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Full Length Research Paper

An AHP study of survival factors for small-medium sized multinational firms in Taiwan

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This study uses the analytical hierarchy process (AHP) to determine the resources needed, from a foreign subsidiary perspective, by small medium-sized multinational firms of financial service and high-technology manufacturing to successfully survive long-term in Taiwan. Results show that factors such as strategic assets, entrepreneurial management system, subsidiary autonomy, and the entrepreneurial orientation of senior managers are important to the survival of small-medium sized multinational firms. This study also finds that an entrepreneurial management system is of greater comparative importance to high-technology manufacturing companies, while autonomy is more important to financial services companies.

Key words: Survival, AHP, strategic assets, autonomy, organizational entrepreneurship.

INTRODUCTION

A key issue in foreign subsidiaries of multinational companies (MNCs) often find it difficult to survive because foreign firms face disadvantages compared to domestic firms in host countries (Hymer, 1976; Zaheer, 1995). Zaheer (1995) calls this phenomenon the "liability of foreignness." Liability of foreignness refers to the extra costs that MNCs incur in doing business overseas. Unless parent companies provide sufficient resources to overcome these extra costs, liabilities of foreignness lead to poor performance for foreign subsidiaries (Dunning, 1977; Zaheer and Mosakowski, 1997). Therefore, how to overcome the liability of foreignness to ensure the success of international expansion has become an important subject of international business studies.

Most previous studies explore factors overcoming liability of foreignness from the strategic perspectives of the parent companies. The paper also notice these studies involve samples of large corporation. These critical factors for survival include size, organization, structure and planning, diversification strategies, international strategies, research, development strategies, divestiture strategies, market experience, and local density (Kostova and Zaheer, 1999; Zaheer and Mosakowski, 1997; Miller and Eden, 2006). Miller and Eden's study (2006) is one of very few to understand how local conditions, such as local density, affect firm survival. To our knowledge, most research to date ignores this topic, even when studying whether or not foreign subsidiaries of MNCs can enjoy greater longevity by developing their own indigent capabilities, especially for foreign subsidiaries in small-medium sized. The purpose of this study is to answer the following research question: What resources and capabilities owned by foreign small-medium sized subsidiaries of MNCs help them overcome the liability of foreignness and therefore promote their

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long-term survival in host countries? Researchers have recently discussed the importance of studying foreign subsidiary performance from different perspectives, including entrepreneurship (Birkinshaw et al., 2005). They argued that a subsidiary is a semi-autonomous entity that achieves competitiveness, to a greater or lesser degree, as a function of the environment in which it is located. According to the resource-based view of the firm, performance differences between firms can be attributed to variations in firm resources and capabilities.

The firm size plays an important role in organizational design (Dunning, 1992), control over decision making (Ronen and Shenkar, 1985), and as a moderate variale in firm performance such as outcome of market orientation, export performance, success of strategies and productivity (Pelham, 2000; Ali and Swiercz, 1991; Smith et al., 1986; Sleuwaegen and Goedhuys, 2002). Pleshko and Nickerson (2007) find that there indeed is different strategic profile in larger and smaller service firms but having the similar profit return. Therefore, we may expect survival factor differences between large SME firms.

Literature review

Researchers have paid considerable attention to firm survival and organizational mortality because firm longevity is the foundation of market efficiency. Organizational ecology theory, developed by Hannan and Freeman (1989), has been widely used in previous studies to investigate the rate of mortality depending on organizational age, size, funding, and market niche position. Studying an organization's growth and death from the organizational ecology perspective provides several important contributions. First, organizational ecology explains organization survival or mortality in terms of dynamic circumstances. Second, it allows a greater understanding of an industry by means of the resource dependence theory. Finally, it offers theories and research methods which have been widely tested and validated (Aldrich and Wiedenmayer, 1993).

However, several researchers have questioned the organizational ecology theory as it tends to overemphasize factors such as industry, economy, and environment (Dunne et al., 1989), and fails to account for factors affecting firm survival from firm-level perspectives. Thornhill and Amit (2003) compiled 44 studies on organizational mortality and classified these attributes into categories of population level, multiple level, and firm-level studies. The variables in these empirical studies on firm survival include firm attributes (firm age, scope, industry environment and initial capital), owner or manager attributes (managers' age, education and experience), and operational characteristics (performance, product and marketing strategies, and business and financial management abilities). Note that all of these studies focus on domestic firms.

A critical review of the literature regarding the foreign subsidiary success of MNCs reveals that several attributes that impact subsidiary performance and survival emphasize the view of parent companies. These factors include industry growth (Shaver, 1995), entry modes and investment strategy (Li, 1995; Barkema et al., 1996; Pan and Chi, 1999; Mata and Portugal, 2000), diversification strategies (Li, 1995, Barkema et al., 1996), organization learning and experience (Li, 1995, Barkema et al., 1996), cultural distance (Barkema et al., 1996) and investment experience in similar markets (Delios and Beamish, 2001). Delios and Beamish's study is the few one to examine how subsidiary's strategic assets (advertising expenditures and technology) and organizational attributes (subsidiary's scope, age, and the scope of the parent company) impact firm survival and profitability in 3,080 branches of 641 Japan-based enterprises. Their study shows a positive relationship between strategic assets and subsidiary survival.

Beyond studies that emphasize strategic perspectives from the parent company view, there is a lack of studies on how other successfully developed resources on the foreign-owned subsidiary level to survive beyond infancy and adolescence. The most critical issue of organizational morality is the liability of newness caused by limited resources, a lack of market knowledge, in-experienced staff, and limited initial assets (Stinchcombe, 1965; Fichman and Levinthal, 1991). The liability of newness is also critical to MNC international expansion (Barkema, et al., 1996). Previous studies show that foreign-owned firms have a higher exit rate in the first years in a new market. In a study of the entrance strategies and exit behaviors of Portugal's new multinational companies, Mata et al. (1995) found that 20% of new enterprises exited the market in the first year, a further 50% did not survive more than 4 years, and only the remaining 30% remained in business for more than 7 years. A later study by Mata and Portugal (2002) revealed that 10% of Portugal's foreign-owned entrants exited the market within one year. These findings imply that successful entry to a new market does not guarantee that foreign-owned firms will exist in the host market over the long term.

The capabilities and resources available to MNCs foreign subsidiaries may improve their performance, increasing their chances of long-term viability in host country. For example, foreign subsidiaries of MNCs showed higher labor productivity levels than Canadian owned firms (Globerman et al., 1993). Moreover, to maintain an important position toward headquarters, an overseas subsidiary must make every effort to show its unique competitive edge to the parent company. From the network paradigm perspective (Bartlett and Ghoshal, 1989), a subsidiary continues to accumulate resources by forming a partnership with the parent company. The decision making process perspective (Birkinshaw, 1995) also indicates that a subsidiary develops its own valuable strategic behavior or position as it demonstrates entrepreneurship. This, in turn, allows it break away from the control of the parent company and establish itself in the host country. An overseas subsidiary with high level entrepreneurship and autonomy may enhance the capability of competing with domestic companies.

Therefore, drawing from the resource-based view, organizational entrepreneurship, and subsidiary autonomy, this study investigates how the resources and capabilities owned by MNCs foreign subsidiaries can increase their chances of survival in a host country.

Resource-based view

The resource-based view (Penrose, 1958) helps researchers understand how a company's internal resources can be utilized and consolidated to maintain competitive advantage and economic rent (Collins, 2000). The competitiveness these resources bestow is valuable, rare, difficult to imitate, and not easily substituted (Barney, 1991, 2001). As far as the resource-based view is concerned, a subsidiary's resources and capabilities are its most important assets in competing with domestic firms and in promoting the overall position of the group it belongs to. Unlike the dynamic relationship between focal firms and their environment in organizational ecology theory, the resource-based view shifts the company's strategic perspective away from its external environment to its internal resources (Priem, 2001; Pelham, 2000).

Amit and Schoemaker (1993) defined resources as "stocks of available factors that are owned or controlled by the firm," and capabilities as "information-based, tangible or intangible processes that are firm-specific and are developed over time through complex interactions among the firm's resources." Thus, the resource-based view is best suited to a discussion of how the internal resources of foreign subsidiaries affect their survival in the long term.

Subsidiary autonomy

Research by Roth and Morrison (1992) shows that the greater the resources and capabilities of a MNC subsidiary, the greater its business performance as it can make its own decisions. A subsidiary that has more abundant resources is better able to engage in business activities in the host country. If such a subsidiary's autonomy were to be reduced, the mutually beneficial relationship between the subsidiary and parent company would be constrained (Ghoshal and Nohria, 1989). On the other hand, if a subsidiary accumulates more resources, it can utilize these resources better than the parent company. Consequently, the subsidiary's autonomy must be increased to allow it to use its local resources efficiently to improve operating performance and improve its chances of survival. Based on the arguments above, this study asserts that autonomy impacts the long-term viability of foreign subsidiaries in the host countries.

Organizational entrepreneurship

Entrepreneurship plays an important role in the success of MNCs expansion to a new market. In recent years, the focus of entrepreneurship studies has shifted from the individual entrepreneurship to company entrepreneurship (Covin and Slevin, 1991; Menon and Menon, 1997). Organizational entrepreneurship is already considered an important firm-level strategy, and where a business is moving into a new market, a prerequisite to success (Lumpkin and Dess, 1996). Organizational entrepreneurship is also a form of organizational behavior (Covin and Slevin, 1991).

Organization entrepreneurship can be measured in terms of entrepreneurial orientation and entrepreneurial management. Entrepreneurial orientation is the amount of entrepreneurial ability a manager possesses when entering a new market. Miller and Friesen (1982) pointed out that organizational entrepreneurship can reveal itself as senior management's willingness to take risks, knack for turning innovation into competitive advantage, and ability to face stiff market competition head on. In organizations demonstrating this type of entrepreneurship, senior management employs an entrepreneurial management style that is reflected in the firm's management decisions and management philosophy. Therefore, if a MNC foreign subsidiary is able to establish an organizational culture and innovative management structure, this encourages creativity and acts as an incentive system that rewards good performance. This type of capability will be able to adapt to change in its environment and acquire the most appropriate resources to increase its competitiveness, competitive advantage, and its survival ability.

METHODS

To identify the subsidiary-level resources and capabilities that influence the survival of foreign subsidiaries of MNCs, this study conducts focus group interviews, content analysis, and the analytical hierarchy process for data collection and analysis.

Sample

This study applies convenience sampling for data collection. However, because the purpose of this study is to understand the long-term survival factors of foreign subsidiaries, all samples must

Table 1. Basic information of respondents.

	Financial service (n =10)	High-technology manufacturing (n = 10)	Total respondent (n = 20)
Gender			
Male	4	10	14
Female	6	0	6
Age			
Above 41	5	7	12
36-40	5	2	7
Below 35	0	1	1
Seniority in existing firm			
10 years above	6	5	11
7-9 years	4	5	9
Position			
General manager	2	2	4
Assistant general manager	4	0	4
Senior manager or director	3	6	9
Manager	1	2	3
Education level			
Graduate	9	0	19
Undergraduate	1	10	1

have been operating in Taiwan for at least 5 years to avoid the impact of liability of newness. According to the 2007 SME hand-book (MOEA, 2007), there are 1.24 million SMEs in Taiwan, which accounts 98% of all enterprises in the county. Most of MNCs firms in Taiwan are SMEs. This study collected data from 20 foreign subsidiaries of MNCs in finance and high-technology manufacturing firms, with 10 in financial service and high-technology manufacturing sector. Sign-up capital requirements are all below US $300,000 which is categorized as small and medium sized enterprises in Taiwan. Table 1 provides the detailed information of respondents.

Data collection

Two focus group interviews were conducted with homogeneous members (Krueger, 1994). One interview involved financial service companies, and the other involved hi-technology service companies. Focus group had the added advantage of increased self-disclosure of participants by reducing power distance. Focus group interviews can encourage individuals to divulge information that is generally unattainable using traditional information gathering techniques (Flores and Alonso, 1995). This study gathered data via focus group interviews. Each interview was also recorded (Bradford et al., 1999).

Data analysis

The data obtained was analyzed using the content analysis method (Berelson, 1952; Budd et al., 1967; Holsti, 1969). Holsti (1969) defined content analysis as any technique that makes inferences by objectively and systematically identifying the specific characteristics of messages. The content analysis technique aims to systematically and objectively describe the attributes of communication.

Categories of analysis

After preparing the literature review and reviewing the content of two focus group interviews conducted with 20 people, this study developed 4 main factors: Strategic assets, subsidiary autonomy, entrepreneurial orientation of subsidiary senior managers, and entrepreneurial management system.

Strategic assets

This study classifies the strategic asset of foreign-owned firms as indigent capability and resources owned by local managers of foreign subsidiaries. Strategic assets include general management ability, channel management, initial customer database, local manager’s network, and local manager’s industry experience.

Managers’ ability to manage effectively is often regarded as a unique competitive ability. Thornhill and Amit (2003) argued that the influence of a manager’s management ability on firm survival is no less important than how long a firm has been in business or its scope; the worse the management abilities are, the more likely the firm is to fail (Larson and Clute, 1979; Gaskill et al., 1993). As far as a MNC foreign subsidiary is concerned, local management ability plays an extremely crucial role: The better the management capabilities are, the more likely a firm is able to counter competition in the host country.

Due to considerations pertaining to cost or cultural distance in the host country, many MNCs develop business by leveraging channels in local markets to reduce investment costs. The most important work of a MNC's foreign subsidiary is to assume responsibility for partnership communication. Needless to say, channel management capabilities exert a positive effect on business performance and long-term survival.

A lack of a sound client base is one of the reasons why firms fail (Hall, 1992; Mitchell, 1994). Many multinational companies have tried lower-risk entry modes such as strategic alliances or joint ventures to establish a good customer base before they set up a green-field. If a branch or subsidiary of a multinational company can effectively utilize this customer base, its chances of survival are greater.

Social networking and inter-organizational networking help local managers catch new market opportunities and sense industry environmental changes while acquiring useful market information (Hall, 1992), and also reduces the gap between different cultures. That is, the more managers can develop their industry networks in the host country, the easier they can acquire better business resources. Conflict arising from culturally different business etiquettes can also be effectively avoided, which naturally confers better business performance leading to survival.

Managerial experience is without doubt the most important factor (Cooper et al., 1994; Westhead and Wright, 2001) in a firm's business success. The industry experience that local managers possess is critical to speedy problem solving and effective adjustment to cultural differences. As a result, a manager's industry experience influences firm survival (Castanias and Helfat, 1991).

Subsidiary autonomy

Many studies focus on definition of the factors affecting subsidiary autonomy (Taggart, 1999; Andersson and Forsgren, 1996). Increases in the autonomy of a subsidiary demonstrate that the demand for its capabilities in the host country has increased, which in turn increases its chances of long-term survival. This study defines the autonomy of an overseas subsidiary as its ability to make policy in sales (marketing) activities, human resources, manufacturing, R and D, and financial matters without consulting its parent company (Vachani, 1999).

Entrepreneurial orientation of subsidiary senior managers

Entrepreneurial orientation comprises three dimensions: Innovation, pro-activeness, and risk-taking (Covin and Slevin, 1991; Naman and Slevin, 1993; Wiklund, 1999; Zahra and Covin, 1995). Innovation refers to an organization's support for and inclination toward originality, new ideas, new tasks, new techniques, experimental activities, product development, or the use of new techniques differing from existing capabilities and *modus operandi* (Lumpkin and Dess, 1996). Pro-activeness refers to a firm's predictions of future market needs and demand and the actions it takes that allow it seize to first-mover advantage in this area (Lumpkin and Dess, 1996). By being proactive and obtaining first-mover advantage, overseas subsidiaries can seize new opportunities. Being preemptive and seizing such opportunities allows companies to demonstrate their pro-activeness and tenacity. Risk-taking refers to a company's willingness to invest a large amount of resources in a project where costs are high and failure is a possibility (Miller and Friesen, 1978). As far as foreign managers are concerned, although the parent company provides strategic or financial support, the subsidiary manager's entrepreneurial orientation affects business performance because the branch or subsidiary must continuously innovate to compete with local businesses.

Entrepreneurial management system

Another measure of organizational entrepreneurial ability is entrepreneurial management, which is the entrepreneurial ability as delimited by the organization. Stevenson and Jarillo (1990) found that entrepreneurship not only exerts an influence when entering a market, but it can be regarded as a management methodology that differs from more orthodox management models. Entrepreneurship is a kind of firm-level phenomenon, and unfortunately, case studies on this phenomenon are few and far between (Landström and Sexton, 2000). Shane and Venkataraman (2000) describe entrepreneurship as a kind of process; it is seeking out, assessing, and taking advantage of opportunities, and the process of creating new products and services. Brown et al. (2001) argued that entrepreneurial management can be used as a measure of entrepreneurial ability. Therefore, this study argues that if an overseas subsidiary possesses a management system that encourages entrepreneurship, this will influence its performance and increase its ability to survive. In this study, entrepreneurial management ability comprises strategic orientation, resource orientation, management structure, reward philosophy, and entrepreneurial culture.

If an organization possesses a strategic orientation, it is able to readily perceive changes to its environment despite unknown environmental factors and quickly adapt to these changes (Hitt and Ireland, 2000). Strategic orientation includes continuous learning by the organization and the synchronizing of the organization's objectives and actions (Farjoun, 2002).

An organization that possesses strategic orientation quickly finds and equips itself with the necessary resources, which include the ability to uncover untapped resources and develop new ones (Alvarez and Barney, 2001). Burns and Stalker (1961) stated that an organic management structure is a hierarchically flat and flexible, permitting an informal network structure (Brown et al., 2001). Creating a reward philosophy ensures the timely and fair acknowledgement of staff achievements. Organizational culture has an important effect on entrepreneurial activities (Hood and Young, 1993; Timmons, 1999). Differences of opinion are unavoidable when engaging in entrepreneurial activities, and therefore, an organizational culture that supports entrepreneurship is one that encourages new ideas, experimentation, innovation, and allows for differences in opinion (Stevenson and Jarillo, 1990).

To summarize the aforementioned, if a MNC overseas subsidiary is able to establish an organizational culture and management structure that is innovative and encourages creativity, and if it possesses an incentive system that rewards performance, it will be able to adapt to changes in its environment and acquire the resources it needs. This in turn will increase its competitiveness and competitive advantage, and promote its ability to success.

Unit of measurement

Based on the aforementioned categories, this study examines 75 themes, and 30 of these themes are selected randomly for presetting. The results of surveying 2 managers from financial service firms and 2 managers from hi-technology service firms reveal a consensus. Furthermore, the reliability of this is also discussed.

Degree of mutual agreement and reliability

From the 75 themes collected, this study samples 30 themes to count the degree of mutual agreement between the 4 senior managers surveyed. Using the result of coding to a formula: (2M/(N1+N2), M all agree numbers, N1: Coder 1 agree; N2: Coder 2 agree; to determine the degree of mutual agreement. The average mutual agreement of all coders is 0.82. The reliability is 0.94, using a formula of reliability (N*average mutual agreement)/1+(N-1)*(average mutual agreement). Table 2 shows the reliability of these 30 themes. The average mutual agreement of all coders is 0.79. Using a formula of reliability (N*average mutual agreement)/1+(N-1)*(average mutual agreement). The reliability of 0.94 is acceptable.

All 75 themes were coded to obtain the mutual degree and the reliability of the study. The average mutual degree of this study by 4 coders is 0.82, so the reliability of this study is 0.95, which is acceptable. Table 3 shows the result. 4 factors were discussed according to the coding content in the result of the study.

Table 2. Pretest the degree of mutual agreement.

	Coder 1	Coder 2	Coder 3	Coder 4
Coder 2	0.83			
Coder 3	0.84	0.77		
Coder 4	0.79	0.76	0.77	

Table 3. Coding result of mutual agreement.

	Coder 1	Coder 2	Coder 3	Coder 4
Coder 2	0.85			
Coder 3	0.87	0.78		
Coder 4	0.88	0.76	0.77	

Analytical hierarchy process

This study uses the analytical hierarchy process (AHP), developed by Thomas Saaty (1977), to clarify the complicated factors of foreign-owned firm survival. The AHP technique is commonly used in studies of social science, management, and environmental resources to evaluate the decision criteria of various subjects. Saaty stated that the purpose of the analytical hierarchy process is to create a clear and hierarchical evaluation system from a complicated and unstructured problem. The advantages of this approach are that it is easy to understand, easy to manipulate, and allows for a consensus to be reached from the opinions of a majority of experts and policy makers. Moreover, AHP is a suitable approach for undertaking quantitative or qualitative analysis (Hafeez et al., 2002). Ngai (2003) stated that the AHP approach is aimed at integrating different measures into a single overall score for ranking decision alternatives, and its main characteristic was that it is based on pair-wise comparison judgment. Figure 1 illustrates the two levels of this model.

The AHP methodology comprises four steps: Developing the hierarchical structure, assigning different levels of relative importance to each of the selection criteria, ranking the alternatives under each criterion, and finally ranking the contribution of each alternative. Expert Choice, incorporated one of the venders of AHP software, is widely used by researchers worldwide. This study use Expert Choice 2000 software. If the inconsistency ratio of each evaluation criteria is not less than 0.1, that criteria was excluded from consideration. This study tested each of the 20 respondents, and the inconsistency ratio of more than 0.1 was ruled out.

RESULTS

Table 4 presents the weighting and priorities of each factor and measurement for foreign subsidiaries survival. The results list the priority of second tier attributes influencing firm survival in order: Strategic assets (weighting 0.304), entrepreneurial management system (weighting 0.274), subsidiary autonomy (weighting 0.232), and entrepreneurial orientation of subsidiary senior managers (weighting 0.194).

These results are in agreement with the resource-based view hypothesis; foreign subsidiaries must develop their distinct resources, including sound managerial capabilities and experience, and manage their own initial customer bases to increase survival ability. According to Stevenson's (1983) definition, entrepreneurial management is a set of opportunity-based management practices that help organizations remain vital and contribute to their organizational value. Therefore, developing local management, a solid customer base, and an entrepreneurial management system that will catch business opportunities and reduce risks in the local market is important to foreign subsidiary survival.

To take all 18 measurements in third tier into considerations, Table 4 also shows the first four measurements, in the 3rd tier, in sequence: innovation (0.086), autonomy over sales (marketing) activities (0.084), general management (0.075) and strategic orientation (0.075). Innovation is the most important measurement influencing a firm's survival. Innovation plays a decisive role in firm survival because it is important to profitability and also helps strengthen the very foundations of an organization. Baumol (2002) pointed out that innovative activities can often be a matter of life or death for an organization. For some organizations, the ability to innovate has already replaced cost as the most important factor determining growth, and it is of equal importance to new and existing organizations.

This study also finds that autonomy over sales (marketing) activities is the most important measurement for financial service firms. As Varblane et al. (2005) concluded, marketing is the most powerful dimension of foreign subsidiary autonomy.

The top 2 attributes for hi-technology service firms are the same as those for the total sample. Entrepreneurial management system (weighting 0.310) and strategic assets (weighting 0.283) are the two most important attributes, with a combined value of 0.593, followed by

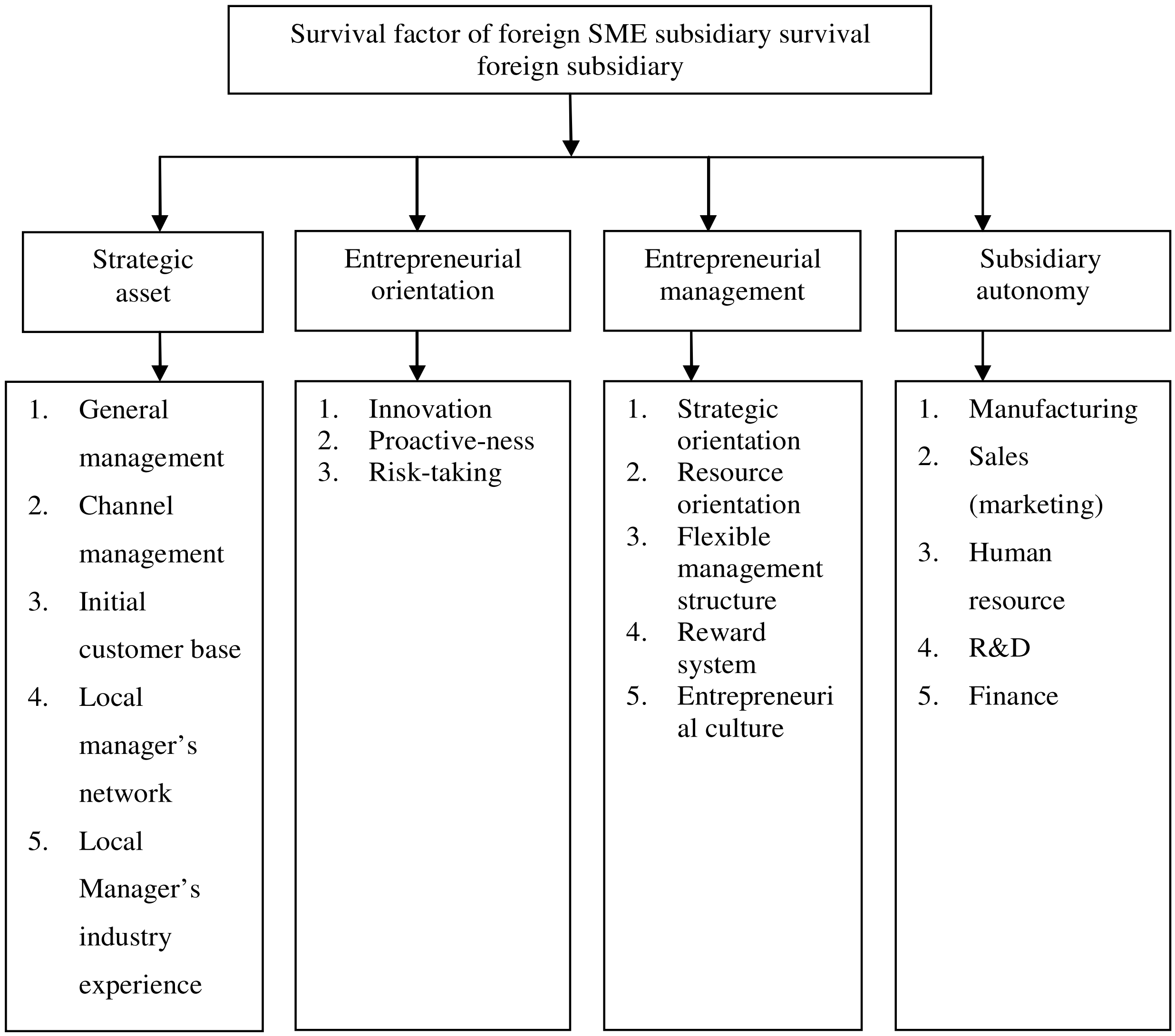

Figure 1. Hierarchy structure of the model in foreign SME subsidiary survival.

entrepreneurial orientation of subsidiary senior managers (weighting 0.231) and subsidiary autonomy (weighting 0.176).

However, this study presents one contrary finding for the top measurements of high-technology manufacturing firms. The measurement of innovation is still one of the top 4 measurements. However, the other three measurements fall under the category of organizational entrepreneurship (entrepreneurial orientation of senior managers and entrepreneurial management system). This might be because organizational entrepreneurship is a comparatively important attribute to the high-technology manufacturing industry, as a comprehensive entrepreneurial management system can help firms find new opportunities or new investments in terms of technology and production.

Table 5 presents the comparism of priority and consequence of level 2/level 3 criteria via industries.

Conclusions

This study explores the survival factors of SME foreign-owned firms in Taiwan from the subsidiary perspective. The study proposes a hierarchy framework for long-term firm survival through focus group interviews, and analyzes data using the content analysis technique and AHP. The AHP approach supplies weighting factors on firm survival. These factors include strategic assets, entrepreneurial orientation of senior managers, entrepreneurial management system, and subsidiary autonomy. The study also makes comparisons between findings for

Table 4. Priority and sequence of level 2 and level 3 for foreign SME firms survival.

Level 2 criteria		Level 3 criteria		
Level 2 criteria	**Priority and sequence of level 2 to level 1**	**Level 3 criteria**	**Priority and sequence of level 3 to level 2**	**Priority and sequence of level 3 to level 1**
Strategic asset	0.304 (1)	General management	0.248 (1)	0.075 (3)
		Channel management	0.216 (2)	0.066 (5)
		Initial customer base	0.174 (4)	0.053 (10)
		Local manager's network	0.193 (3)	0.059 (6)
		Local manager's industrial experience	0.169 (5)	0.051 (11)
		Inconsistency Index = 0.01		
Entrepreneurial orientation	0.194 (4)	Innovation	0.443 (1)	0.086 (1)
		Pro-activeness	0.259 (3)	0.050 (13)
		Risk-taking	0.298 (2)	0.058 (8)
		Inconsistency Index = 0.00		
Entrepreneurial management	0.270 (2)	Strategic orientation	0.274 (1)	0.074 (4)
		Resource orientation	0.151 (5)	0.041 (15)
		Flexible management structure	0.189 (3)	0.051 (12)
		Reward system	0.214 (2)	0.058 (7)
		Entrepreneurial culture	0.173 (4)	0.047 (14)
		Inconsistency Index = 0.00		
Subsidiary autonomy	0.232 (3)	Manufacturing	0.108 (5)	0.025 (18)
		Sales (marketing)	0.363 (1)	0.084 (2)
		Human resource	0.248 (2)	0.057 (9)
		R&D	0.159 (3)	0.037 (16)
		Finance	0.122 (4)	0.028 (17)
		Inconsistency Index = 0.00		

financial service companies and high-technology manufacturing companies.

The most important factor in firm survival on the subsidiary level is strategic assets. According to the resource-based view, a firm can derive a competitive advantage from its resources and capabilities to the extent that they are valuable, rare, inimitable, and able to be exploited (Barney, 1991). Local managers in host markets must develop more unique capabilities. In this study, managers' different abilities represent strategic assets. As such, foreign-owned firms should attach great importance to the selection and cultivation of local managers in their respective host countries. MNCs should also actively nurture local managers, utilizing their local management and industry experience to catch business opportunities in host countries. Local managers should improve their general management abilities and their industry relations, and become more perceptive of market changes to promote competitiveness, raise business performance, and further ensure the subsidiary's survival.

The results of this study show that innovation is very important to firm survival for both financial service companies and hi-technology service companies. Innovation is important to new entrants to a market, but even more so for existing firms who face the challenge of new technologies (Christensen, 1997). In their study of the Dutch manufacturing industry, Cefis and Marsili (2005) found that innovation exerts an influence on firm survival, particularly in procedures innovation. Innovation, regardless of industry, is an important evaluation criteria of firm survival. Managers of foreign subsidiaries

Table 5. Comparison of priority and sequence of level 2 and level 3 criteria via industries

Financial service					High-technology manufacturing				
Level 2 criteria	**Priority and sequence of level 2 to level 1**	**Level 3 criteria**	**Priority and sequence of level 3 to level 2**	**Priority and sequence of level 3 to level 1**	**Level 2 criteria**	**Priority and sequence of level 2 to level 1**	**Level 3 criteria**	**Priority and sequence of level 3 to level 2**	**Priority and sequence of level 3 to level 1**
Strategic asset	0.317 (1)	General management	0.287 (1)	0.091 (2)	Strategic asset	0.283 (2)	General management	0.206 (4)	0.058 (10)
		Channel management	0.190 (3)	0.060 (6)			Channel management	0.230 (1)	0.065 (5)
		Initial customer base	0.222 (2)	0.070 (4)			Initial customer base	0.134 (5)	0.038 (15)
		Local manager’s network	0.174 (4)	0.055 (8)			Local manager’s network	0.213 (3)	0.060 (8)
		Local manager’s industrial experience	0.126 (5)	0.040 (14)			Local manager’s industrial experience	0.216 (2)	0.061 (7)
		Inconsistency Index = 0.01					Inconsistency Index = 0.02		
Entrepreneurial orientation	0.159 (4)	Innovation	0.443 (1)	0.070 (4)	Entrepreneurial orientation	0.231 (3)	Innovation	0.444 (1)	0.102 (1)
		Pro-activeness	0.256 (3)	0.041 (13)			Pro-activeness	0.260 (3)	0.060 (8)
		Risk-taking	0.301 (2)	0.048 (10)			Risk-taking	0.293 (2)	0.068 (4)
		Inconsistency Index = 0.00					Inconsistency Index= 0.02		
Entrepreneurial management	0.228 (3)	Strategic orientation	0.265 (1)	0.060 (6)	Entrepreneurial management	0.310 (1)	Strategic orientation	0.276 (1)	0.086 (2)
		Resource orientation	0.110 (5)	0.025 (17)			Resource orientation	0.203 (3)	0.063 (6)
		Flexible management structure	0.230 (2)	0.052 (9)			Flexible management structure	0.150 (4)	0.047 (12)

Table 5. Continued

		Reward system	0.198 (3)	0.045 (11)			Reward system	0.224 (2)	0.069 (3)
		Entrepreneurial culture	0.197 (4)	0.045 (11)			Entrepreneurial culture	0.146 (5)	0.045 (13)
		Inconsistency Index = 0.00					Inconsistency Index= 0.01		
		Manufacturing	0.074 (5)	0.022 (18)			Manufacturing	0.148 (5)	0.026 (18)
		Sales (marketing)	0.420 (1)	0.124 (1)			Sales (marketing)	0.277 (1)	0.049 (11)
Subsidiary autonomy	0.296 (2)	Human Resource	0.308 (2)	0.091 (2)	Subsidiary autonomy	0.176 (4)	Human Resource	0.188 (3)	0.033 (16)
		R&D	0.103 (3)	0.031 (15)			R&D	0.229 (2)	0.040 (14)
		Finance	0.095 (4)	0.028 (16)			Finance	0.159 (4)	0.028 (17)
		Inconsistency Index = 0.01					Inconsistency Index = 0.00		

therefore, need to strengthen their ability to innovate new products and procedures quickly.

To best of knowledge, this study is the first study to use AHP to develop a hierarchy framework for long-term firm survival from the foreign subsidiary perspective. The proposed framework has strengths in handling complex measurements. This hierarchy framework makes a great contribution to understanding long-term firm survival, as MNCs can evaluate the degree of resources and capability owned by local subsidiaries to ensure their long-term survival. From the viewpoint of foreign-owned subsidiaries, local managers should enhance their general management skills and innovation abilities to ensure their competitive advantage in host markets, which definitely contributes to long-term foreign subsidiary survival.

Limitations and future direction

The findings of this study shed light on several system limitations and directions for future research. First, the attributes influencing firm survival are very complex and dynamic. Further research should explore different methodologies to conduct similar research from other perspectives. Whereas this study explores the importance of innovation to the long-term survival of foreign subsidiaries, further research could analyze different perspectives of innovation, such as product innovation and system innovation, to clarify their effects on firm survival.

Second, as this study interviews 20 senior managers, further research should use the hierarchy to conduct a large scale survey and generalize results. Finally, a comparison study of foreign-owned firms and domestic firms would help determine the factors influencing firm survival and provide insights to policy makers.

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