake longitudinal studies or analyse historical data.

This study surveyed subsidiaries to investigate how independent variables influence subsidiaries' behaviours. By this means, the study only collected subjective perspectives and perceptions of subsidiaries unilaterally. This approach has its limitations not least of which is that perception may not be or even reflect reality. Further research could be conducted with a view to minimizing the unilateral perceptions; measurement of variables could be conducted from a dyadic perspective collecting data from both a MNC and its subsidiaries.

This study does not give prominence to Linear Structural Relations, while future research could use this method to analyse data for an indepth investigation and even bring other variables into the model to better understand the relationships between variables. For example, a large amount of knowledge and resources are obtained in the host country of subsidiaries. A study of resource channels flows and how they facilitate local learning and global application could be useful (Andersson and Pahlberg, 1997).

Due to limitations in time and resources of this study, there are many areas left for further research. For example, future studies may investigate the influence of subsidiary autonomy on subsidiary resource accumulation which in turns affects resource accumulation by MNCs. Studies should also be conducted with regard to whether subsidiary roles result in differences in subsidiary resources and relative competitiveness. That is, whether subsidiary integration into a MNC and the degree of local responsiveness influences subsidiary resource and capability accumulation. Further studies could explore equity participation in much greater depth to understand its effect on autonomy. Combined with a within and across MNC study, it would make a valuable contribution to the international business literature. It is worthwhile to conduct research on the factors which may inspire entrepreneurship and that could contribute to MNC performance. It is also suggested that future studies may be conducted into the degree of subsidiary entrepreneurship. Scholars may also wish to investigate the relationship between a subsidiary's roles and its entrepreneurship to determine the existence of contextual

factors. In future studies, scholars may wish to focus on the relationship between heterogeneous subsidiaries and the levels of procedural justice. Further studies should consider the relationship between the I-R framework, subsidiary roles and autonomy. Finally, there are many aspects of subsidiary autonomy that have not been investigated by this research which would improve the understanding of the autonomy of MNC subsidiaries. For example, future studies might investigate the scope of subsidiary autonomy, MNCs' control mechanisms over subsidiaries, and the impact of subsidiary autonomy on performance.

Conclusions

This article identified and analysed the determinants of subsidiary autonomy. The study collected data from 115 foreign subsidiaries out of a total of around 2500 companies in China's manufacturing and non-financial services. Four hypotheses based on the research framework proposed by this study were tested. The findings reveal that there are significant relationships between the determinants and subsidiary autonomy. This study suggests that the role of a subsidiary is highly influenced by its position in the MNC network. Furthermore, the study confirms that multinational subsidiary autonomy has not been extensively researched but has managerial significance. By conducting this research in China, results may also be applicable to other developing countries. This research contributes to subsidiary autonomy theory and MNC networks.

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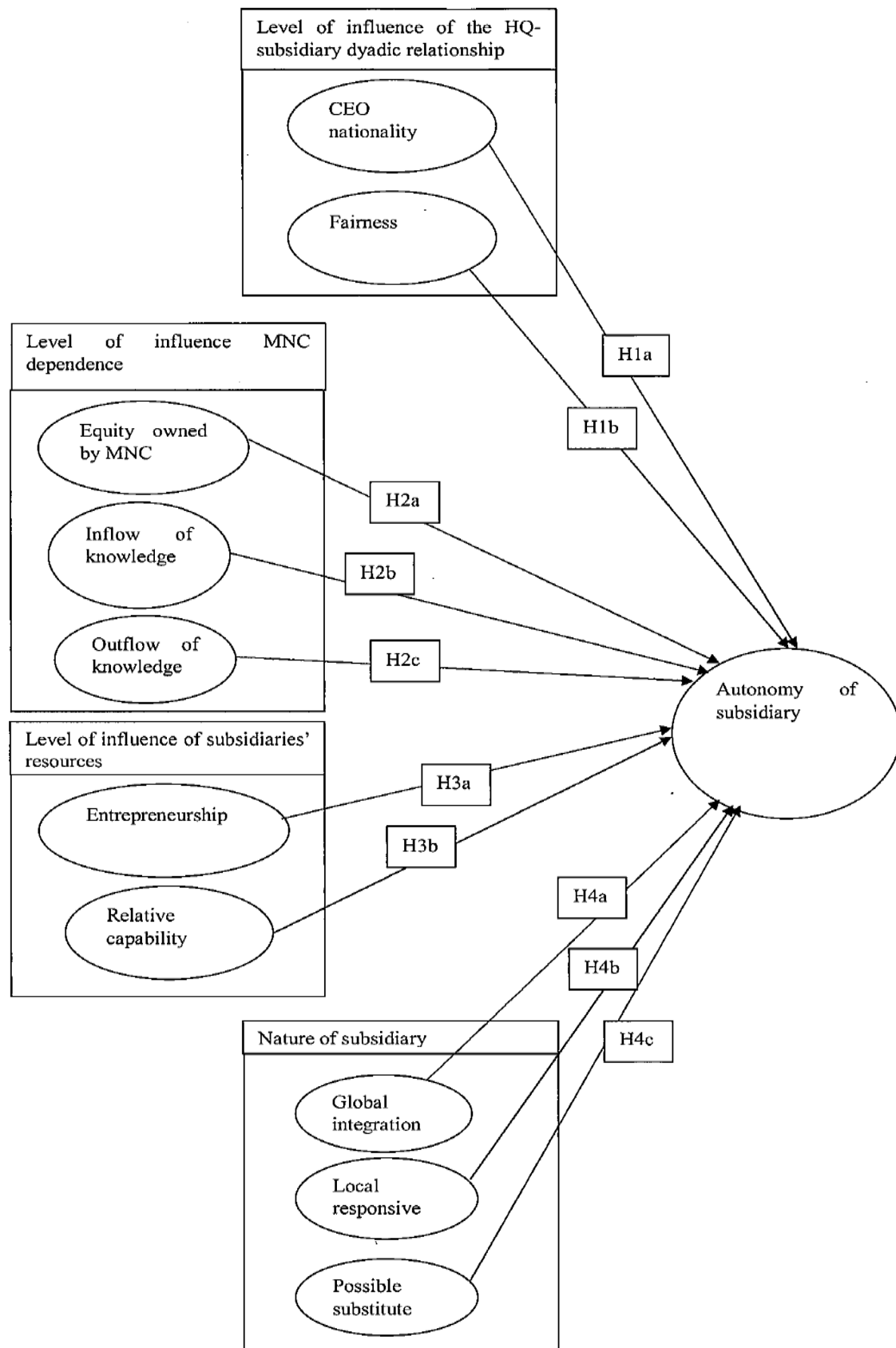
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APPENDIX 1 Hypotheses developed to test conceptual model



APPENDIX 2 Research Questionnaire of this Study

Part I - The Degree of Subsidiary Autonomy

The degree of subsidiary autonomy is the extent of decision making power granted to the subunits in conducting the following business activities out of the limitation exerted by the parent company.

Check 1: The subsidiary has the absolute decision-making power and does not have to inform its parent company;

Check 2: The subsidiary has the absolute decision-making power but has to inform its parent company;

Check 3: The subsidiary and the parent company jointly make the decision, with the former dominating;

Check 4: The subsidiary and the parent company jointly make the decision on an equal basis;

Check 5: The subsidiary and the parent company jointly make the decision, with the latter dominating;

Check 6: The parent company plays a decisive role in decision-making, with participation of the subsidiary in a suggestive manner;

<i>Check 7: The parent company has the absolute decision-making power. <u>Check the corresponding number if you agree with the above statements:</u></i>						
1. The decision-making power of the subsidiary on Human Resource Management						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
2. The decision-making power of the subsidiary on R&D						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
3. The decision-making power of the subsidiary on Finance						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
4. The decision-making power of the subsidiary on Corporate Structure						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
5. The decision-making power of the subsidiary on Strategic Planning						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
6. The decision-making power of the subsidiary on Foreign Market Expansion						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
7. The decision-making power of the subsidiary on Budgeting						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
8. The decision-making power of the subsidiary on Manufacture						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
9. The decision-making power of the subsidiary on Marketing						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Part II - Proportion of MNC Knowledge Resources Inflow to the Subsidiary

Proportion of MNC knowledge resources inflow to the subsidiary demonstrates the degree to which the subsidiary depends on MNC, including the MNC HQ and other subsidiaries for technology know-how and management expertise. Rate each of the following items on a degree from 1 to 7, with 7 being the highest. 1. The level of subsidiary dependency on the inflow of management expertise from the MNC HQ

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
2. The level of subsidiary dependency on the inflow of management expertise from other MNC subsidiaries						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
3. The level of subsidiary dependency on the inflow of management expertise from the Chinese local manufacturers						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
4. The level of subsidiary dependency on the inflow of management expertise from the foreign manufacturers						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
5. The level of subsidiary dependency on the inflow of technology know-how from the MNC HQ						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
6. The level of subsidiary dependency on the inflow of technology know-how from other MNC subsidiaries						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
7. The level of subsidiary dependency on the inflow of technology know-how from the Chinese local manufacturers						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
8. The level of subsidiary dependency on the inflow of technology know-how from the foreign manufacturers						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Part III – Procedural Fairness of Decision-Making

Fairness of decision-making procedure represents the degree of the importance the parent company attaches to the subsidiary's decision or suggestion in its decision-making process. Rate each of the following items on a degree from 1 to 7, with 7 being the highest. 1. During the decision-making procedure, the extent to which the manager of the subsidiary could oppose the decision made by the parent company						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
2. The amount of knowledge the manager of the parent company has about Chinese market before his engagement in the decision-making of the Chinese subsidiary						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
3. During the decision-making procedure, the adequacy of communication between the MNC parent company and the subsidiary						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
4. The consistency of decision-making procedure assigned by parent company to each subsidiary						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7

Part IV - Entrepreneurship of the Subsidiary

Entrepreneurship of the subsidiary is the degree to which the subsidiary is willing to take risks and explore opportunities. Rate each of the following items on a degree from 1 to 7, with 7 being the highest. 1. Willingness of the top-level leaders to pursue innovative activities						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
2. Richness of top-level leaders' experience in innovative activities						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
3. The scale of the newly established department (if any) responsible for the new project						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
4. The frequency that the subsidiary supports the new opportunities by establishing cross-functional units, forming new teams, and employing resources						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
5. The encouragement of risk-taking that the subsidiary imparts to the employees						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
6. The degree to which risk-taking is regarded as positive attitude						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7

Part V - The Relative Capability of the Subsidiary

The relative capability of the subsidiary is determined by evaluating its abilities in carrying out the following activities; as compared to other subsidiaries and the parent company in the MNC network. Rate each of the following items on a degree from 1 to 7, with 1 as the lowest (the target subsidiary, your company, shows the least capable when being compared with other subsidiaries and their parent company); 7 being the highest (the target subsidiary, your company shows most capable when being compared with other subsidiaries and their parent companies). 1. R&D and production capability compared with other subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
2. Manufacture capability compared with other subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
3. Marketing capability compared with other subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
4. Management capability compared with other subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
5. Innovation capability compared with other subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
6. The overall technological level of the subsidiary compared with the MNC parent Company						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
7. The overall technological level of the subsidiary compared with other MNC subsidiaries						
○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7

Part VI - Proportion of Subsidiary Knowledge Resources Outflow to MNC

The Proportion of subsidiary knowledge resources outflow to the MNC demonstrates the degree to which the subsidiary transfers technology know-how and management expertise to MNC, including the MNC HQ and other subsidiaries. Rate each of the following items on a degree from 1 to 7, with 1 being the lowest (the target subsidiary, your company shows the least capable to output knowledge transfer) with 7 being the highest (the target subsidiary, your company, shows the most capable to output knowledge transfer). 1. The capability of the subsidiary to transfer management expertise to the MNC HQ

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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2. The capability of the subsidiary to transfer management expertise to other MNC subsidiaries

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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3. The capability of the subsidiary to transfer management expertise to the Chinese local manufacturers

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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4. The capability of the subsidiary to transfer management expertise to the foreign manufacturers

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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5. The capability of the subsidiary to transfer technology know-how to the MNC HQ

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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6. The capability of the subsidiary to transfer technology know-how to other MNC subsidiaries

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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7. The capability of the subsidiary to transfer technology know-how to the Chinese local manufacturers

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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8. The capability of the subsidiary to transfer technology know-how to the foreign manufacturers

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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Part VII - Possibility of Substitution by Other Subsidiaries

The possibility of substitution refers to the probability that the Chinese subsidiary could be replaced by other MNC subsidiaries in performing its functions and activities. Rate each of the following items on a degree from 1 to 7, with 7 being the highest. 1. Fierceness of competition between the Chinese subsidiary and other MNC subsidiaries in products, execution, and function

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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2. Similarity between the subsidiary and other subsidiaries in performing their functions (similarity in production, R&D, and market)

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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3. The probability of immediate replacement of the subsidiary's function by other MNC subsidiaries

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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4. The potential of other MNC subsidiaries to replace the subsidiary's function

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
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Part VIII - Role of the Subsidiary

The Degree of Integration between the Subsidiary and the Parent Company

The degree of integration between the subsidiary and the parent company refers to the extent of coordination between the subsidiary and the parent company in conducting the following activities. Rate each of the following items on a degree from 1 to 7, with 7 being the highest.

1. Necessity to coordinate with the parent company in marketing strategy						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
2. Necessity to coordinate with the parent company in strategic planning for future development						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
3. Necessity to coordinate with the parent company in purchasing						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
4. Necessity to coordinate with the parent company in technology know-how						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
5. Necessity to coordinate with the parent company in R&D						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Local Responsiveness of the Subsidiary

Local responsiveness of the subsidiary shows the degree of localization of the subsidiary, more specifically, the interaction with local organizations, customers and satisfying their needs. Rate each of the following items on a degree from 1 to 7, with 7 being the highest.

1. Interaction between the subsidiary and local R&D organizations						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
2. Interaction between the subsidiary and local companies						

☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
3. Initiative of responsiveness to the requirement of local people						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
4. Compliance with local government policies						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
5. Initiative of responsiveness to the demand of local consumers						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Part IX - Subsidiary Profile

1. Year of establishment	
☐ less than 2 years ☐ 2-5 years ☐ 6-10 years ☐ 11-20 years	
☐ over 20 years	
2. No. of staff	
☐ less than 50 ☐ 51-200 ☐ 201-500 ☐ 500-1000	
☐ over 1000	
3. Nationality of parent company	
☐ America ☐ Korea or Japan ☐ Europe ☐ Other	
4. Ownership structure:	
☐ wholly owned by the parent company ☐ joint venture with local company	
5. If it is a joint-venture, share owned by parent company	
☐ less than 50% ☐ 50%-60% ☐ 60-70% ☐ 70-80%	
☐ 80-90% ☐ over 90%	
6. Is the CEO a Chinese? ☐ Yes ☐ No	
7. Industry sector:	
☐ Communication, Computer & Consumer Electronics ☐ Other	
8. Is the subsidiary able to serve as a manufacturer? ☐ Yes ☐ No	
9. Does the subsidiary have experience in trading and operating in Asian or Chinese markets before its establishment in China? ☐ Yes ☐ No	

Part X						
– Industry's Global Integration & Relative size of the subsidiary						
Global integration of subsidiary's industry						
Global integration of subsidiary's industry indicates the power of impact exerted on the subsidiary's operation by global industry scale, competition in other regions, and global MNC operation on the whole. Rate each of the following items on a degree from 1 to 7, with 7 being the highest.						
(1) Intensity of global competition						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(2) Impact of global scale (scale and scope of economy) on the subsidiary						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(3) Global standardization of products						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(4) Synchronicity of product introduction in global markets						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Relative size of the subsidiary						
The relative size of the subsidiary refers to the organization size of the subsidiary, as compared with those of the MNC parent company and other three subsidiaries (subsidiary A B C, if any) performing similar functions. Rate each of the following items on a degree from 1 to 7, with 7 being the highest.						
(1) Size of the subsidiary as compared with the MNC company						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(2) Size of the subsidiary as compared with Subsidiary A						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(3) Size of the subsidiary as compared with Subsidiary B						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
(4) Size of the subsidiary as compared with Subsidiary C						
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

APPENDIX 3 ANOVA coefficients table

Model	Coefficients		Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.470	1.372		6.903	.000
Is the CEO Chinese	-.331	.948	-.021	-.349	.728
Fairness	2.418	.188	.774	12.891	.000
2 (Constant)	7.557	2.574		2.935	.004
Is the CEO Chinese	-.852	.884	-.054	-.964	.337
Fairness	1.964	.187	.629	10.503	.000
If joint venture, share owned by parent company	.133	.312	.025	.425	.671
Inflow	-.559	.108	-.341	-5.189	.000
Outflow	-.078	.086	-.055	-.905	.367
3 (Constant)	10.129	3.462		2.926	.004
Is the CEO Chinese	-.744	.665	-.047	-1.119	.266
Fairness	.830	.187	.266	4.430	.000
If joint venture, share owned by parent company	-.299	.246	-.057	-1.217	.226
Inflow	-.220	.089	-.134	-2.467	.015
Outflow	-.064	.065	-.046	-.993	.323
Entrepreneurship	-.169	.138	-.051	-1.230	.222
Relative Capability	.967	.105	.626	9.228	.000
4 (Constant)	-.855	3.268		-.262	.794
Is the CEO Chinese	-.417	.473	-.026	-.882	.380
Fairness	1.385	.268	.443	5.166	.000
If joint venture, share owned by parent company	-.102	.173	-.019	-.588	.558
Inflow	-.364	.073	-.222	-4.985	.000
Outflow	-.070	.049	-.049	-1.430	.156
Entrepreneurship	-.021	.097	-.006	-.220	.826
Relative Capability	.642	.095	.416	6.736	.000
Global Integration	-.798	.220	-.434	-3.622	.000
Level of Responsiveness	.205	.101	.065	2.021	.046
Substitution	1.007	.096	.482	10.443	.000

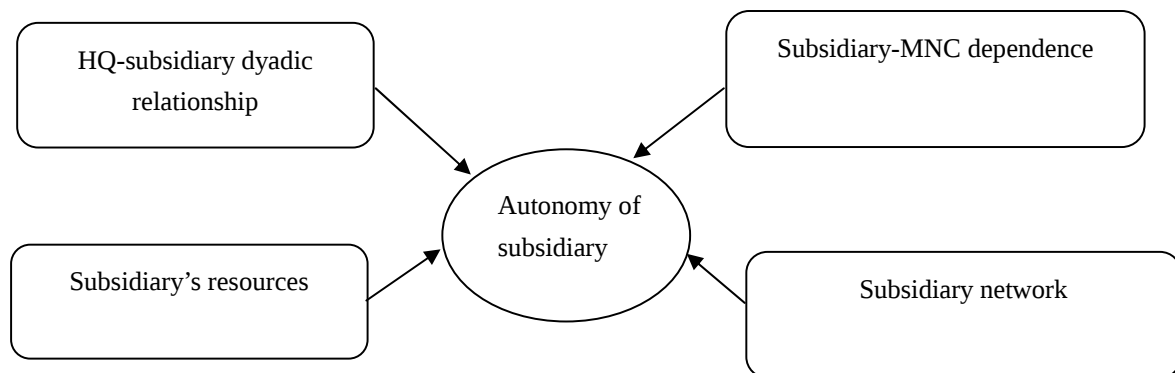


Figure 1. Conceptual model of subsidiary autonomy