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An empirical study on brand strategy decisions in Chinese companies based on environmental uncertainties and entrepreneurial orientation

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Abstract This study investigate factors affecting brand strategic decisions in Chinese companies in regard to two factors: environmental uncertainty and entrepreneurial orientation, with the model of environmental management strategies. Based on prior literature and empirical analysis, this study proposes a contingency framework, which indicated that under what conditions Chinese companies prefer to adopt what kind of brand strategies, such as own-brand manufacturing, acquired brand, licensed brand and original equipment manufacturing/original design manufacturing.

Keywords environmental uncertainty, entrepreneurial orientation, brand strategic decisions

摘要 从外部环境不确定性和企业家导向这两点出发, 结合环境管理战略来考察中国企业品牌决策的影响因素, 运用文献逻辑推理和实证分析, 来研究在什么样的条件下, 中国企业会倾向于选择自有品牌、收购品牌、授权品牌和原始设备生产商/原始设计制造商的权变框架, 从而得出选择各个品牌战略的企业绩效的相对优劣性。

关键词 环境不确定性, 企业家导向, 品牌决策

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1 Introduction

Since China's reform and opening up, particularly ever since 1992, the growth model of manufacturing industries in many regions, especially coastal cities in China, was established on the basis of foreign direct investment (FDI) of improvement trade. This kind of growth model with original equipment manufacturing (OEM) is a natural choice made by Chinese manufacturers for participating in the division of labor of the international products value-chain. Owing to the OEM model, Chinese companies can learn and attain advanced knowledge and technologies from foreign companies. At the same time, they can improve their own skills and capabilities (Hobday, 1995; Ernst, 2000). In fact, in many industries in China, many companies are now giant OEMs, which have world first-class operational scale, manufacturing technology or product design capabilities. In the short run, the OEM model has become a part of the global supply chain composed of international brand companies. It helps establish business relationship with them and focuses on improving the operational scales and productive capabilities. Therefore, it is a stable operational strategy. However, in the long run, when international brand companies disperse competition in the products supply chain and when OEMs in other countries are in maturity stage of the product lifecycle, the OEM model will be confronted with many challenges: Chinese companies, such as OEMs, only have manufacturing capability, which are at a low level of industries because of lacking technology innovation and famous brands with their own intellectual property rights. Moreover, information sources and distribution channels deeply depend on suppliers overseas and importers so that they earn only few manufacturing fees. As a result, they are forced to take the resources-consumption model in the long run. If this situation is to be changed in the future, the only way is to establish own brands to deal with the little-profit era (Davis and Dunn, 2002). That not only raises the added values and connotations of manufacturing industries but also agglomerates the national identification.

However, in regard to establishing own brands, Chinese companies lag far behind in terms of actual needs. At present, China is the biggest manufacturer in the world of more than 170 kinds of products. Nevertheless, there are 249 brands of US, 46 of France, 45 of Japan and only four of China in the World's 500 Most Influential Brands published by World Brand Lab in 2005 (Bo, 2005). At the same time, there has been no Chinese brand in World's 500 Most Valuable Brands Business Week published by Inter brand from 1998 to 2005, which indicated that China is typically a big manufacturer and a small brand country. Some data show that China's gross export has reached 750 billion dollars, of which gross own brands export account for nearly 1% and own brands account for 20% of exporting companies' brands (Bo, 2005).

In the context of Chinese manufacturing industries above and considering the characteristics of Chinese companies' brand strategic decisions, two problems will be discussed: (1) how do environmental uncertainty and entrepreneurial orientation affect Chinese companies' brand strategic decisions; (2) do different brand strategic decisions lead to different performances?

2 Literatures review

2.1 OBM, PBM, LBM, OEM/ODM

Own-brand manufacturing (OBM) indicates that companies have the ownership of brands, produce and sell the goods with the brands. Own-brand manufacturing can be established in two ways (Doyle, 1990; Onkvisit and Shaw, 1991; Kotler, 1994): (1) OBM (original brand manufacturing) and (2) PBM (purchased brand manufacturing), i.e., manufacturing with the brands purchased or acquired from other companies. At the same time non-OBM is classified into three kinds: (1) PB (private brand); (2) OEM (original equipment manufacturing)/ODM (original design manufacturing, except the substantial design teams, ODM is almost the same as OEM, so it is discussed in the OEM); (3) LBM (licensed brand manufacturing). In terms of the business model, there is no difference between PBM and OEM/ODM and non-OBM companies. While PBM indicates that companies produce products to supply the intermediaries with private brands, OEM/ODM indicates that companies supply products to other manufacturers with private brands. Therefore, PB belongs to one kind of OEM/ODM discussed in the following researches.

2.2 Factors affecting brand strategic decisions

Grant (2002) indicated that strategic decisions have three attributes: (1) they must be important; (2) they need continual commitment of resources; and (3) they are irreversible. The development of OBM must influence the whole strategies, strategic direction and resources arrangement of companies. Thus, the brand decisions are considered as a kind of strategic decisions. Papadakis et al. (1998) proposed a model to delineate strategic decisions-making process in which the following factors can affect strategic decisions: managers' personality, inner organizational context and environmental factors.

2.3 Background of Chinese companies' strategic decisions

Some researchers point out that Chinese decisions are typically participatory ones, as China is a high power distance country (Smith et al, 1994). Meanwhile,

other researchers indicate that employees in China who readily accept the decisions made by their managers are reluctant to participate in the decision-making process because of their unconditional belief in their managers (Graf et al, 1990). In China, the latter situation is more popular, especially in the state-run companies. The last decisions are always made by the top managers without discussions with their employees. Because of some popular characteristics, e.g. high normality, low transparency, low publicity and centralization in Chinese companies, Chinese employees almost have no chance in participating into the decisions-making process (Pan and Zhang, 2004). From the above-mentioned, we can come to the conclusion that present Chinese entrepreneurs are characterized by strong personal decisions style, especially by top managers' personal decisions style.

While China's economy is undergoing great transitions, its domestic environment is also undergoing dynamic changes. Great changes also take place in politics, laws, economy, society and culture, which result in some uncertainties. Amidst China's economic transitions, the environmental factors are complicated and dynamic information is not well written. In addition, management regulations and policies are not clear (Schenkar, 1990). In countries undergoing economic transitions, such as China, despite the free market, businesses are plagued by vague property rights and institutions (Nee, 1992). Great environmental uncertainties and cultural barriers in China are big problems and challenges to foreign market-entry companies (Li and Atuahene-Gima, 2002). Thus, each Chinese entrepreneur will encounter more uncertainties from the domestic market as well as fierce competitions from the international market. The environmental uncertainty perceived by Chinese entrepreneurs must have an influence on their strategic decisions-makings. Environmental uncertainty is always considered as an attribute of environment affecting the decisions-makings of companies (Downey et al., 1975; Dess and Beard, 1984; Miller, 1987). Therefore, it is another breakthrough point of researches on the influential factors for the brand strategic decisions of Chinese entrepreneurs.

From the two points above, we can conclude that it is necessary to conduct researches on brand strategic decisions of Chinese companies under external environmental factors and internal entrepreneurial orientation. This study will analyze the influential factors on the brand strategic decisions of Chinese companies with the environmental management strategy (EMS) (Zeitham and Zeithaml, 1984), framework from two viewpoints of environmental uncertainty and entrepreneurial orientation. It also analyzes that under what situations Chinese companies are prone to take OBM, PBM, LBM or OEM/ODM decisions. The study has made theoretical and managerial contributions to the autonomy and innovation of many Chinese companies now, which deserves our close attention.

2.4 Entrepreneurial orientation

2.4.1 The concept

Entrepreneurial orientation (EO) put forward by Miller in 1983 refers to the tendency of the top managers' shouldering business-related risks and their likeness to gain advantages and competitiveness through innovations. It means the tendency towards innovative, proactive, risk-taking autonomous competitively aggressive behaviors besides the companies' attainment of their objectives (Stevenson and Jarillo, 1990; (Lumpkin and Dess, 1996). According to Lumpkin and Dess (1996), an entrepreneurial orientation is characterized by 1) a propensity to act autonomously; 2) a willingness to innovate and take risks; 3) a tendency to be aggressive toward competitors; and 4) a tendency to be proactive relative to marketplace opportunities. Zahra et al. (1999) thought that the definition of entrepreneurial orientation indicated by Lumpkin and Dess (1996) would be helpful to further researches.

2.4.2 Entrepreneurial orientation—the relationship between EO and environment, strategy and performance

However, the effectiveness of an entrepreneurial orientation may vary depending upon its co-alignment with the strategies selected and the environmental conditions under which it is implemented (Covin and Slevin, 1989, 1991; Lumpkin and Dess 1996). The nature of the contingency relationship that may exist between an entrepreneurial orientation, the strategic process and environmental conditions represents a fertile area for researches which should provide a better understanding of how an entrepreneurial posture impacts strategic choices and contributes to the organizational performance (Lumpkin and Dess, 1996; Dess et al., 1997).

2.5 Perceived environmental uncertainty (PEU)

In the most general sense, environmental uncertainty has been defined as a decision maker's perceptual inability to predict environmental changes because of the lack of information or the ability to discern the relevancy of data (Buchko, 1994; Clark et al., 1994). It is viewed as a key environmental factor which may account for different decision-making frameworks and strategies (Buchko, 1994) and may be employed by multiple managers operating in the same objective environment (Bourgeois, 1980).

The level of environmental uncertainty perceived may vary directly with an individual's tolerance for ambiguity (Downey et al., 1977) and may result in more

opportunities for perceptions (Miles et al., 1993) and the implementation of more novel marketing strategies. For example, researchers have suggested that the use of diversification, the identification and adoption of new products and processes, which will vary directly with the level of environmental uncertainty (Buchko, 1994). They may lessen the impact of a dynamic, yet uncertain, environment that entrepreneurs may not fully understand (Milliken, 1987). Due to the increase of dynamism, heterogeneity and uncertainty in the market, uncertainty is likely to be positively associated with the adoption of an entrepreneurial orientation and the use of more aggressive and novel strategic behaviors (Morris and Paul, 1987; Covin and Slevin, 1989; Davis et al., 1991; Miles and Arnold 1991; Tan 1996).

2.6 Environmental management strategies (EMS)

Faced with challenges and uncertainties of the ever-changing environment, decision makers may respond by attempting to influence or alter the environment in which they exist. As managers formulate their responses, they may select from categories of environmental management (marketing) strategies in order to alter or manage their environment (Zeithaml and Zeithaml, 1984; Clark, Varadarjan and Pride 1994). Building on Galbraith's (1977) typology of environment management strategies, Zeithaml and Zeithaml (1984) suggested that business managers may proactively respond to a task environment, i.e. environmental management strategies (EMS) (Fig. 1).

2.6.1 Independent strategies

By independently drawing on their own resources and ingenuities, entrepreneurial oriented managers may more proactively attempt to manage their task environment (Galbraith 1977; Zeithaml and Zeithaml, 1984). This category of strategy is designed to reduce the level of uncertainty and dependence on the external environment while maintaining the autonomy of the firms (Galbraith, 1977). Here, more attention is given to autonomy, proactive actions and reactive approach respectively. These strategies are more likely to be considered by managers, who have high entrepreneurial orientations and low to moderate levels of perceived environmental uncertainty (Galbraith, 1977).

2.6.2 Cooperative strategies

As environmental uncertainty increases, conservative managers may feel more threatened because of their low-level self-perceived competency in dealing with a dynamic environment (Karagozolu and Brown, 1988). To reduce this uncertainty, they may increase their dependence on other organizations by adopting more cooperative strategies, involving coalitions or contracting

Entrepreneurial orientation		Conservative orientation	
Strategic maneuvering		Independent strategies	Cooperative strategy
High PEU/High EO		Low PEU/High EO	High PEU/Low EO
1. Domain selection Selectively enter attractive markets 2. Diversification Invest in new products/new markets to reduce dependence on existing products/markets 3. Mergers & acquisition Combine two or more firms into a single enterprise		1. Active competition Exploit distinctive competence to improve internal efficiency 2. Public relations Establish, maintain favorable image Legal action Pursue litigation against competition 4. Dependence development Modify relationships so as to increase others' dependence on organization	1. Contracting Develop contractual vertical & horizontal marketing systems 2. Coalition Act jointly with respect to some set of issues over a defined period of time

Note: adapted from Zeithaml and Zeithaml (1984). Environmental management: Revising the marketing perspective, *Journal of Marketing*, Vol. 48 (Spring), 50.

Fig. 1 Environmental marketing strategies

(Galbraith, 1977; Zeithaml and Zeithaml, 1984). According to researchers, cooperative strategies, such as the use of alliances, are more likely to be associated with greater perceived environmental uncertainty (Bucklin and Sengupta, 1993) and a low entrepreneurial (conservative) orientation (Dickson and Weaver, 1997).

2.6.3 Strategic maneuvering

Instead of attempting simply to manage or cope with their existing environment, entrepreneurial-oriented (high EO) managers may proactively attempt to change their working task environment (Galbraith, 1977; Zeithaml and Zeithaml, 1984). This could likely happen in response to increasing the levels of environmental uncertainty (Morris and Paul, 1987). Here, entrepreneurs are more likely to imply marketing strategies that are designed to alter the task environment in which they operate (e.g. by diversifying and seeking new customer niches) (Jeffrey and Susan, 2002). The use of strategic maneuvering, such as domain selection, diversification, or merger and acquisition strategies (Zeithaml and Zeithaml, 1984), is likely to be more suitable for the entrepreneurial-oriented (high EO)

managers that perceive a higher level of environmental uncertainty (Jeffrey and Susan, 2002).

Based on Zeithaml and Zeithaml (1984), Jeffrey and Susan (2002) proposed a concept framework of further researches on the relationship between the choice of EO, PEU, EMS and the performances of enterprises (Fig. 2).

	High PEU	Low PEU
High EO	<p><i>Condition One: High EO/High PEU</i> Strategic maneuvering strategies</p> <p>Domain selection Diversification Merger and acquisition Performance: high. Superior to condition two and four.</p>	<p><i>Condition Two: High EO/Low PEU</i> Independent strategies</p> <p>Active competition Performance: moderate. Inferior to condition one or three, depending on the alignment of strategy and environment.</p>
Low EO	<p><i>Condition four: Low EO/High PEU</i> Cooperative strategies</p> <p>Contracting Co-optation Coalition Alliance Performance: moderate. Inferior to condition one or three.</p>	<p><i>Condition three: Low EO/Low PEU</i> Defender strategy</p> <p>Contracting maintain status quo Cost minimization Incremental change Performance: moderate to high. Superior to condition two and four, depending on the modification of strategy and environment.</p>

Note: adapted from Jeffrey and Susan (2002), Marketing strategy selection: Impact of entrepreneurial orientation and environmental perceptions. *Marketing Management Journal*, Volume 12, Issue 1, pp. 32–48.

Fig. 2 Perceived environmental uncertainty (PEU)

3 A contingency framework of brand strategic decisions of Chinese companies

Based on the above-mentioned OBM, PBM, LBM, OEM/ODM theories and environmental marketing strategies (EMS), this study proposes that entrepreneurial orientation and perceived environmental uncertainty (PEU) have respective and common impacts on the brand strategic decisions, which depend on the alignment of actual environment to influence the performances (Fig. 3). Fig. 3 shows a contingency framework about what kind of brand strategic decisions are made under conditions of alternations of high or low EO and PEU.

	High PEU	Low PEU
High EO	<p><i>Condition One: High EO/High PEU</i> Strategic maneuvering strategies</p> <p>PBM (Purchased brand manufacturing)</p> <p>Performance: high. Superior to condition two and four.</p>	<p><i>Condition Two: High EO/Low PEU</i> Independent strategies</p> <p>OBM (Original brand manufacturing)</p> <p>Performance: moderate. Inferior to condition one or three, depending on the modification of strategy and environment.</p>
	<p><i>Condition four: Low EO/High PEU</i> Cooperative strategies</p> <p>OEM (Original equipment manufacturing) /ODM (Original design manufacturing)</p> <p>Performance: moderate. Inferior to conditions one or three.</p>	<p><i>Condition three: Low EO/Low PEU</i> Defender strategy</p> <p>LBM (Licensed brand manufacturing)</p> <p>Performance: Moderate to high. Superior to condition two and four, depending on the alignment of strategy and environment.</p>

Fig. 3 A conception framework of this study

The manner, which decision makers used to frame the strategic response to the environment may be dependent upon their underlying business philosophy (e.g. entrepreneurial orientation) (Covin, 1991; Dickson and Weaver, 1997) and their perceptions of environmental uncertainty (Clark et al., 1994; Tan 1996).The following explanation is shown about what kind of brand strategic decisions are made by Chinese companies under the influence of EO and PEU:

3.1 Condition one: High EO and high PEU

Adopt strategic maneuvering under the condition of high EO and PEU. Managers with high EO and PEU are more likely to utilize the strategic maneuvering. The use of strategic maneuvering, such as domain selection, diversification, or merger and acquisition strategies (Zeithaml and Zeithaml, 1984), is likely to be more pronounced for managers with high EO and high PEU. Therefore, under this strategy, companies are inclined to make the PBM decision. And it is proposed below:

H1: when entrepreneurs face the condition of high EO and high PEU, they are prone to make the PBM decision.

3.2 Condition two: High EO and low PEU

In terms of the external side of companies, environment uncertainty might influence their brand strategic decisions. The lower PEU is, the easier companies are to predict the future consequence. At the same time, companies have high EO, i.e. high autonomy and innovation. Theoretically, according to resource-based theory, original brand represents a valuable, scarce, unmistakable resource (Barney, 1991). Then, companies may consider building original brand to reinforce their competitive advantages. Shaping differentiated products through brands, companies try to deal with industrial changes by avoiding excessive competition (Schmalensee, 1982; Lilien and Yoon, 1990; Dhar and Hoch, 1997). This is almost the same as independent strategies, which propose that under high EO and low PEU, companies are inclined to make the PBM decision. And it is proposed below:

H2: when entrepreneurs face the condition of high EO and low PEU, they are prone to make the OBM decision.

3.3 Condition three: Low EO and low PEU

Companies adopting this strategy tend to place more emphasis on refinements of existing products/services (Covin and Slevin, 1989) and incremental changes (Davis et al., 1991; Miles and Arnold 1991) rather than on innovations. Companies focus more on a narrowly defined market domain (Covin and Slevin, 1989) with a limited and standardized range of products and services (Karagozoglu and Brown, 1988). Given their perceptions of a more stable environment and a lower level of need for internal changes, conservative managers may adjust their practices slowly, preferring to maintain the status quo (Karagozoglu and Brown, 1988). When their market domain is threatened, they tend to respond cautiously to competition (Covin and Slevin, 1989). They are more likely to derive their strengths from pursuing cost minimization strategies that focus on achieving greater efficiencies (Karagozoglu and Brown, 1988; Covin, 1991). Because of licensed famous brand with fixed consumers and suppliers, i.e. low PEU, companies are inclined to make the PBM decision under low risk-taking and autonomy of EO. And it is proposed below:

H3: when entrepreneurs face the condition of low EO and low PEU, they are prone to make the LBM decision.

3.4 Condition four: Low EO and high PEU

Adopt cooperative strategies under the condition of low EO and high PEU. To reduce this uncertainty, companies adopting this strategy may increase their

dependence on other organizations by adopting more cooperative strategies (i.e. exchange relationships), involving coalitions or contracting (Galbraith 1977; Zeithaml and Zeithaml, 1984; Lado et al., 1997). By making use of the two models (OEM or ODM), South Korean companies conduct co operations with foreign companies from developed countries to gain competitive advantage and consolidate their position in their domestic market. Many manufacturers in Taiwan use the two same models to exploit domestic market (Chen, 2003). Therefore, under low EO and high PEU, companies are inclined to make the OEM/ODM decision. And it is proposed below:

H4: when entrepreneurs face the condition of low EO and high PEU, they are prone to make the OEM/ODM decision.

3.5 High EO and high PEU, brand strategy, performance

In a highly uncertain environment, entrepreneurial firms tend to exhibit greater flexibility (Tan, 1996) and distinctive marketing competencies than their more conservative counterparts and are more successful in dealing with the environment (Karagozoglou and Brown, 1988; Smart and Conant, 1994). Stimulated by the backdrop of the environmental dynamism (Begley and Boyd, 1987; Covin, 1991), entrepreneurial-oriented managers may seek ways to put resources together in new combinations (Mitton, 1989) that enhance the probability for a more favorable outcome (Palich and Bagby, 1995). Therefore, when entrepreneurs adopt PEM decisions faced with high EO and PEU, the enterprises will perform better. Therefore, it is proposed below:

H5: under high EO and high PEU, companies will make the PBM decision and gain better performance than other decisions (OBM, LBM, and OEM/ODM).

3.6 High EO and low PEU, brand strategy, performance

Entrepreneurs prefer to adopt independent strategies under the condition of low to moderate level of uncertainty (Galbraith, 1977). According to Covin and Slevin (1989), entrepreneurial firms tend to perform better in a more dynamic rather than a more benign environment. This might be explained, in part, by their preference for a more dynamic environment, where entrepreneurs tend to be more comfortable with environmental complexity and tend to engage in and prefer more novel environmental shaping strategies (Miller and Friesen, 1982; Begley and Boyd, 1987; Karagozoglou and Brown, 1988). Therefore, it is proposed below:

H6: under high EO and low PEU, companies will make the OBM decision and gain better performance than other two decisions (LBM, PBM).

3.7 Low EO and low PEU, brand strategy, performance

Conservative firms tend to perform better in a more structured and predictable environments (Covin and Slevin, 1989). The use of a cost minimization strategy has been associated with successful firms in a stable and certain environment (Miller, 1988). Competition in a relatively certain environment requires a greater emphasis on operational efficiencies (Karagozoglu and Brown, 1988) while the entrepreneurs' preferred use of more novel and proactive behaviors under similar conditions may be excessive and wasteful (Miller and Friesen, 1982; Karagozoglu and Brown, 1988) and represents an unnecessary risk (Covin and Slevin, 1990). Therefore, it is proposed below:

H7: under low EO and low PEU, companies will make the LBM decision and gain better performance than other decisions (PBM, OBM and OEM/ODM).

3.8 Low EO and high PEU, brand strategy, performance

The use of cooperative strategies (e.g. strategic alliances) may enable allied members to perform better than their non-allied counterparts under uncertain environment (Reijnders and Verballen, 1996). Given their lower level of perceived competence and greater risks under uncertainty and their preference for a more stable and certain environment (Karagozoglu and Brown, 1988), nonaligned conservative managers may not perform as well as their conservative counterparts in a more certain environment (condition three) and entrepreneurs in a more uncertain environment (condition one). Therefore, it is proposed below:

H8: under low EO and high PEU, companies will make the OEM/ODM decision and gain better performance than other two decisions (PBM, LBM).

4 Data analysis and discussions

According to research framework and variables, the content of the survey questionnaire is designed on the basis of some scholars' questionnaires, of which PEU is measured with the questionnaires of Duncan (1972), Miles and Snow (1978), and Miller (1993), EO with those of Covin and Slevin (1989, 1991), Lumpkin and Dess (1996), and performance with those of Venkatraman and Ramanujan (1986) after testing the questionnaire by reliability analysis. A index of each variable (EO, PEU, Performance) is all above 0.8. Therefore, this questionnaire has good reliability. And because of adoption of the existing questionnaires, it has good context validity. And then with logistic regression, this study analyzes the effects of different levels of PEU and EO on the brand strategic decisions of Chinese manufacturers so as to testify Hs 1–4. Finally, with

ANOVA (analysis of variance), different performances among these brand strategic decisions are analyzed in order to testify Hs 5–8.

4.1 Questionnaire retrieve and sample structure

This survey samples are 1,000 EMBA students from four universities (Wuhan University, Zhejiang University, Zhongshan University and Zhongnan University of Economics and Law). With general manufacturing and service industries as research objectives, this study adopts stratification random sampling, select samples from five strata, of which each has 80 samples. In sum, 400 questionnaires are released and 256 are returned, of which 220 are valid, accounting for 55% of all.

The situation of the valid samples of this study is shown below, which is on the basis of company age, the number of employees, sum of capital, industry and brand strategic decisions (Table 1). From Table 1, in terms of company age, most of samples are below 10 years, accounting for 47.3%, 10–20 years 41.8%, 20–30 years and above 30 years respectively accounting for 6.4% and 4.5%; in terms of the number of employees, most samples have 500–1000 people, accounting for 30.9% of all, samples having above 1,000 people account for 27.3%; in terms of sum of capital, most samples are above 2 billion, accounting for 27.3% of all; in terms of industry, most samples belong to manufacturing industry, accounting for 67.3% of all, almost three times than those of service industry; in terms of brand strategic decisions, most samples make OBM, accounting for 60.0% of all, which indicates that Chinese companies are not only considering and advocating OBM. It also indicates that it has become the mainstream that Chinese companies is forming their own brands; other decisions (PBM, LBM, OEM/ODM) account for about 15%, of which OEM/ODM is the least (11.8%).

4.2 Logistic aggression of EO and PEU on brand strategic decisions

Tables 2–4 are logistic aggression output of EO and PEU on brand strategic decisions, which show the overall model reaches the significance level ($p < 0.05$). They also show the percent correct is 80.1%, which means EO and PEU have strong explanation on the brand strategic decisions.

As index of PBM shows, EO (4.771, Sig.) and PEU (1.389, Not Sig.) have positive relationship with PBM, which means the higher EO and PEU are, the more possibilities Chinese companies have to make PBM decisions. At the same time, it testifies **H1**.

As index of OBM shows, EO (Sig.) has positive relationship with PBM while PEU (Sig.) has negative relationship with OBM, which means the higher EO and the lower PEU are, the more possibilities Chinese companies have to make OBM decisions. At the same time, it testifies **H2**.

Table 1 Companies basic information

Item		Frequency	Percentage	Sum of percentage
Company age	Below 10 years	104	47.3	47.3
	10–20 years	92	41.8	89.1
	20–30 years	14	6.4	95.5
	Above 30 years	10	4.5	100.0
Employee number	Below 30 people	2	0.9	0.9
	30–100 people	24	10.9	11.8
	100–200 people	26	11.8	23.6
	200–500 people	40	18.2	41.8
	500–1000 people	68	30.9	72.7
	Above 1000 people	60	27.3	100.0
	Sum of capital	Below 50 million	40	18.2
	50–100 million	42	19.1	37.3
	100 million–1 billion	50	22.7	60.0
	1–2 billion	28	12.7	72.7
	Above 2 billion	60	27.3	100.0
Industry	Manufacturing	148	67.3	67.3
	service	54	24.5	91.8
	other	18	8.2	100.0
Present brand strategic decision	PBM	30	13.6	13.6
	OBM	132	60.0	73.6
	LBM	32	14.6	88.2
	OEM/ODM	26	11.8	100.0

Data resource: this study

Table 2 Likelihood ratio tests

Effect	–2 log likelihood of reduced model	Chi-Square	<i>df</i>	<i>Sig.</i>
Intercept	270.650	120.120	3	.000
EO	247.614	97.084	3	.000
PENVIROU	262.952	112.422	3	.000

As index of LBM shows, EO (–1.5 Not Sig.) and PEU (Sig.) have negative relationship with LBM, which means the lower EO and PEU are, the more possibilities Chinese companies have to make LBM decisions. At the same time, it testifies **H3**.

As index of OEM/ODM shows, EO (Sig.) and PEU (Not Sig.) have negative relationship with OEM/ODM, which means the lower EO and PEU are, the more possibilities Chinese companies have to make OEM/ODM decisions. At the same time, it doesn't testify **H4**.

Above all, EO and PEU do have influences on brand strategic decisions of Chinese companies, especially strong and significant effects on OBM. Therefore, Hs 1–3 are supported, but H4 is not.

Table 3 Parameter estimates

Present brand strategic decisions		<i>B</i>	Std. Error	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>
PBM	Intercept	-24.302	6.485	14.043	1	0.000	
	EO	4.771	1.058	20.334	1	0.000	118.069
	PENVIROU	1.389	.969	2.056	1	0.152	4.012
OBM	Intercept	4.086	3.192	1.639	1	0.200	
	EO	2.441	0.720	11.491	1	0.001	11.486
	PENVIROU	-2.754	0.603	20.837	1	0.000	0.064
LBM	Intercept	20.351	4.619	19.411	1	0.000	
	EO	-1.535	1.019	2.270	1	0.132	0.215
	PENVIROU	-3.938	0.774	25.878	1	0.000	0.019
OEM/ODM	Intercept	40.312	5.138	20.663	1	0.000	
	EO	-2.124	1.563	2.270	1	0.000	0.035
	PENVIROU	-4.324	0.781	11.365	1	0.000	78.562

Table 4 Classification

Observed	Predicted				Percent Correct
	PBM	OBM	LBM	OEM/ODM	
PBM	50	4	0	2	89.3%
OBM	2	80	14	8	76.9%
LBM	0	12	44	0	78.6%
OEM/ODM	6	6	2	52	78.8%
Overall Percentage	20.6%	36.2%	21.3%	22.0%	80.1%

4.3 Different performances under brand strategic decisions with ANOVA

From Table 5, significance (0.001) can show great differences under the four brand strategic decisions. Table 6 shows that the performance of PBM is significantly different from that of OEM/ODM and higher than that of OEM/ODM. At the same time, the performance of PBM is not significantly different from those of other three brand strategic decisions, which partly supports **H5**; the performance of OBM is significantly different from those of LBM and OEM/ODM and higher than those of LBM and OEM/ODM, and higher than those of other three brand strategic decisions, which do not support **H6**; the performance of LBM is significantly different from that of OBM and much lower than that of OBM, which partly support **H7**; the performance of OEM/ODM is significantly different from that of OBM and lower than those of other three brand strategic decisions, which supports **H8**.

Above all, in terms of performances of four brand strategic decisions, that of PBM is higher than those of LBM and OEM/ODM and significantly different from the latter. However, it is lower than that of OBM, which is the highest

Table 5 ANOVA

		Sum of squares	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Between groups	(Combined)	14.300	3	4.767	5.428	0.001
	Linear term	Un-weighted 10.053	1	10.053	11.447	0.001
		Weighted 11.707	1	11.707	13.331	0.000
		Deviation 2.593	2	1.296	1.476	0.232
Within groups		120.310	207	0.878		
Total		134.610	210			

Table 6 Multiple comparisons

(I) present brand strategic decisions	(J) present brand strategic decisions	<i>Mean difference</i> (I-J)	<i>Std. error</i>	<i>Sig.</i>	95% confidence interval	
					Lower bound	Upper bound
PBM	OBM	-0.0815	0.21966	0.711	-0.5159	0.3529
	LBM	0.3929	0.25045	0.119	-0.1024	0.8881
	OEM/ODM	0.6934(*)	0.24078	0.005	0.2172	10.1695
OBM	PBM	0.0815	0.21966	0.711	-0.3529	0.5159
	LBM	0.4744(*)	0.21966	0.033	0.0400	0.9087
	OEM/ODM	0.7749(*)	0.20857	0.000	0.3624	10.1873
LBM	PBM	-0.3929	0.25045	0.119	-0.8881	0.1024
	OBM	-0.4744(*)	0.21966	0.033	-0.9087	-0.0400
	OEM/ODM	0.3005	0.24078	0.214	-0.1756	0.7766
OEM/ODM	PBM	-0.6934(*)	0.24078	0.005	-10.1695	-0.2172
	OBM	-0.7749(*)	0.20857	0.000	-10.1873	-0.3624
	LBM	-0.3005	0.24078	0.214	-0.7766	0.1756

* The mean difference is significant at the 0.05 level.

among those four brand strategic decisions and has significant differences from those of LBM and OEM/ODM. The performance of LBM ranks the third and that of OEM/ODM is the worst among them. Therefore, H5 and H7 are partly supported; H6 is not supported while H8 is supported.

5 Conclusion

The concept framework of this study is helpful to better understand the relationship between EO, PEU brand strategic decisions and performances. The competitive reaction of the marketing strategy of companies is influenced and determined by EO and PEU (Jeffrey and Susan, 2002). Adopting empirical researches, this study indicates that EO and PEU have influences on the brand strategic decisions of Chinese companies. And empirical evidences show that there are different brand strategic decisions corresponding to different levels of

EO and PEU: (1) when companies have high EO and face high PEU, they are prone to take PBM; (2) when companies have high EO and face low PEU, they are prone to take OBM; (3) when companies have low EO and face low PEU, they are prone to take LBM; (4) when companies have low EO and face high PEU, they are prone to take OEM/ODM, which is not supported probably because most samples are companies from Hubei Province which consider that under low EO and PEU, OEM/ODM is the best strategy. These conclusions can guide some Chinese companies to consider the two important factors: their business philosophy (EO) and the external environmental uncertainty before making brand strategic decisions.

The relationship between EO and performances is influenced by the selected strategies and other variables e.g. environment conditions, the effects of EO on performances depend on the context of EO. When EO has fit strategies and environmental conditions, performances should be enhanced (Lumpkin and Dess, 1996). This study indicates that there are different brand strategic decisions corresponding to performances under different levels of EO and PEU: (1) when companies have high EO and face high PEU, the performance of selected PBM is higher than those of LBM and OEM/ODM, but lower that of OBM; (2) when companies have high EO and face low PEU, the performance of selected OBM is the highest of four brand strategic decisions; (3) when companies have low EO and face low PEU, the performance of selected LBM is higher than that of OEM/ODM, but lower than those of PBM and OBM; (4) when companies have low EO and face high PEU, the performance of selected OEM/ODM is the lowest of four brand strategic decisions. By analysis and test of the contingency relationship among EO, environment and strategy, this study draws some significant conclusions about the effects of brand strategic decisions on performances: under different brand strategic decisions, there are different performances, Chinese companies should make adjustments and deployments of strategies according to the contingency framework in this study.

Above all, this study analyzes two factors influencing brand strategic decision-makings of Chinese companies: EO and PEU. By theoretic deduction, logical speculation and empirical researches, some conclusions are drawn that under different levels of EO and PEU, different brand strategic decisions should be made to gain different performances.

6 Research limitations and future researches

6.1 Research limitations

Though this study has profound theoretical and practical significances, yet there are some problems in the empirical analyses, which are as follows.

No considerations of industry differences. Though different manufacturing industries e.g. machine, electronic and clothing, have great differences, this study has no consideration of industry differences in survey owing to big difficulties in collecting samples. As a result, samples chosen are not very representative and universal.

Other factors are not taken into consideration. Many factors may affect the brand strategic decisions. Other factors, e.g. host countries' attributes, organization capability, patriotism and so on, which are also important factors influencing brand strategic decisions. However, due to limited source and ability, there are only two factors (EO and PEU) left, which result in the incorrect measurements of performances.

The real performance aroused from brand strategy is not determined, because this study measures performances according to subjective performance proposed by Ramanujan (1986), which includes performances aroused by other strategies. Therefore, real performances aroused by brand strategy are not determined, which results in the not exact measurement of performances.

6.2 Direction of future researches

The brand strategic decisions of Chinese companies have great significance, and this study is only the beginning of the research. Moreover, in future researches, the following issues should be paid attention to:

Other factors influencing brand strategic decisions should be taken into future researches so that their significances can be compared. By doing so, more comprehensive and scientific suggestions can be brought forward for other brand strategies.

In terms of performance measurement, the performances aroused by brand strategic decisions should be determined and measured with brand equity.

Industry differences require selecting representative samples so as to avoid excessive samples of OBM.

Future researches may build a logic casual model instead of the matrix model in this study, which can include as more and more factors as possible. By doing so, we can measure different effects caused by such factors.

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